

HOPPUS'S  
MEASURER.

**WHITE DEAL BOXES.**

16-inch 2/9, 18-inch 3/9, 20-inch 4/1, 22-inch 4/6, 24-inch 5/6,  
26-inch 6/1, 28-inch 6/6, 30-inch 7/6, 33-inch 8/6, 36-inch 9/6,  
with Trays and made of clear dry wood.

Packing cases made to order and lined with tin or zinc 6d. per super foot.

John B. McKenzie

Belleisle

Oct 3<sup>rd</sup> 1866



Given by

John B McKenzie Esq.

1867  
A. B. ...  
...



HOPPUS'S  
PRACTICAL  
MEASURER;  
OR,  
MEASURING

MADE EASY TO THE MEANEST CAPACITY,

BY

A New Set of Tables,

WHICH SHEW, AT SIGHT,

The Solid Content of any Piece of Timber, Stone, &c.  
either Square, Round, or Unequal-sided, and  
the Value at any Price per Foot Cube.

ALSO,

The Superficial Content of Boards, Glass, Painting,  
Plastering, &c., with copious Explanations of  
the Uses and Applications of the Tables.

*Contrived to answer all the Occasions of Gentlemen and  
Artificers, far beyond any thing yet extant;*

The Contents being given in Feet, Inches, Quarters,  
and Twelfth Parts of an Inch.

\*\*\*

A PREFACE,

SHEWING THE EXCELLENCE OF THIS NEW METHOD  
OF MEASURING;

And some curious Observations concerning Measuring  
of Timber by several Dimensions.

---

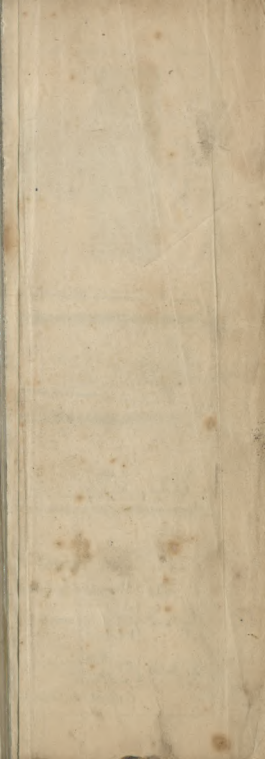
EDINBURGH:

OLIVER AND BOYD, TWEEDDALE COURT.

LONDON: SIMPKIN, MARSHALL, AND CO.

EDINBURGH:  
PRINTED BY OLIVER AND BOYD  
TWEEDDALE COURT.





Example I Page III

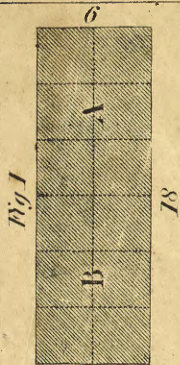
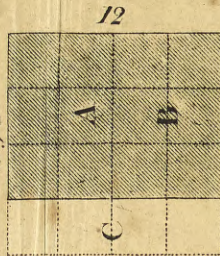


Fig 2



Example II Page III



Fig 2

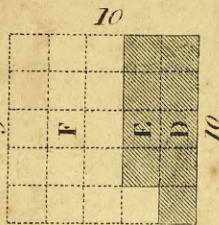


Fig 3 Page XIV



Fig 6  
Page XXIII  
& XXVI

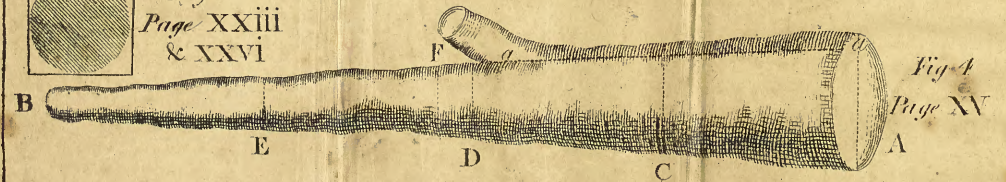


Fig 4  
Page XV

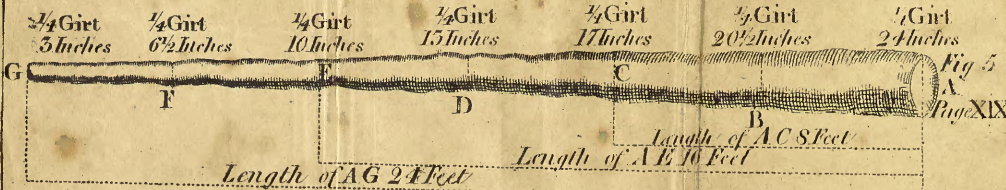


Fig 5  
Page XIX

<p>Fig 5 Measured by 3 Dimensions <i>Solid Feet</i></p>		<p>The Part C G by 2 Dimensions <i>Solid Feet</i></p>	
<p>The Piece</p>	<p>{ AC</p>	<p>The Piece</p>	<p>{ CE</p>
	<p>{ CE</p>		<p>{ EG</p>
<p>measured Singly makes</p>		<p>measured Singly makes</p>	
	<p>{ 25 1/4</p>		<p>{ 10 1/4</p>
	<p>{ 10 1/4</p>		<p>{ 2 1/4</p>
	<p>{ 2 1/4</p>		
<p>The Total</p>	<p>{ as 3 Pieces.....</p>	<p>The Total</p>	<p>{ as 2 Pieces</p>
	<p>{ as 1 Piece</p>		<p>{ as 1 Piece</p>
	<p>55 3/4</p>		<p>12 1/2</p>
	<p>50 1/4</p>		<p>11</p>
	<p>Gained by 3 Dimensions</p>		<p>Gained by 2 Dimensions</p>
	<p>5 1/2</p>		<p>1 1/2</p>







Fig 3 Page XIV



Fig 4  
Page XV



Fig 5  
A  
Page XIX

6 by 2 Dimensions	Solid Feet
measured Singly makes	{ 10 1/4
	{ 2 1/3
pieces	12 1/2
piece	11
d by 2 Dimensions	1 1/2

# PREFACE.

---

## EXAMPLE I.

*(See the Plate facing this page.)*

LET fig. 1. (marked A B) represent the end of a piece of timber or stone, so *unequal-sided* as 18 inches broad and but 6 inches thick.

Now to find the true square of this piece, Keay directs you to add together the two sides, viz. 18 and 6, which *makes* 24 inches; and if you take half of that number, viz. 12, says he, you have the true square: whereas by these new tables, and in fact, it is not quite 10½ inches.

### DEMONSTRATION.

Let fig. 2. represent a square of 12 inches each side, then divide fig. 1. (by the strongest dotted line) into two equal parts, and take that part marked B, and place it in fig. 2, then take the other part marked A, and place it in fig. 2. likewise; and when this is done, there will plainly appear to be wanting all the dotted part C, which is no less than one-fourth of the whole square; and consequently the buyer, if he relies upon the advice of the judicious Mr. Keay, certainly pays for one-fourth more timber than in reality he has, or ought to pay for.

But this mistake of 5s. in the pound, you shall see, is only one of Mr. Keay's peccadillos.

## EXAMPLE II.

*(See the Plate facing this page.)*

Let fig. 1. (marked D E) represent the end of a piece of timber, so *unequal-sided* as 18 inches broad and but 2 inches thick.

Now if you rely upon Keay, and add together the two sides 18 and 2, it makes 20 inches. Half of which, says he, is the true side of the square, viz. 10 inches: whereas by my tables, and in truth, the true side of the square is but 6 inches.

### DEMONSTRATION.

Let fig. 2. represent a square of 10 inches each side then divide fig. 1. (by the strong-

est dotted line) and take that part marked D. and place it in fig. 2; then take the other part marked E. and place it in fig. 2 likewise; and when this is done, there will plainly appear to be wanting all the dotted part F. which is near two-thirds of the whole square, and consequently the buyer, when in fact he ought to pay but 7s. 2d. must, if he is guided by Keay, pay 20s. which is 12s. 9d. in every 2s. in his own wrong \*

From these demonstrations it is plain that no man ought to assume the character of an author, and publicly to take upon

	s.	d.
* Should be paid .....	7	2½
Keay advises you to pay too much. ....	12	9½
	20 0	

But perhaps the above manner of demonstration, which is geometrical, may not appear clear and satisfactory to all, therefore I shall demonstrate the fallacies of Keay's rule arithmetically.

#### DEMONSTRATION.

Suppose you have a piece of timber, each side whereof is 12 inches (or a foot square), these multiplied into each other (viz. 12 by 12) make 144 (the inches in a superficial foot): but should the sides vary, or become unequal, ever so little from this size, there will be a fallacy in the above-mentioned rule.

For was one side 13 inches, and the other 11, these added together, the half will still be 12 for the true square.

But if multiplied together, (as they always ought to be, and are in the calculation of these new tables), it will be but 143. So that here is one superficial inch too much in every foot in length, be there ever so many.

#### AGAIN,

If one side be 16 inches, and the other 8 inches, these added together, the half is also 12 for the true square: but multiplied, it is only 128: so that in this case, whoever has any thing to do with Keay's rule and tables, will certainly pay for 16 superficial inches too much in each foot in length, be there ever so many.

Let us now re-consider Examples I. and II. arithmetically.

In Example I. 18 multiplied by 6 is but 108, and consequently Keay's rule, which makes it 144, is exceedingly false, that being 36 superficial inches too much in every foot in length, be there ever so many; or one-fourth, as was before demonstrated.

In Example II. where the different sides are 18 and 2; these added make 20, whose half is 10, which being multiplied by itself (viz. 10 by 10) is 100; whereas the sides multiplied together make but 36, and consequently, if you have any thing to do with Keay's rule and tables, you certainly pay for 64 superficial inches in every 100 inches, more than you have, which is above 12s. 9d. in every 20s. more than ought to be paid, as was before geometrically demonstrated.



himself to determine in the business of MEUM and TUUM, before he is well assured of his own abilities for such an undertaking, and is resolved to make some conscience of what he publishes. If a due regard had always been paid to this consideration, we should never have met with any formal pretender, presuming to teach others those things which it is evident he did not understand himself.

I should scorn to make these observations at all for the sake of disparaging the performances of others, or to build myself a reputation on their ruin; but I think myself obliged to acquaint the public with the plain truth of things, without favour or affection; and I am satisfied, if this conduct were often practised, both the time and expense of gaining useful knowledge would be much shortened; and whoever endeavours to promote that, let the returns he meets with be what they may, he certainly lays the public under the greatest obligations.

By this time, it is to be presumed, no man can doubt the public to be in want of a new set of tables for measuring all sorts of timber, stones, boards, &c. and these I here present them with, by giving the contents in feet, inches, and 12th. parts of an inch, which is the most natural method, and best adapted to ordinary capacities (for whose sake these tables were principally intended). I say the method of these tables, (since it comes near enough the truth, and can be at sight conceived,) is much preferable to the 10,000 parts of a foot, made use of by Darling; or the more unintelligible 432 parts of a quarter of a foot, made use of by Keay.

The table of Superficial or Flat Measure is new, and is extended to 24 inches the breadth, (which is double the breadth of Keay's,) and is calculated to the exactness of a quarter of an inch; which renders it very useful to glaziers and others who measure flat work to the greatest exactness, which Keay's table of flat measure does not, by reason he has omitted the quarters.

Sensible of the consequences the mistakes in printing must occasion in works of this nature, I have been careful in examining each number throughout the book, so that I have reason to believe they are all exact, and, therefore, both the buyer

and seller may depend upon meeting with mutual justice from these tables: which, it is plain, from what has been said above, they are not to expect from Keay's, where the press-errors are gross and numerous.

I believe nobody can doubt these tables being as extensive as was consistent with my design of making them a cheap Pocket Companion; and if the public reap the advantage from them which I intend they should, it will be ample satisfaction to me and I think they can have no reason to complain.\*

E. H.

N. B. The new Tables shewing the value of timber, stone, &c. (cut to any size or scantling) per foot cube, added to this New Edition, we dare say, will be found so very useful to all who are concerned in building, that we need not think of making any apology for inserting them.

#### \* POSTSCRIPT.

The list of the present prices of locks, bolts, hinges, nails, &c. in the Appendix, is entirely new, and full of such intelligence as must afford great satisfaction to those who desire to be good husbands in the affairs of building. And therefore I am persuaded it will be well received by those who consult it.

The prices I have set down are such as they are now sold at by the wholesale smiths and ironmongers, either to workmen or gentlemen, who take them in such quantities as I have set them down, (viz. some single, and some in dozens, &c.); for those retailers, or shopkeepers, who buy of these large dealers to sell again, have them for less than I have set down, viz. at the retailer's price.

I have sometimes heard inconsiderate people, as well as those whose interest it is that the real value of these sorts of goods should remain a secret, object against the publishing any thing of this kind; because every one has not an opportunity of always applying to the wholesale ironmongers and smiths for what they want, but are forced to take what they have occasion for from the retailer in the country, at his price, and of which, say they, you have not taken the least notice. In answer to this, let such people take the following considerations:

That it is impossible, in the nature of the thing, there could be any one book of rates for these goods which would hold equally in all parts of the kingdom alike.

II. That many of the country retailers are very arbitrary, and will not at all be satisfied with a moderate profit, which the wholesale dealers must, for he who is not, can have little or no business; and though the gentlemen and workmen are not always well acquainted with the value of these goods, yet the retailers always are, and knowing the different wholesale dealers, will always go to one who uses them best.

III. For these reasons (in which I have been confirmed by the advice of several skilful and intelligent workmen) I have chose to set down those prices only which the wholesale dealers take of gentlemen and workmen, because from these it is easier and safer both for the gentleman and workmen to draw, more advantageous and beneficial conclusions, than from any other prices whatsoever.

THE  
EXPLANATION AND USE

Of the Four following

TABLES

FOR FINDING

*The value, per foot cube,  
of Timber, Stone, &c. cut  
to any size or scantling.*

(Beginning page 130 and ending page 141.)

---

THOUGH these tables are six in number, yet being all of the same nature, and only differing in price, if I explain and show the use of one, the other five will be understood of course. And whoever understands the use of the table of unequal-sided timber, on page 2, can need very little instruction to understand these, which are much of the same nature.

I At the beginning of the table at 1s. 6d. per foot cube (page 130), betwixt 2 parallel lines, stands 2 inches square, which is the thickness of the lesser side of the piece you would find the value of, and under the said parallel lines are three rows of figures. In that column to the left-hand, divided from the other two by a black line, is the breadth, or larger side of the piece to be valued.

II. The second and third rows of figures (which stand opposite the breadths, or larger sides, in the first column) show the value of one foot in length in pence and the eighth part of a penny, in the tables at 1s. 6d. 2s. and 2s. 6d.; but in the tables from 3s. to 4s. the value is given in pence and farthings.

EXAMPLE I.

What is the value of one foot in length of a piece of timber, stone, &c. whose size or scantling is 6 inches by 9 inches, at 19d per foot cube.

In the table at 1s. 6d. look for 6 inches square betwixt the parallel lines, keeping your eye down the left-hand column till you come to 9 inches, and opposite it stands 6 : 6, which signifies  $6\frac{1}{2}d.$  (six-eighths of a penny being equal to 3 farthings) the value sought.

## EXAMPLE II.

If you have a piece of timber or stone, the end of which is  $4\frac{1}{2}$  inches thick, and  $11\frac{1}{2}$  inches broad, and would know what is the square of it :—

Look for  $4\frac{1}{2}$  the thickness (or lesser side; betwixt the parallel lines, keeping your eye down the left-hand column for  $11\frac{1}{2}$  (the breadth), opposite which you will find  $7\frac{1}{2}$  inches; that being the square side of a piece of timber or stone, equal to  $4\frac{1}{2}$  inches thick and  $11\frac{1}{2}$  broad.

## EXAMPLE III.

Let there be a piece of timber whose thickness at the end is  $20\frac{1}{2}$  inches, and the breadth 34 inches, the square side of which will be found to be  $31\frac{1}{2}$  inches.

*Note.*—If any one should object that the quarters of an inch are not considered in this Table of Unequal-sided Timber, to such it may appear (from an example or two) that to have taken notice of the quarters in the table would have been unnecessary; because there is no square side to be found nearer than what I have calculated.

## EXAMPLE IV.

If you have the end of a piece of timber  $5\frac{3}{4}$  inches thick, and  $7\frac{1}{4}$  inches broad ;—in this case, take the quarter from the larger side and add it to the smaller side, when it will be 7 inches broad by 6 inches thick. Then look in the table for 6, betwixt the parallel lines, and opposite 7, in the left-hand column, you will find  $6\frac{1}{2}$  inches, which is the true square.

## EXAMPLE V.

If you have the end of a piece of timber  $15\frac{3}{4}$  inches thick, and  $19\frac{1}{4}$  inches broad, call it 16 by 19, whose square side in the table is  $17\frac{1}{2}$  inches.

*Note.*—If a quarter of an inch happens to one side only, you may reject it without any material loss. For the above method will be sufficiently near in all cases, provided you remember to take the quarter from the larger side, and add it to the lesser side. But lest any one should entertain a prejudice against this table, by reason the quarters are omitted, let him take the following :—

## EXAMPLE VI.

Let there be a piece of timber so unequal-sided as  $17\frac{1}{2}$  inches broad, and but  $3\frac{1}{2}$  inches thick, by the above rule call it  $3\frac{1}{2}$  by 17, the square side of which, by the table, is  $7\frac{3}{4}$  inches; take it likewise the contrary way, and call it by  $17\frac{1}{2}$ , and the square side, by the table, is  $7\frac{1}{4}$  inches; and therefore, in this case, the truth will be the mean betwixt  $7\frac{3}{4}$  and  $7\frac{1}{4}$ , which is  $7\frac{1}{2}$ , and that is the exact square side of a piece of timber  $17\frac{1}{2}$  inches by  $3\frac{1}{2}$ . For where the sides are so very different one to the other, you should look for it both ways, and take the mean betwixt the extremes.

*Note.*—Though it is seldom or never likely to happen in practice, yet I will suppose you have occasion to find the square side of a piece of timber or stone too large for the extent of this table.

## EXAMPLE VII.

You have a piece of timber 60 inches (or 5 feet) thick, and 96 inches (or 8 feet) broad, and want to know the square side of it:—Take half the thickness (of 60) which is 30, and half the breadth (of 96) which is 48. Look in the table for 30, betwixt the parallel lines, keeping your eye down the left-hand column, till you come to 48, and opposite that is 38 inches, which is one half of the square side of the piece, and that doubled makes 76, and is the square side of the piece required.

*Fide Example VI. in Solid Measure,*  
page xii.

THE  
EXPLANATION AND USE  
of the following  
*TABLE*  
OF  
SOLID MEASURE.

(Beginning page 24, and ending page 128.)

---

I. THIS table begins with 2 inches, the side of the square, and by the addition of a quarter of an inch, enlarges itself to the extent of 54 inches (or a yard and a half), the side of the square.

II. Every page of this table consists of two distinct parts, divided from each other by a double line; and at the top of each of the said parts is set down the side of the square, or one-fourth of the girt, or circumference, of the piece of timber, stone, or other solid, intended to be measured.

III. The first column to the left-hand shows the several lengths, in feet, from one quarter of a foot to 45 feet, and of such a piece of timber, whose side of the square (or  $\frac{1}{4}$  of the girt) is set down at the top.

IV. The three rows of figures in the second column, marked at the top with Ft. In. Pa. is the solid content in feet, inches, and 12th. parts of an inch, answering to every foot in length, in the left-hand column.

---

*To measure Square Timber.*

1. With a two-foot, or any other rule, measure the length of the piece in feet, and set it down in your memorandum book.

2. Then with your rule, if your timber be equal-sided, take the side of the square in inches and quarters, if there be any, and set that down likewise.

But note, that if your timber, or stone, be unequal-sided, i. e. if it be broader one way than the other, in this case you must first reduce it to a square by

the table of unequal-sided timber, beginning page 9 and ending page 22.

3. Having set down the length in feet, and the side of the square in inches and quarters, as above directed, look at the top of the table of Solid Measure for the side of the square, and having found that, keep your eye down the left-hand column till you find the length of your piece in feet, and the three rows of figures, which stand opposite the length in feet, is the solid content in feet, inches, and 12th parts of an inch.

#### EXAMPLE I.

You have a piece of timber 10 feet long, and the side of the square is 7 inches—what is the solid content of it?

At the top of the table of Solid Measure find 7 inches, the side of the square, and keep your eye down the left-hand column till you come to 10 feet, the length of your piece, and opposite which you will find 3 : 4 : 10 (viz. 3 feet, 4 inches, and 10 twelfth-parts,) being the solid content of the piece required.

#### EXAMPLE II.

The length of a piece of timber is 19 feet, and the side of the square is  $14\frac{1}{2}$  inches—what is the solid content?

Having found  $14\frac{1}{2}$ , the side of the square, look for 19 feet in the left-hand column, and opposite it stands 28 feet, 8 inches, and 5 twelfth-parts, which is the solid content of a piece 19 feet long and  $14\frac{1}{2}$  inches square.

#### EXAMPLE III.

The length of a piece of timber is 40 feet, the side of it one way is 4 inches and 16 inches the other way—what is the solid content?

*Note.*—These differing sides must be reduced to a square by the table of unequal-sided timber, as already taught, which square appears by the said table to be 8 inches.

Having found 8 at the top of the table of Solid Measure, look for 40 feet (the length of the piece) in the left-hand column, opposite which stands 17 feet, 9 inches, and 4 twelfth-parts, the solid content.

*Note.*—Keay's rule and tables make the content to be 27 feet, 3 quarters, and 48 inches, which is  $9\frac{1}{2}$  feet too much, or 9s. 6d. in 27s. too much.

#### EXAMPLE IV.

There is a piece of timber 40 feet long, but the sides unequal, one side being 3

inches and the other side 18 inches—what is the solid content?

Having reduced the sides (by the table of unequal-sided timber) to a square, it appears to be 7 inches and 1 quarter. Then, at the top of the table of Solid Measure find  $7\frac{1}{4}$ , the side of the square, and opposite 40 feet long, in the left-hand column, stands the content, viz. 14 feet, 7 inches, and 2 twelfth-parts.

*Note.*—Had this example been resolved by Keay's tables, and the rule he lays down for the measuring unequal-sided timber, the answer, instead of being 14 feet 7 inches, would have been  $30\frac{1}{2}$  feet, which is 16 feet too much.

When a piece of timber to be measured happens to have any odd parts of a foot in the length, as

EXAMPLE V.

Suppose a piece of timber to be 48 inches square, and  $22\frac{1}{2}$  feet long—what is the solid content?

Look in the table of Solid Measure for 48 inches, the side of the square, and 22 feet, the length, then find the  $\frac{1}{2}$  inch at the bottom of the table, and by adding these together you have the solid content, viz.

	FT.	IN.	PA.
22 feet long is . . . . .	352	0	0
$\frac{1}{2}$ a foot long is . . . . .	8	0	0

The content required 360 0 0

*Note.*—Except the timber be so large as to carry a square of 30 inches, the half foot, or quarters, are seldom regarded.

Though it is seldom (or never) likely to happen in practice, yet we will suppose you have occasion to measure a piece of timber or stone, whose side of the square is above 54 inches (or a yard and a half), which is the largest square in this table.

EXAMPLE VI.

You have a piece of timber whose side of the square is 76 inches, and the length 37 feet—what is the solid content?

Since you cannot find 76 inches, the side of the square, in the table, take the HALF of it, which is 38; find 38, the side of the square, and opposite 37 feet, the length, is 371 : 0 : 4, which set down — F. I. P. four times,\* and added together

371 0 4	
371 0 4	
371 0 4	
371 0 4	
1484 1 4	

gives the content of the whole piece (of 76 inches square, and 37 feet long), viz. 1484 feet, 1 inch, and 4 twelfth parts of an inch.



\* Because that half is but one quarter of the end of the piece, thus :



#### OF HEWN TIMBER.

*Note.*—It is customary, when hewn timber is to be measured, to make use of a large pair of callipers to measure the thickness, or diameter, of the piece in the middle, between both ends, (where, in case it were tapering timber, one would girt it) which thickness, or diameter, is usually taken for the side of the square the piece will carry throughout. But this method is sometimes objected to, because all the cuts, or angular parts, that are wanting to make the piece perfectly square, are measured in and accounted for (though not there) as so much real timber. And this objection carries still a greater weight, when only a small skirting is hewn off from the four opposite sides, whereby the piece becomes rather octangular, or eight-sided, than square; but to all this it is usually replied, that before the piece is hewn to a square there is a waste in the chips and slabs, which are only useful for the fire, and that the expense of hewing, &c. is more than the chips, &c. are worth.

#### *To measure Round Timber that is not tapering.*

1. With a rule measure the length of the piece in feet (and quarters of a foot, if necessary) and set it down in your memorandum book; then reduce it to square timber, thus—

2. With a chalk line, or pack-thread, gird the piece in any place; then double the line twice, and you have one-fourth of the girt for the side of the square, which you must exactly measure upon your rule, and set down in inches and quarters of an inch. Having thus reduced the round timber to square timber,

3. Look at the top of the table of Solid Measure for the side of the square, equal to one-fourth of the girt, and keep your eye down the left-hand column, till you find the length of the piece in feet, and opposite which stands the content of the piece sought in solid feet, inches, and twelfth-parts of an inch.

#### EXAMPLE.

Let the length of a piece of round timber be 45 feet, and the girt 44 inches, one-

fourth of which is 11 inches—I demand how much timber this piece contains?

At the top of the table of Solid Measure find 11 inches, the side of the square, (which is equal to one-fourth of the girt), and in the left-hand column, opposite 45 (the length of the piece in feet) stands 37 : 9 : 9, that is 37 feet, 9 inches, and 9 twelfth parts (or  $\frac{3}{4}$ ) of an inch, which is the solid quantity of timber the tree contains.

### *To measure Tapering Timber.*

Tapering timber is timber that is smaller at one end than the other, as figure 3, and consequently it will not carry the same square from end to end throughout the whole piece; when you have found what square the tree will carry throughout, by taking one-fourth of the girt, (as you were taught on page xiii) you must proceed exactly as in the case of round timber

To find what square a tree will carry throughout, the shape or figure of the tree should be very carefully observed, and if the sides of the tree are straight from end to end, as figure 3, then it may be girt, and the square taken in the middle, from the butt end and top, as is the common practice amongst wurkmen; or you observe this

#### RULE.

Take one-fourth of the girt at each of the ends, add them together, and take half of the sum for the side of the square, which the tree will carry throughout, as you will find exemplified in example III. page xi.

*Note.*—If the tree does not taper gradually, but is unequally thick, then you may girt it oftener; always remembering to divide the sum total of the several fourth parts of the girt, by the number of times the piece was girted, and it gives the side of the square the tree will carry throughout.

If you have any odd parts of a foot in the length of a tree, you are to proceed as directed in the case of square timber having odd parts in the length. See page xi.

#### EXAMPLE I.

Let the circumference of a tree, or piece of round timber, (found by girding it) be 36 inches, one quarter of which is 9 inches, the side of the square, and let the length of the piece be 40 feet—what quantity of timber is in this piece?

Find 9 inches, the side of the square, and opposite 40 feet stands 22 feet, 6 in-

ches, which is the quantity of timber contained in a piece that is 40 feet long and 36 inches round.

EXAMPLE II.

Let the girt of a piece of timber be 75 inches, one quarter thereof is 18½ inches, the side of the square, and the length of the piece 45 feet—how much solid timber doth this piece contain?

Find 18½ inches, the side of the square, and opposite 45 feet, the length of the piece, stands the solid content, viz. 109 feet, 10 inches, and 4 twelfth parts of an inch.

EXAMPLE III.

Suppose that at the largest end of a tree one-fourth of the girt (or side of the square) is 50 inches, and at the smaller end but 30 inches, and the length of the tree 25 feet—what quantity of solid timber does that tree contain?

INCHES		
The side of the square at the larger end is.....	}	50
The side of the square at the smaller end is .....	}	30

The sum. . . 80

Half the sum is 40 inches, and that is the side of the square which the tree will carry throughout. Having thus obtained the side of the square, look at the top of the table of Solid Measure for 40 inches, and in the left-hand column for 25 feet (the length), opposite which stands 277 feet, 9 inches, and 4 twelfth parts of an inch, which is the quantity of solid timber the tree contains.

*Note.*—If you should ever have occasion to measure a tree whose side is more than 54 inches, you must proceed as directed in the case of square timber when the square is more than 54 inches. See page xii.

If a tree should be rounding or bulging out (as fig. 4.) so that towards the middle it may be as large, or near it, as at the bottom, then it must be measured at twice, (which workmen call joggling the piece,) viz. the length, A D, that continues of one and the same bigness, or near it, singly by itself, and so also must the remainder, D B, and their quantities added together will be the content of the whole tree.

Now had this tree (fig. 4.) been measured at once (or by one dimension) as fig. 3, then its girt would have been taken at F, where it is very small, and all the extraordinary thickness, a a, quite round about the small body D B, would have been lost in the measure. And, for this reason, those who are to measure timber should be very cautious how they agree (before they begin to measure), that let the middle of pieces of timber fall out how they will, great or small, their girt should be taken there. Be-

cause where one tree is largest (or its mean thickness) in the middle there are nine or ten that are less, and when their girts are taken at the middle they cannot fall of losing many loads in a large quantity of timber.

If the tree is crooked the length is not to be taken on either the concave (hollow) or convex (out-arching) side.

It is a customary allowance to the buyer to take the girt where he pleases between the greater end and the middle of the tree.

Branches or boughs measuring two feet in compass (or 6 inches for  $\frac{1}{4}$  of the girt) are reckoned as timber, and their content is to be found and added to that of the tree.

So much of the trunk as measures less than two feet in compass (or 6 inches for  $\frac{1}{4}$  of the girt) is not admitted to be timber.

### *Of making an allowance for the Bark.*

In measuring trees that have their bark on for sale, it is common to make an allowance to the buyer on account of the bark, thus, in oak one-tenth or one-twelfth part of the circumference is deducted; but the allowance for the bark of elm, beech, ash, &c. should be less. Some measurers insist on one inch out of one-fourth of the whole girt for it, viz. if one-fourth of the girt is found to be 9 inches then 1 inch is abated, and one-fourth of the girt is reckoned at 8 inches only. Others say that if it is an old thick-barked tree one inch must be abated in one-fourth part of the girt for the bark, but in young growing timber half an inch may be sufficient, as every practitioner will easily judge. This deduction being made, is supposed to reduce the compass to that which the tree will have when the bark is stripped off. Therefore observe this

**RULE**—From the given circumference subtract the allowance for bark, and with the remaining compass find the solid content as already taught

### *Of measuring Timber that is standing.*

In measuring timber standing, it is sufficient if you have a very long pole divided into feet only, a pocket foot rule divided into inches, and a ladder to get up with readily, to measure the girt of the tree at the middle height, to which it runs timber, i. e. as far as it will carry a square of 6 inches, or will measure 24 inches round,

and then you proceed to find the contents as already taught.

I have known a steward who, at his first entering into business, was so exact as to take an account of every single timber tree, as well as others likely to become timber, in all the woods within his master's several manors; and he effectually did this to the greatest advantage, by having a book ruled with proper columns in the following order:

I. To insert the fourth part of the girth of each tree, in inches.

II. The length of each tree, in feet.

III. The number of solid feet in each tree.

IV. The value per foot that each tree is worth, according to its dimensions and goodness.

V. The value of the body of each tree, in proportion to the aforesaid price.

VI. The value of the head of each tree.

VII. The value of the bark of each oak tree, which generally holds to be about a third part of the value of the body and head.

VIII. A column for the value of the body, head, and bark, added together.

A book upon this plan can never fail of giving great satisfaction to a master, who has then something to depend upon whenever his necessities, or his inclination, may call for a certain sum of money. However, after a sale, the book must be altered, and such trees struck out of it as are felled.

When an account is taken of the several timber trees, in the (manner I have mentioned,) they should be numbered with iron stamps made on purpose; but before the stamp is applied the rough part of the bark should be taken off with a hatchet, that the impression may be made easy and visible; and to make it more lasting the stamp should not go deeper than the bark, (otherwise the number will soon grow up) when it may last several years by renewing, which is a very desirable circumstance.

The foregoing examples, with what has already been said, are sufficient to make the business of measuring both square and round timber, stone, &c. easy to common capacities. However, (for practice sake) I shall suppose the learner has to measure ten trees, or pieces of timber:—

Let him set down their numbers and dimensions as in the following columns, and then find their contents as already taught, and set that down against each tree as under.

No. of Trees.	Side Square in Inches.	Length in Feet.	By this New Method.		By KEAY.		By DARLING. Feet, & 10000 Parts.
			Ft. In. Pa.	Ft. Qrs. In.	Ft. Qrs. In.		
1	9	10	5 7 6	5 2	216	5,6250	
2	10½	14	10 8 7	10 2	378	10,7187	
3	15	11	17 2 3	17 0	324	17,1875	
4	20½	16	46 8 4	46 2	336	46,6944	
5	16	24	42 8 0	42 2	288	42,6066	
6	16	23	40 10 8	40 3	240	40,8888	
7	36	18	162 0 0	162 0	000	162,0000	
8	26	28	131 5 4	131 1	336	131,4442	
9	31	17	113 5 5	113 1	348	113,4513	
10	35	30	255 2 6	255 0	360	255,2083	
Total . . . .			825 10 7	825 3	234	825,5848	

Besides the contents given by this new method, I have likewise set down the contents of each tree as given by KEAY and DARLING, to show that the method is more intelligible, and better suited to common capacities, than either of theirs. These twelfth parts of an inch are easily cast up, and readily understood; for here you have nothing more to do than to carry 1 to the inches for every 12 in the parts, and 1 to the feet for every 12 in the inches: whereas, by KEAY'S method, you must carry 1 to the quarters for every 432 in the inches, and 1 to the feet for every 4 in the quarters; and by DARLING'S method you must

carry 1 to the feet for every 10<sup>000</sup> in the parts. Both which numbers (432 inches and 10000 parts of a foot) are very difficult to conceive, and, consequently, very troublesome and perplexing to every man that is not versed in decimal arithmetic and mensuration.

*Of reducing Timber to loads.*

*Note.*—Measurers and Workmen reckon 40 feet of unhewn or rough timber, and 50 feet of hewn timber, to a load, supposed to weigh a ton, or twenty hundred. For hewn timber is measured by the square, but rough timber by the girt (or quarter compass); therefore in the buying of timber it amounts to much the same whether it be measured by the girt, at 40 feet solid to a load, or by the square, at 50 feet to a load. Therefore,

When timber is to be reduced to loads, divide the feet, in rough or unhewn timber, by 40, and it gives the loads. Or,

Divide the feet, in hewn timber, by 50, and it gives the loads.

*Some curious Observations concerning measuring Timber by several dimensions, communicated by one of his Majesty's Purveyors.*

*Of measuring fig. 5, (facing page iii) by one dimension, and also by three dimensions, &c.*

The whole length A G, by one dimension.

Now let us consider fig. 5 intended to represent a piece of timber that is 24 feet long, the girt at the butt-end A 8 feet, one-fourth of which is 24 inches, the girt at the top G 12 inches, one-fourth of which is 3 inches, and (as the sides are supposed to be nearly straight) the girt in the middle at D 54 inches, one-fourth of which is 13½ inches. Look in the table of Solid Measure for 13½ inches the side, and 24 feet the length, and you will find the content of the piece to be 30 feet, 4 inches, and 6 twelfth parts, which 6 twelfth parts are equal to half an inch when measured by one dimension.

Of the length A E, by one dimension, which is but two-thirds of the length A G.

Having, as above, found the content of the whole A G, by one dimension, to be

30 feet, 4 inches, and 6 twelfth parts, let us now try what this piece A E will produce when measured by one dimension, we then having a length only of 16 feet, from A to E, (instead of 24 feet, from A to G, as before,) and that one-fourth of the girt in the middle at C is 17 inches. Now if you look in the table of Solid Measure for 17 inches, the side of the square at C, and 16 feet, the length, you will find this piece A E to contain 32 feet, 1 inch, and 4 twelfth parts of timber, notwithstanding 8 feet at the top, from E to G, is cut off and not taken the least notice of; whereas when this top was left on, the whole, from A to G, measured but 30 feet, 4 inches, and 6 twelfth parts, so that by cutting off and rejecting 8 feet at the top, we gain near 2 feet of timber.

*Note.*—The content of this piece A E, we had not room to specify in the plate facing page iii.

---

### *The whole Length by three dimensions.*

Now let us consider fig. 5 intended to represent a piece of timber that is 24 feet long, the girt at the butt-end A 8 feet, one-fourth of which is 24 inches, the girt at the top G 12 inches, one-fourth of which is 3 inches, and (as the sides are supposed to be nearly straight) the girt in the middle at D 54 inches, one-fourth of which is  $13\frac{1}{2}$  inches. Look in the table of Solid Measure for  $13\frac{1}{2}$  inches, the side of the square, and 24 feet the length, and you will find the contents of the piece to be 30 feet, 4 inches, and 6 twelfth parts, when measured by one dimension.

Having thus found the content of A G by one dimension to be 30 feet, 4 inches, and 6 twelfth parts, let us now proceed to see what it will produce when it is cut into three equal lengths, and measured by three dimensions, as described in fig. 5. viz.

First—The piece A C, whose length is 8 feet, the girt at the butt-end A 8 feet, one-fourth of which is 24 inches, the girt at the top C 5 feet, 8 inches, one-fourth of which is 17 inches, and the girt in the middle at B 6 feet, 10 inches, one-fourth of which is  $20\frac{1}{2}$  inches. Look in the table of Solid Measure for  $20\frac{1}{2}$  inches, the side of the square, and 8 feet the length, and you will find the content of the piece A C to be 23 feet, 4 inches, 2 twelfth parts,



which is only 7 feet less than the whole  $A G$  (24 feet) when measured together; so that by cutting off 16 feet at the top from  $C$  to  $G$ , which is no less than two-thirds of the whole length, you do not lose quite 7 solid feet of timber.

Secondly—The piece  $C E$ , whose length is also 8 feet, the girt at the butt-end  $C$  5 feet, 8 inches, one-fourth of which is 17 inches, the girt at the top  $E$  40 inches, one-fourth of which is 10 inches, and the girt in the middle at  $D$  4 feet, 6 inches, one-fourth of which is  $13\frac{1}{2}$  inches. Look in the table of Solid Measure for  $13\frac{1}{2}$  inches, the side of the square, and 8 feet the length, when you will find the content of the piece  $C E$  to be 10 feet, 1 inch, and 6 twelfth parts.

Thirdly—The piece  $E G$ , whose length is likewise 8 feet, the girt at the butt-end  $E$  40 inches, one-fourth of which is 10 inches, the girt at the top  $G$  12 inches, one-fourth of which is 3 inches, and the girt in the middle at  $F$  26 inches, one-fourth of which is  $6\frac{1}{2}$  inches. Look in the table of Solid Measure for  $6\frac{1}{2}$  inches, the side of the square, and 8 feet the length, when you will find the content of the piece  $E G$  to be 2 feet, 4 inches, and 2 twelfth parts.

Having thus measured the whole from  $A$  to  $G$  by three dimensions, let us proceed.

---

*Of measuring part of fig. 5, viz. from  $C$  to  $G$ , by one dimension, also by two dimensions.*

By one dimension.

Now let us suppose 8 feet to be cut off at the butt-end, viz. from  $A$  to  $C$ , and proceed to measure the remainder  $C G$ . Look in the table of Solid Measure for 10 inches, the side of the square at  $E$ , and 16 feet the length, and you will find the whole contains 11 feet, 1 inch, and 4 twelfth parts.

By two dimensions.

Let us now suppose it cut in two in the middle at  $E$ , and measure each part by itself. For the first  $C E$  you must look in the table of Solid Measure for  $13\frac{1}{2}$  inches, the side of the square at  $D$ , and 8 feet the length, and you will find  $C E$  to contain 10 feet, 1 inch, and 6 twelfth parts.

Let us now measure the piece  $E G$  and

by looking in the table of Solid Measure for  $6\frac{1}{2}$  inches, the side of the square at F, and 8 feet the length, you will find E G to contain 2 feet, 4 inches, and 2 twelfth parts; so that the whole of C G measures one solid foot and a half more when it is measured at twice than it did when it was measured at one dimension.

*Some useful Observations drawn from the foregoing methods of measuring fig. 5.*

This piece of timber (fig. 5.) and the above manner of measuring it, if well considered, show the imprudence of those sellers who (thinking it may be an advantage to them) leave the pieces with their long taper tups on to a great length, whereby the girt comes to be taken in a much smaller part of the tree than it ought, or would have been if the top had been cut off. And it may likewise serve to show the advantage there is of buying in such a piece of timber (24 feet long) measured by one dimension, and of selling it out again by three dimensions, after it is cut into three pieces, or lengths, of 8 feet each.\*

And here it may be farther worth observing, that though in fig. 5 the sides of the tree are supposed to be nearly straight from the butt to the top, viz. from A to G, yet this very rarely happens to be the case; for, on the contrary, most trees hold an equal thickness (or near it) many feet upwards from the butt, and consequently measure much more than when they taper or diminish gradually from the butt to near the top, as fig. 5 is here supposed to do.

	<i>£</i>	<i>s.</i>	<i>d.</i>
* Look in the plate facing page iii, and you will see that fig. 5, measured by 3 dimensions, measures to $35\frac{1}{2}$ solid feet, which, at 12 <i>d.</i> per foot, comes to	}	1	15 9
But measured by one dimension it measures no more than $30\frac{1}{2}$ solid feet, which, at 12 <i>d.</i> per foot, comes to.....		1	10 5

So that this piece of timber, fig. 5, though it is bought in and sold out at the same price per foot, and by the very same method of measuring, yet here is 5*s.* 6*d.* gained by cutting it into three lengths of 8 feet each.

For want of room fig. 5 is not drawn by the scale.

*The Table of Solid Measure applied to the Freighting of Ships, &c.*

The table of Solid Measure (beginning page 23 and ending page 128) and which is particularly explained on page x, &c. having been made use of for many years past by several judicious merchants, for the expeditions ascertaining the value of the carriage of goods which pay freight by the solid foot; and the table being as well adapted for the freighting of ships as for the valuing of timber, I have, to this new edition, added the following directions for the benefit of those who would apply it to the freighting of ships, and they are such as I think ought to prevail; but so long as some measurers will be for taking the dimensions, and valuing their amount nearer than others, there will always be room for disputes. See fig. 6 in the plate facing page iii.

*Note.*—It is usual to make an abatement of one-fifth upon the admeasurement of the package of coarse goods.

*To find how many solid feet (in order to ascertain the freight) are contained in any case, bale, cask, &c. i. e. how many solid feet they will take up in a ship.*

Observe that goods paying freight by the solid foot are commonly packed up in

1. Cases, chests, or trunks;
2. Bales, trusses, or bundles;
3. Casks, vats or fats;

and their contents are all found by one and the same method, viz. taking the length and girting them, thus—

1. With a rule measure the length of the package, and write it down in feet and inches in your memorandum book; having done this, then you are to reduce the package to a square, which is immediately done thus,

2. With a line, or packthread, girt the package, then double the line together twice, and you have one-fourth of the girt (for the side of the square), which measure upon your rule, and write it down in inches and quarters of an inch. Having thus reduced the package to a square, then,

3. Look at the top of the table of solid measure for the side of the square (which is equal to one-fourth of the girt,) and keep your eye down the left-hand column till you find the length of the package in feet, opposite which stands the number of solid feet, inches, and twelfth parts it contains; but these twelfth parts and the inches are usually rejected unless they amount to half a foot.

EXAMPLE I.

Let the length of a case, chest, or trunk, be 36 inches (which is equal to 3 feet,) and the girt 96 inches ( $\frac{1}{4}$  of which is 24 inches), I demand how many solid feet such a case, &c. contains?

At the top of the table find 24 inches, the side, (equal to  $\frac{1}{4}$  of the girt of 96 inches), then keep your eye down the left-hand column, and opposite 3 feet, the length, (which is equal to 36 inches), you have 12 feet, and so many solid feet you are to pay freight for at the price agreed upon.

*Note.*—When you cannot find the length of the package at once, you are to take it out at twice, as in the following example:—

EXAMPLE II.

Let the length of a case, &c. be 54 inches (which is equal to  $4\frac{1}{2}$  feet), and the girt 152 inches ( $\frac{1}{4}$  of which is 38 inches), I demand how many solid feet the case contains?

At the top of the table find 38 inches, the side, (equal to  $\frac{1}{4}$  of the girt of 152 inches), then keep your eye down the left-hand column, and opposite 4 feet, the length, is 40 : 1 : 4, which write down, and at the bottom of the table opposite  $\frac{1}{2}$  a foot, the length, is 5 : 0 : 2, add these together and they will make 45 feet, 1 inch, and 6 twelfth parts, which is the number of solid feet you are to pay freight for at the price agreed upon.

*Note.*—When you have any inches in the length less than  $\frac{1}{4}$ ,  $\frac{1}{2}$ , or  $\frac{3}{4}$  of a foot, you are to proceed as in the following example:—

EXAMPLE III.

Let the length of a case, &c. be 62 inches (which is equal to 5 feet 2 inches), and the girt 122 inches ( $\frac{1}{4}$  of which is 30 $\frac{1}{2}$  inches), I demand how many solid feet the case contains?

At the top of the table find 30 $\frac{1}{2}$  inches, the side of the square, (equal to  $\frac{1}{4}$  of the girt of 122 inches), then keep your eye

down the left-hand column, P. I. P.  
 and opposite 5 feet stands— 32 3 7  
 which write down. Then for 0 10 4  
 the 2 inches—I consider that 2  
 inches is two-thirds of 1 quar- 33 1 11  
 ter of a foot, and at the bottom of the table  
 I find, opposite  $\frac{1}{4}$  of a foot, 1 foot, 7 inches,  
 4 twelfth parts, and 6 seconds (but the  
 twelfth parts and seconds may be rejected).  
 Now two-thirds of a foot is 8 inches, and  
 one-third of 7 inches is 2 inches and one-  
 third, which must be wrote down also;  
 and by adding them together you will find  
 they make 33 feet, 1 inch, and 11 twelfth  
 parts, being the number of solid feet you  
 are to pay freight for at the price agreed  
 upon.

*Note.*—When cases taper, and are smaller at one  
 end than the other, to reduce them to a square you  
 must girt them in the middle from each end. Or  
 you may find  $\frac{1}{4}$  of the girt at each end, add them to-  
 gether, take half of it for the side of the square, and  
 work as in the foregoing example.

---

### Of Bales, Trusses, &c.

The solid feet in any bale, truss, or bun-  
 dle, are found by taking their lengths, and  
 reducing them to a square by girting them,  
 as in the three foregoing examples, pro-  
 vided they are as large at one end as the  
 other. But in case they should taper, and  
 be smaller at one end than the other, they  
 are to be girt in the middle from each end,  
 and taking  $\frac{1}{4}$  of the girt for the side of the  
 square, proceed to find the solid feet as  
 already taught for cases, and as following  
 for casks.

---

### Of Casks, Fats or Vats.

The solid feet in any cask, or fat, are  
 found by taking their length, and reducing  
 them to a square by girting them as cases,  
 bales, &c provided they are straight-sided;  
 but if they are smaller at the ends than in  
 the middle, then you must girt them at  
 the midway between the middle and end  
 of the staves, and take  $\frac{1}{4}$  of the girt of the  
 side for the square. Or you may find  $\frac{1}{4}$  of  
 the girt in the middle, and also at the end,  
 add them together, take half of it for the  
 side of the square, and proceed as in the  
 foregoing examples of cases, chests, and  
 trunks.

In taking the length of a bulging cask with a line, without some care you may take it too long. For though a straight-sided cask and a bulging cask, when standing on their end, may be of the same height, yet if the length is taken with a line when they are lying, the bulging cask will be apt to measure longer than the straight-sided one, which should be guarded against. And where the hoops rise higher than the middle or bulging part of the cask, the girt ought to be taken over the widest hoop, as it is usual for the ship's measurer to endeavour, on all occasions, to obtain the largest girt.

It is said some girt the casks in the middle, and abate one-fifth for their tapering.

In taking the length and girt of cases, chests, trunks, &c. when they are strengthened or secured with battens, or where there is any thing that hinders other square goods from lying close by them, that which so hinders them is to be measured in and paid for as if the length and girt had been every where as large as in those particular places, by reason it occasions so much loss in the stowage of the ship.

One of our greatest coppersmiths for making large stills, coppers, boilers, &c. for exportation, informs me that it is usual to ascertain the freight of them by taking the greatest external diameter, even to the outside of the nails, (if a larger external diameter cannot be obtained elsewhere), and then to pay freight as if the still, copper, &c. were a straight-sided square. [See the plate facing page iii. fig. 6.] And when this is the case you pay for the white corners, or spaces, &c. of the square, which the still, copper, &c. never occupies any part of. This seems severe, as several things may be stowed in those white corners, or spaces, &c. He also says, the exporter has the liberty of filling the stills, coppers, &c. with corn, or what else he pleases.

THE  
EXPLANATION AND USE

of the following

TABLE

OF THE

*Square of Unequal-sided  
Timber, Stone, &c.*

(Beginning page 2, and ending page 22.)

---

BEFORE I proceed to explain and show the use of the Table of Solid Measure, it is necessary that I should explain and show the use of the Table of the Square of Unequal-sided Timber, whereby any piece of timber, that is found being broader one way than the other, we may find the side of the square equal thereto.

I. At the beginning of this table, betwixt two parallel lines, stand two inches square, which two inches is the thickness, or lesser side, of the end of a piece of timber that you would find the square of; and under the said parallel lines are two columns of figures: in that column to the left-hand, divided from the other by a black line, is the breadth or larger side of the piece to be measured.

II. The second column shows the square of the piece in inches and quarters of an inch, answering to every inch and half inch of breadth in the left-hand column.

---

*To find the Square of Unequal-sided  
Timber.*

EXAMPLE I.

Suppose you have a piece of timber or stone, the end of which is 3 inches thick, and 7 inches broad, and want to know the square side of it:—

Look in the table for 3 inches, the thickness (or lesser side), betwixt the parallel lines, keeping your eye down the left-hand column till you come to 7, and opposite that, in the second column, you will find  $4\frac{1}{2}$  inches, which is the square side of a piece of timber or stone, equal to 3 inches thick and 7 inches broad.

EXAMPLE II.

What is the value of 1 foot in length of a piece of timber, stone, &c. whose size or scantling is  $6\frac{1}{2}$  inches by  $9\frac{1}{2}$  inches, at 18d. per foot cube?

In the table at 1s. 6d. look for  $6\frac{1}{2}$  inches square in the parallel lines, keeping your eye down the left-hand column until you come to  $6\frac{1}{2}$  inches, and opposite it stands 7 : 5, which signifies 7d. and 5 half farthings, the value sought.

By the ta-	ble at	$\left. \begin{array}{l} s. \\ 2 \\ 2 \\ 3 \end{array} \right\}$	$\left. \begin{array}{l} d. \\ 0 \\ 6 \\ 0 \end{array} \right\}$	the value will be found to be	$\left\{ \begin{array}{l} d. \\ 10\frac{1}{4} \\ 12\frac{1}{4} \\ 15\frac{1}{4} \end{array} \right\}$
------------	--------	--	--	-------------------------------------	---

*Notes.*—By observing the following directions these six tables may be made as useful for valuing timber, stone, &c. at any other price per foot cube, as for those prices at which they are calculated.



<p>If you want the price at</p>	<p>3 6 4 0 4 6 5 0 5 6 6 0 7 6 8 0</p>	<p>per foot cube</p>	<p>Add the value at 1s. 6d. to the value at 2s. and that is the value at 3s. 0d. Double the value at 2s. and that is the value at 4s. Add the value at 2s. to the value at 2s. 6d. and that is the value at 4s. 6d. Double the value at 2s. 6d. and that is the value at 5s. Add the value at 2s. 6d. to the value at 3s. and that is the value at 5s. 6d. Double the value at 3s. and that is the value at 6s. Add the value at 3s. to the value at 3s. 6d. and that is the value at 7s. 6d. Double the value at 4s. and that is the value at 8s.</p>
---------------------------------	--	----------------------	--

<p>If you want the price at</p>	<p>0 9 1 0 1 3</p>	<p>per foot cube, take half the value at</p>	<p>1 6 2 0 2 6</p>	<p>and that is the value at</p>	<p>0 9 1 0 1 3</p>
---------------------------------	----------------------------	--	----------------------------	---------------------------------	----------------------------

<p>If you want the price at</p>	<p>2 3 4 6</p>	<p>per foot cube more than the price any of the tables are calculated for, for</p>	<p>2 3 4 6</p>	<p>Add to the value in that table</p>	<p>1 1/2 1 1/8 1 1/6 1 1/4</p>	<p>Of the value at 2s. per foot, and you have the value sought</p>
---------------------------------	----------------------------	--	----------------------------	---------------------------------------	--	--

\* If you want a price less than any of the tables are calculated for, deduct from the value in that table.

xxx *Use of the Table of Scantlings.*

If you should ever want to find the value of one foot in length of a piece of timber, stone, &c. whose size or scantling is larger than the extent of these tables, this is the

RULE.

Consider at what price per foot cube you would value it by, then seek in that table for the value of one foot of timber or stone, whose scantlings are each of them but equal to half the given scantlings, and four times that price is the value sought. [See Example VI. page xii.

EXAMPLE III.

What is the value of one foot in length of a piece of timber or stone, &c. whose scantling is 14 inches by 20, at 18d. per foot cube?

Here you are first to consider, that half the given scantling is 7 by 10; then in the table at 18d. per foot cube, you are to look betwixt the parellel lines for 7 inches square, keeping your eye down the left-hand column till you come to 10 inches, opposite which stands 8 : 6, signifying 8½d. and four times 8½d. is 2s. 11d. which is the value of one foot in length, whose scantling is 14 inches by 20, at the rate of 18d. per foot cube.

	s.	d.		s.	d.			
By the ta-	{	2	0	} the value will	{	3	10½	
ble at		2	6			} be found to	4	10
		3	0				} be	5

*Note.*—When you are about to value timber, stone, &c. per foot cube, you are carefully to consider that by reason of the length of carriage, the price of workmen's wages, &c. they are rendered much dearer in some places than they are in others, and therefore they must be valued at a price accordingly.

THE  
EXPLANATION AND USE

Of the following

TABLE  
OF  
*Superficial or Flat  
Measure.*

(Beginning page 144 and ending page 190.)

---

1st. THIS table begins with 1 inch broad, and by the addition of a quarter of an inch, extends itself to 24 inches the breadth.

2ndly. Each page of this table is divided into two distinct parts, and each part consists of two columns.

3rdly. The first part of the narrow column to the left-hand shows the several lengths in feet, from 1 to 24; the second part the inches, from 1 to 11; and the third part, the quarters of an inch.

4thly. The three or four rows of figures in the larger columns, on the right-hand, marked at the top FT. IN. PA. and lower FT. IN. PA. S. and T. are the several contents in square feet, inches, twelfth parts of an inch, seconds, and thirds, answering to every foot, inch, and quarter of an inch in the length, in the left-hand column.

*The Use of the Table*

EXAMPLE I.

If a board is 5 inches broad and 9 feet long, I desire to know how many square feet are contained therein?

Look at the top of the table for 5 inches, the breadth, and then keep your eye down the left-hand column, till you come to 9 feet, the length, and opposite that stands 3 : 9 : 0, which signifies 3 feet 9 inches, the content required.

EXAMPLE II.

There is a plank 17 feet 9 inches long, and  $21\frac{1}{2}$  inches broad—I demand how many square feet are contained in that plank?

xxxii Use of the Table of Flat Measure.

At the top of the table find  $21\frac{1}{2}$  inches, the breadth, then look down the left-hand column for 17 feet, the length, and opposite it stands 30 : 5 : 6, which signifies 30 feet  $5\frac{1}{2}$  inches. Then look for 9 inches, the length, opposite which stands 1 : 4 : 1 : 6 signifying 1 foot, 4 inches, 1 twelfth part, and 6 seconds, add these together and you will find the content to be 31 feet, 9 inches, and 7 twelfth parts—the 6 seconds may be rejected.

*Note.*—The quarters of an inch (when you have occasion for them) must be found and added to the feet and inches.

If you have a plank broader at one end than the other (which is very common), you will certainly, by what has been observed before, either take the breadth in the middle or at each end, add them together, and take half for the true breadth (provided both edges be straight), as you are directed in the case of solid measure on pages xiv and xl.

When you happen to meet with any board, plank, &c. broader than 24 inches, or longer than 27 feet, you must observe

EXAMPLE III.

In a plank 19 feet long and 27 inches broad, I demand how many square feet there are?

Now since your table extends but to 24 inches broad, the 27 inches must be taken out at twice, viz.

19 feet long by 24 inches broad is	38	0	0
19 feet long by 3 inches broad is	4	9	0
The content required is	42	9	0

If you have a stack or parcel of boards or planks to measure, which are all of one length but of different breadths, you must set down the contents of each, and add them together in the following manner:—

EXAMPLE IV.

Sixteen feet is the common length, and the breadth of

			Contents.		
No.	is	IN.	F	I.	P.
1	is	7	9	4	0
2		$7\frac{1}{2}$	10	0	0
3		8	10	8	0
4		$8\frac{1}{2}$	11	4	0
5		9	12	0	0
6		$9\frac{1}{2}$	12	8	0
7		10	13	4	0
8		$10\frac{1}{2}$	14	0	0
9		11	14	8	0
10		$11\frac{1}{2}$	15	4	0
11		12	16	0	0

The square or superficial content of the }  
 said 11 planks is . . . } 139 4 0

See the observations concerning Sawyer's work on page xl.

192  
179  
5  
149  
89  
153  
145  
142  
THE USE OF THE

# TABLE

OF

## *Superficial or Flat Measure,*

When applied to

### Glaziers' Work of all Kinds.

(Beginning page 144 and ending page 190.)

#### EXAMPLE I.

IN a window of leaded glass which has three lights in it, each light being 3 feet long and  $15\frac{1}{2}$  inches broad, I desire to know how many feet there are of glazing?

First, add the length of the three lights together, which makes 9 feet, then look in the table for  $15\frac{1}{2}$  inches, the breadth, and opposite 9 feet, the length, you will find 11 : 5 : 3, which is 11 feet, 5 inches, and 3 twelfth parts, the content of the three lights required.

#### EXAMPLE II.

In four windows of leaded glass, each window having two lights, and each light being 3 feet  $6\frac{3}{4}$  inches long and  $17\frac{3}{4}$  inches broad, I demand how many feet there are of glazing?

First, the length of all the eight lights must be added together, which make 28 feet 6 inches, then look in the table for  $17\frac{3}{4}$  inches, the breadth. But since the table does not extend to 28 feet, the length, you must take the answer out at thrice, viz.

	F.	I.	P.	S.
20 feet long, and $17\frac{3}{4}$ inches the breadth, is . . . . .	29	7	0	0
8 feet long, and $17\frac{3}{4}$ inches the breadth, is . . . . .				
6 inches long, and $17\frac{3}{4}$ inches the breadth, is . . . . .	0	8	10	6
The content required . . . . .	42	1	10	6

So that four windows, each having two lights, and each light being 3 feet 6½ inches long and 17½ inches wide, contain 42 feet, 1 inch, 10 twelfth parts, and 6 seconds of glazing.

*Note.*—If you have any quarters of an inch in the length, they must be found at the bottom of the table, and added as the inches are in this Example.

To measure Sash-squares this Table is also very useful.

EXAMPLE III.

In a sash-window that has 12 squares of glass, (i. e. 4 high and 3 broad,) each square being 10 inches high and 8½ inches broad, I would know how many feet of glass it contains?

First, add together the height of the 12 squares, which make 120 inches, then look in the table for 8½ inches, the breadth, and opposite 120 inches, the length, is 6 feet, 10 inches, and 6 twelfth parts, which is the quantity of glass in the said sash-window.

*Note.*—If you have any odd inches, or quarters of an inch, in the length, you must proceed as in Example II.

EXAMPLE IV.

In a sash-window having 18 squares, each square being 20 inches high and 11½ inches broad, I would know how many feet of glass are therein?

First, add together the height of the 18 squares, which is 360 inches (or 30 feet), then look in the table for 11½ inches, the breadth. But since the table does not extend to 30 feet, the length, you must take the answer out at twice, viz.

	P.	I.	P.
20 feet long, and 11½ inches in breadth, is . . . . .	19	7	0
10 feet long, and 11½ inches in breadth, is . . . . .	9	9	6
The content required is . . . . .	29	4	6

So that a sash-window that hath 18 squares, each square being 20 inches high and 11½ inches wide, contains 29 feet, 4 inches and a half of glass.

*Note.*—Observe that, for the generality, sash-windows have either 12 or 18 squares each, and in such a case the quantities are more easily and expeditiously found by the following method:—

When a window hath 12 squares, the inches in height are to be conceived so many feet in length, as will more plainly appear by re-considering the foregoing

Example III. where the 12 squares were each of them 10 inches high, and consequently, when added together, make 10 feet in length; so that by this method of conceiving the inches in height to be feet, the trouble and time in adding the 12 together is hereby saved, and the question more easily answered.

Again, when a window hath 18 squares in it, if you conceive the height in inches to be feet, and take the content as given by the table, and the half of that content, these added together will be the quantity; and this method will be very serviceable (if rightly understood), for by this means you will rarely exceed the extent of the table, (few squares being more than 24 inches high, the bounds of the table in feet,) as for instance:—

In Example IV. where the height of each square was 20 inches, and  $11\frac{1}{2}$  inches broad, look in the table for  $11\frac{1}{2}$  inches, and opposite 20 feet long (i. e. inches high) is 19 feet 7 inches. half of which is 9 feet  $9\frac{1}{2}$  inches, and these being added together make 29 feet  $4\frac{1}{2}$  inches, which was the content as given before on page xxxiv.

Many more examples might be added to illustrate this rule, but a little application and practice will make it very easy and familiar.

### *A Table of English Measures and Quantities, relating to Building and Land.*

- A N inch is one-twelfth of a foot.
- A palm is 3 inches.
- A hand is 4 inches.
- A span is 9 inches, or a quarter of a yard, or half a cubit.
- A foot is 12 inches, or 3 hands.
- A square foot is 144 square inches.
- A cubical foot is 1728 cubical inches.
- A cubit is 4 hands and a half, or 1 foot and a half.
- A yard is 30 inches, or 2 cubits.
- A square yard is 9 square feet.
- A cubical yard is 27 cubical feet.
- An ell is 1 yard and a quarter, or 45 inches.
- A geometrical space is 5 feet.
- A fathom is 6 feet, or 2 yards.
- A square is 100 square feet.

A statute pole, perch, or rod is 16 feet and a half.

A chain is 4 statute poles or perches, or 22 yards.

A fen, or woodland, pole or perch is 18 feet.

A forest pole or perch is 21 feet.

A furlong is 40 poles or perches, or 220 yards.

A mile is 8 furlongs, or 1760 yards.

A square statute pole or perch is  $272\frac{1}{4}$  square feet.

A square woodland pole or perch is 234 square feet.

A rood is 40 square poles or perches.

An acre is 4 square roods, or 160 perches.

A load of rough timber is 40 feet.

A load of squared timber is 50 feet.

A load of 1 inch plank is 600 square feet.

A load of  $1\frac{1}{2}$  inch plank is 400 square feet.

A load of 2 inch plank is 300 square feet.

A load of  $2\frac{1}{2}$  inch plank is 240 square feet.

A load of 3 inch plank is 200 square feet.

A load of  $3\frac{1}{2}$  inch plank is 170 square feet.

A load of 4 inch plank is 150 square feet.

A load of statute bricks is 500.

A load of plain tiles is 1000.

A load of lime is 32 bushels.

A load of sand is 36 bushels.

A hundred of lime is 35 bushels.

A hundred of deals is 120.

A hundred of nails is 120.

A thousand of nails is 1200.

A ton of iron is 2240 pounds weight.

A fodder of lead is  $19\frac{1}{2}$  hundred, or 2184 pounds.

A hundred of lead is 112 pounds weight.

A table of glass is 5 feet, and 45 tables is a case; but of Newcastle and Normandy glass 25 tables make a case.

A bundle of 4 feet oak-heart laths is 120, and  $37\frac{1}{2}$  bundles is a load.

A bundle of 5 feet oak-heart laths is 100 and 30 bundles is a load.

*Note.*—Fir or deal laths are of divers lengths, as 3, 4, 5, and 6 feet, but all of them are reduced to the standard length of 5 feet, and so every run of bundles (each bundle containing 100 laths) is a load, being equal to 30 bundles of 5 feet laths.



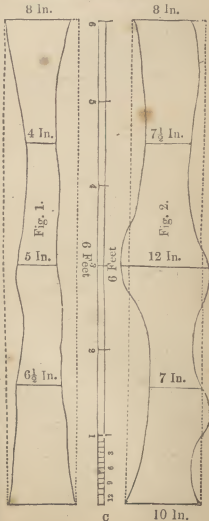
# OBSERVATIONS

CONCERNING

## *Timber sawed into Boards or Planks:*

AND ALSO

Concerning Sawyers' Work, and the usual Method of Measuring; with some account of the London Prices of Sawyers' Work.



The figures on the foregoing page are intended to represent two different shaped boards or planks, each 6 feet long, 10 inches broad at the butt, and 8 inches broad at the top; the dotted lines show how they each differ from the boards or planks that are straight-sided.

Fig. 1 you see measures 5 inches in the middle, which look for in the table, and at 6 feet, the length, you find it contains 2 feet 6 inches, according to the customary way of measuring.

Fig. 2 measures 12 inches in the middle, which look for in the table, and at 6 feet, the length, you find it contains 6 feet, according to the customary way of measuring. So it is evident, that of two boards or planks, of the same length and of the same breadth at the butt and top, according as the middle runs, one shall contain 3 superficial feet and a half more or less than the other.

*Fig. 1 by two dimensions.*

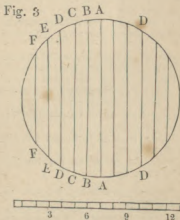
Let us now suppose fig. 1 to be cut in the middle, and to be measured by two dimensions; the middle of the bottom part measures  $6\frac{1}{2}$  inches, which look for in the table, and at 3 feet, the length, you find it contains 1 foot  $7\frac{1}{2}$  inches; the middle of the top part is 4 inches, which look for in the table, and at 3 feet, the length, you find it contains 1 foot, and these added together make the whole to be 2 feet  $7\frac{1}{2}$  inches—so that there is only 1 superficial inch and a half gained or lost by measuring fig. 1 by one or two dimensions.

*Fig. 2 by two dimensions.*

Let us now measure fig. 2 by two dimensions; the middle of the bottom part measures 7 inches, which look for in the table, and at 3 feet, the length, you will find it contains 1 foot 9 inches; the middle of the top part is  $7\frac{1}{2}$  inches, which, by the table, at 3 feet, the length, is 1 foot  $10\frac{1}{2}$  inches, and these added together (instead of making 6 feet as before) make the whole to contain no more than 3 feet  $7\frac{1}{2}$  inches, which is 2 feet  $4\frac{1}{2}$  inches less than it measured when measured by one dimension.

And if we suppose fig. 2 to be a fine walnut-tree, 2 inch plank, at 12d. per foot, if measured by one dimension it comes to 6s. but if it be measured by two dimensions it comes (at the same price) to no more than 3s.  $7\frac{1}{2}$ d. which is 2s.  $4\frac{1}{2}$ d. loss.

The following cut, Fig. 3, is intended to represent the end of a straight piece of round timber, 12 inches diameter at each end, and 6 feet long.



A A shows what is commonly called Sawyers' Measure, for which, in London, if it be oak, there is usually paid 3*s.* per 100 feet superficial measure.

D D shows what is commonly called Market Measure (which is the truest), for which, in London, if it be oak, there is usually paid 3*s.* 6*d.* per 100 feet superficial measure.

The first column in the following table shows the diameter, the second the superficial content, and the third what is lost per each cut or board, if you pay for them all per Sawyers' Measure.

The diameter or breadth of each cut.	Superficial content of each cut or board.			Lost per each cut.		
	F.	l.	P.	F.	l.	P.
A A	1	0	6	0	0	0
bb	0	11½	5	10	6	0
cc	0	11½	5	9	0	0
DD	0	10½	5	4	6	0
ee	0	9	4	6	0	1
ff	0	7	3	6	0	2

*In London the Sawyers cut Timber at the following prices.*

Oak from 3*s.* to 3*s.* 6*d.* per 100 feet superficial measure, or 7*s.* per load of 50 feet.

Ash from 5*s.* to 6*s.* per 100 feet superficial measure, or from 8*s.* to 12*s.* per load of 50 solid feet.

Fir from 3*s.* to 4*s.* per 100 feet superficial measure, or 6*s.* per load of 50 solid feet.

What are called Deals are sawed abroad, but for slitting 10 feet deals there is usually paid in London 2*s.* 6*d.* per dozen or 2½*d.* per cut, and for 12 feet deals 3*s.* per dozen or 3*d.* per cut.

Mahogany from 5*s.* to 8*s.* per 100 feet superficial measure.

Walnut-tree from 5*s.* to 7*s.* per 100 feet superficial measure.

Elm from 2*s.* 6*d.* to 5*s.* per 100 feet superficial measure.

*Note.*—Mahogany, Walnut-tree, and Elm are never cut by the load.

Beech is commonly used for bedsteads, chairs, table-frames, &c. and is generally cut in the country.

The difference in the prices of sawing the foregoing woods arises from the valableness and fineness of the timber and sawing.

No planking less than 2 inches thick is cut by the load; in case it is thinner than 2 inches, it is measured by the 100 feet superficial measure.

By custom the sawyers of London have, one piece with another as they shall happen to fall out, as much per load for breaking down or cutting a piece of timber into large scantlings as they have for breaking it down and cutting it into small scantlings, viz: they will cut a piece of timber, a foot square, of any length, into 2 scantlings of 12 inches by 6, or into 4 scantlings of 6 inches by 6, or into 12 scantlings of 4 inches by 3, all at one and the same price; and the reason they give for this practice is, where the stuff proves fine it is seldom or never the interest of the owner to have it cut into small scantlings.

Having occasionally made use of the terms *lineal* or *running*, *superficial* or *square*, and *solid* or *cubical* measure, in the foregoing pages, it may not be amiss here to explain them.

*Lineal* or *running* measure regards only the length, and has no regard to the breadth or thickness.

*Superficial* or *square* measure regards the length and breadth.

*Solid* or *cubical* measure regards the length, breadth, and thickness.

A NEW  
TABLE

for finding, at sight,

THE SQUARE

OF UNEQUAL-SIDED

TIMBER, STONE, &c.

Ready cast up:

Whereby the true Square of any Piece of Timber, Stone, &c. being broader one way than the other, may be found, from 2 to 54 inches the broadest side; and therefore, by addition only, may serve to any greater breadth, if there should ever be occasion

*See this Table explained on page vii, &c.*

## The Square of

2 In. BY		12	5½	7	5
2½ <i>is</i>	2¼	12½	5½	7½	5
3	2½	13	5¾	8	5½
3½	2¾	13½	5¾	8½	5½
4	3	14	6	9	5½
4½	3½	14½	6	9½	5¾
5	3¾	15	6¼	10	6
5½	3¾	15½	6¼	10½	6
6	4	16	6½	11	6¼
6½	4½	16½	6½	11½	6¼
7	4½	17	6½	12	6½
7½	5	17½	6½	12½	6½
8	5	18	6¾	13	6¾
8½	5½			13½	7
9	5½	3 In. BY		14	7
9½	6	3½ <i>is</i>	3¼	14½	7
10	6	4	3½	15	7¼
10½	6½	4½	3½	15½	7¼
11	6½	5	3¾	16	7½
11½	7	5½	4	16½	7½
12	7	6	4½	17	7¾
12½	7½	6½	4½	17½	7¾
13	7½	7	4½	18	8
13½	8	7½	4½		
14	8	8	4½	4 In. BY	
14½	8½	8½	5	4½ <i>is</i>	4¼
15	8½	9	5½	5	4½
15½	9	9½	5½	5½	4¾
16	9	10	5½	6	5
16½	9½	10½	5½	6½	5
17	9½	11	5½	7	5¼
17½	10	11½	6	7½	5¼
18	10	12	6	8	5½
		12½	6¼	8½	5½
2½ In. BY		13	6¼	9	5¾
3 <i>is</i>	2¾	13½	6¼	9½	6
3½	3	14	6½	10	6¼
4	3¼	14½	6½	10½	6¼
4½	3½	15	6½	11	6½
5	3¾	15½	6¾	11½	6½
5½	3¾	16	7	12	7
6	4	16½	7	12½	7
6½	4½	17	7½	13	7¼
7	4½	17½	7½	13½	7¼
7½	5	18	7¾	14	7½
8	5	3½ In. BY		14½	7½
8½	5½	4 <i>is</i>	3¾	15	7¾
9	5½	4½	3¾	15½	7¾
9½	6	5	4	16	8
10	6	5½	4½	16½	8¼
10½	6½	6	4½	17	8¼
11	6½	6½	4½	17½	8½
11½	7	7	4½	18	8½

4½	In. BV	17	9½	17	10
5	is 4½	17½	9½	17½	10½
5½	5	18	9½	18	10½
6	5¼	5½ In. BV		6½ In. BV	
6½	5½	6	is 5½	7	is 6½
7	5¾	6½	6	7½	7
7½	5¾	7	6¼	8	7¼
8	6	7½	6½	8½	7½
8½	6¼	8	6¾	9	7¾
9	6½	8½	6¾	9½	7¾
9½	6¾	9	7	10	8
10	6¾	9½	7¼	10½	8¼
10½	6¾	10	7½	11	8½
11	7	10½	7¾	11½	8¾
11½	7¼	11	7¾	12	8¾
12	7¼	11½	8	12½	9
12½	7½	12	8	13	9¼
13	7¾	12½	8¼	13½	9¼
13½	7¾	13	8¼	14	9½
14	8	13½	8½	14½	9½
14½	8	14	8½	15	10
15	8¼	14½	9	15½	10
15½	8¼	15	9	16	10¼
16	8½	15½	9¼	16½	10¼
16½	8½	16	9½	17	10½
17	8¾	16½	9¾	17½	10½
17½	8¾	17	9¾	18	10½
18	9	17½	9¾		
5 In. BV		18	10	7 In. BV	
5½	is 5¼	6 In. BV		7½	is 7¼
6	5½	6½	is 6½	8	7½
6½	5¾	7	6¾	8½	7¾
7	6	7½	6¾	9	8
7½	6	8	7	9½	8¼
8	6¼	8½	7¼	10	8¼
8½	6½	9	7½	10½	8½
9	6½	9½	7¾	11	8½
9½	6¾	10	7¾	11½	9
10	7	10½	8	12	9¼
10½	7¼	11	8	12½	9¼
11	7½	11½	8¼	13	9½
11½	7½	12	8¼	13½	9½
12	7¾	12½	8½	14	10
12½	8	13	8½	14½	10
13	8	13½	9	15	10¼
13½	8¼	14	9¼	15½	10¼
14	8¼	14½	9½	16	10½
14½	8½	15	9½	16½	10½
15	8½	15½	9¾	17	11
15½	8¾	16	9¾	17½	11
16	9	16½	10	18	11¼
16½	9½				

## The Square of

7½	In. BV	13	10½	10	In. BV
8	is 7¾	13½	10¾	10½	is 10¾
8½	8	14	11	11	10½
9	8¼	14½	11	11½	10¾
9½	8½	15	11¼	12	11
10	8¾	15½	11½	12½	11¼
10½	8¾	16	11¾	13	11½
11	9	16½	11¾	13½	11½
11½	9¼	17	12	14	11¾
12	9½	17½	12¼	14½	12
12½	9¾	18	12½	15	12¼
13	9¾	-----		15½	12½
13½	10	9 In. BV		16	12¾
14	10¼	9½ is 9¾		16½	12¾
14½	10½	10	9½	17	13
15	10¾	10½	9¾	17½	13¼
15½	10¾	11	10	18	13½
16	11	11½	10¼	18½	13½
16½	11	12	10½	19	13¾
17	11¼	12½	10½	19½	14
17½	11½	13	10¾	20	14¼
18	11½	13½	11	-----	
8 In. BV		14	11½	10½ In. BV	
8½	is 8¾	14½	11½	11	is 10¾
9	8½	15	11½	11½	11
9½	8¾	15½	11¾	12	11¼
10	9	16	12	12½	11½
10½	9¼	16½	12¼	13	11¾
11	9½	17	12¼	13½	12
11½	9½	17½	12½	14	12
12	9¾	18	12½	14½	12¼
12½	10	-----		15	12½
13	10¼	9½ In. BV		15½	12¾
13½	10½	10	is 9¾	16	13
14	10¾	10½	10	16½	13¼
14½	10¾	11	10¼	17	13½
15	11	11½	10½	17½	13½
15½	11¼	12	10¾	18	13¾
16	11¼	12½	11	18½	14
16½	11½	13	11	19	14
17	11½	13½	11¼	19½	14¼
17½	11¾	14	11½	20	14½
18	12	14½	11¾	20½	14¾
-----		15	12	21	14¾
8½	In. BV	15½	12¼	-----	
9	is 8¾	16	12½	11 In. BV	
9½	9	16½	12½	11½	is 11¾
10	9¼	17	12¾	12	11½
10½	9½	17½	13	12½	11¾
11	9¾	18	13	13	12
11½	10	18½	13¼	13½	12¼
12	10	19	13½	14	12½
12½	10¼			14½	12¾



15	12 $\frac{3}{4}$	18	14 $\frac{3}{4}$	19	15 $\frac{1}{2}$
15 $\frac{1}{2}$	13	18 $\frac{1}{2}$	15	19 $\frac{1}{2}$	15 $\frac{3}{4}$
16	13 $\frac{1}{4}$	19	15	20	16
16 $\frac{1}{2}$	13 $\frac{1}{2}$	19 $\frac{1}{2}$	15 $\frac{1}{4}$	20 $\frac{1}{2}$	16 $\frac{1}{4}$
17	13 $\frac{3}{4}$	20	15 $\frac{1}{2}$	21	16 $\frac{1}{2}$
17 $\frac{1}{2}$	13 $\frac{3}{4}$	20 $\frac{1}{2}$	15 $\frac{3}{4}$	21 $\frac{1}{2}$	16 $\frac{3}{4}$
18	14	21	15 $\frac{3}{4}$	22	17
18 $\frac{1}{2}$	14 $\frac{1}{4}$	21 $\frac{1}{2}$	16	22 $\frac{1}{2}$	17
19	14 $\frac{1}{2}$	22	16 $\frac{1}{4}$	23	17 $\frac{1}{4}$
19 $\frac{1}{2}$	14 $\frac{3}{4}$	22 $\frac{1}{2}$	16 $\frac{1}{2}$	23 $\frac{1}{2}$	17 $\frac{1}{2}$
20	14 $\frac{3}{4}$	23	16 $\frac{3}{4}$	24	17 $\frac{3}{4}$
20 $\frac{1}{2}$	15	23 $\frac{1}{2}$	16 $\frac{3}{4}$	24 $\frac{1}{2}$	17 $\frac{3}{4}$
21	15 $\frac{1}{4}$	24	17	25	18
21 $\frac{1}{2}$	15 $\frac{1}{4}$			25 $\frac{1}{2}$	18 $\frac{1}{2}$
22	15 $\frac{1}{2}$			26	18 $\frac{1}{2}$

12 $\frac{1}{2}$  In. BV

11 $\frac{1}{2}$  In. BV

12 is	11 $\frac{3}{4}$
12 $\frac{1}{2}$	12
13	12
13 $\frac{1}{2}$	12 $\frac{1}{4}$
14	12 $\frac{1}{2}$
14 $\frac{1}{2}$	12 $\frac{3}{4}$
15	13
15 $\frac{1}{2}$	13 $\frac{1}{4}$
16	13 $\frac{1}{2}$
16 $\frac{1}{2}$	13 $\frac{3}{4}$
17	14
17 $\frac{1}{2}$	14 $\frac{1}{4}$
18	14 $\frac{1}{2}$
18 $\frac{1}{2}$	14 $\frac{3}{4}$
19	14 $\frac{3}{4}$
19 $\frac{1}{2}$	15
20	15 $\frac{1}{4}$
20 $\frac{1}{2}$	15 $\frac{1}{4}$
21	15 $\frac{1}{2}$
21 $\frac{1}{2}$	15 $\frac{3}{4}$
22	16
22 $\frac{1}{2}$	16
23	16 $\frac{1}{4}$

13 is

12 $\frac{1}{4}$	
13 $\frac{1}{2}$	13
14	13 $\frac{1}{4}$
14 $\frac{1}{2}$	13 $\frac{1}{2}$
15	13 $\frac{3}{4}$
15 $\frac{1}{2}$	14
16	14 $\frac{1}{4}$
16 $\frac{1}{2}$	14 $\frac{1}{2}$
17	14 $\frac{3}{4}$
17 $\frac{1}{2}$	14 $\frac{3}{4}$
18	15
18 $\frac{1}{2}$	15
19	15 $\frac{1}{4}$
19 $\frac{1}{2}$	15 $\frac{1}{4}$
20	15 $\frac{1}{2}$
20 $\frac{1}{2}$	16
21	16 $\frac{1}{4}$
21 $\frac{1}{2}$	16 $\frac{1}{2}$
22	16 $\frac{3}{4}$
22 $\frac{1}{2}$	16 $\frac{3}{4}$
23	17
23 $\frac{1}{2}$	17 $\frac{1}{4}$
24	17 $\frac{1}{2}$
24 $\frac{1}{2}$	17 $\frac{3}{4}$
25	17 $\frac{3}{4}$

13 $\frac{1}{2}$  In. BV

14 is	13 $\frac{3}{4}$
14 $\frac{1}{2}$	14
15	14 $\frac{1}{4}$
15 $\frac{1}{2}$	14 $\frac{1}{2}$
16	14 $\frac{3}{4}$
16 $\frac{1}{2}$	15
17	15 $\frac{1}{4}$
17 $\frac{1}{2}$	15 $\frac{1}{2}$
18	15 $\frac{3}{4}$
18 $\frac{1}{2}$	15 $\frac{3}{4}$
19	16
19 $\frac{1}{2}$	16 $\frac{1}{4}$
20	16 $\frac{1}{2}$
20 $\frac{1}{2}$	16 $\frac{3}{4}$
21	16 $\frac{3}{4}$
21 $\frac{1}{2}$	17
22	17 $\frac{1}{4}$
22 $\frac{1}{2}$	17 $\frac{1}{2}$
23	17 $\frac{3}{4}$
23 $\frac{1}{2}$	17 $\frac{3}{4}$
24	18
24 $\frac{1}{2}$	18 $\frac{1}{4}$
25	18 $\frac{1}{2}$
25 $\frac{1}{2}$	18 $\frac{3}{4}$
26	18 $\frac{3}{4}$
26 $\frac{1}{2}$	19
27	19

12 In. BV

12 $\frac{1}{2}$ is	12 $\frac{1}{4}$
13	12 $\frac{1}{2}$
13 $\frac{1}{2}$	12 $\frac{3}{4}$
14	13
14 $\frac{1}{2}$	13 $\frac{1}{4}$
15	13 $\frac{1}{2}$
15 $\frac{1}{2}$	13 $\frac{3}{4}$
16	13 $\frac{3}{4}$
16 $\frac{1}{2}$	14
17	14 $\frac{1}{4}$
17 $\frac{1}{2}$	14 $\frac{1}{2}$

13 In. BV

13 $\frac{1}{2}$ is	13 $\frac{1}{4}$
14	13 $\frac{1}{2}$
14 $\frac{1}{2}$	13 $\frac{3}{4}$
15	14
15 $\frac{1}{2}$	14 $\frac{1}{4}$
16	14 $\frac{1}{2}$
16 $\frac{1}{2}$	14 $\frac{3}{4}$
17	14 $\frac{3}{4}$
17 $\frac{1}{2}$	15
18	15 $\frac{1}{4}$
18 $\frac{1}{2}$	15 $\frac{1}{2}$

14 In. BV

14 $\frac{1}{2}$ is	14 $\frac{1}{4}$
15	14 $\frac{1}{2}$
15 $\frac{1}{2}$	14 $\frac{3}{4}$
16	15
16 $\frac{1}{2}$	15 $\frac{1}{4}$
17	15 $\frac{1}{2}$
17 $\frac{1}{2}$	15 $\frac{3}{4}$



20	18 $\frac{1}{4}$	29	22 $\frac{1}{4}$	20	19
20 $\frac{1}{2}$	18 $\frac{1}{2}$	20 $\frac{1}{2}$	22 $\frac{1}{2}$	20 $\frac{1}{2}$	19 $\frac{1}{4}$
21	18 $\frac{3}{4}$	30	22 $\frac{3}{4}$	21	19 $\frac{1}{2}$
21 $\frac{1}{2}$	18 $\frac{3}{4}$	30 $\frac{1}{2}$	22 $\frac{3}{4}$	21 $\frac{1}{2}$	19 $\frac{1}{4}$
22	19	31	23	22	20
22 $\frac{1}{2}$	19 $\frac{1}{4}$	31 $\frac{1}{2}$	23 $\frac{1}{4}$	22 $\frac{1}{2}$	20 $\frac{1}{4}$
23	19 $\frac{1}{2}$	32	23 $\frac{1}{2}$	23	20 $\frac{1}{2}$
23 $\frac{1}{2}$	19 $\frac{3}{4}$	32 $\frac{1}{2}$	23 $\frac{3}{4}$	23 $\frac{1}{2}$	20 $\frac{3}{4}$
24	20	33	23 $\frac{3}{4}$	24	20 $\frac{3}{4}$
24 $\frac{1}{2}$	20	33 $\frac{1}{2}$	23 $\frac{3}{4}$	24 $\frac{1}{2}$	21
25	20 $\frac{1}{4}$	34	24	25	21 $\frac{1}{4}$
25 $\frac{1}{2}$	20 $\frac{1}{2}$			25 $\frac{1}{2}$	21 $\frac{1}{2}$
26	20 $\frac{3}{4}$			26	21 $\frac{3}{4}$
26 $\frac{1}{2}$	20 $\frac{3}{4}$			26 $\frac{1}{2}$	21 $\frac{3}{4}$
27	21			27	22
27 $\frac{1}{2}$	21 $\frac{1}{4}$			27 $\frac{1}{2}$	22 $\frac{1}{4}$
28	21 $\frac{1}{2}$			28	22 $\frac{1}{2}$
28 $\frac{1}{2}$	21 $\frac{3}{4}$			28 $\frac{1}{2}$	22 $\frac{3}{4}$
29	21 $\frac{3}{4}$			29	22 $\frac{3}{4}$
29 $\frac{1}{2}$	22			29 $\frac{1}{2}$	23
30	22 $\frac{1}{4}$			30	23 $\frac{1}{4}$
30 $\frac{1}{2}$	22 $\frac{1}{2}$			30 $\frac{1}{2}$	23 $\frac{1}{2}$
31	22 $\frac{1}{2}$			31	23 $\frac{1}{2}$
31 $\frac{1}{2}$	22 $\frac{3}{4}$			31 $\frac{1}{2}$	23 $\frac{3}{4}$
32	23			32	24
32 $\frac{1}{2}$	23 $\frac{1}{4}$			32 $\frac{1}{2}$	24 $\frac{1}{4}$
33	23 $\frac{1}{4}$			33	24 $\frac{1}{4}$

17 $\frac{1}{2}$  In. BV

18 is	17 $\frac{1}{2}$
18 $\frac{1}{2}$	18
19	18 $\frac{1}{4}$
19 $\frac{1}{2}$	18 $\frac{1}{2}$
20	18 $\frac{3}{4}$
20 $\frac{1}{2}$	19
21	19 $\frac{1}{4}$
21 $\frac{1}{2}$	19 $\frac{1}{2}$
22	19 $\frac{3}{4}$
22 $\frac{1}{2}$	19 $\frac{3}{4}$
23	20
23 $\frac{1}{2}$	20 $\frac{1}{4}$
24	20 $\frac{1}{2}$
24 $\frac{1}{2}$	20 $\frac{3}{4}$
25	21
25 $\frac{1}{2}$	21
26	21 $\frac{1}{4}$
26 $\frac{1}{2}$	21 $\frac{1}{2}$
27	21 $\frac{3}{4}$
27 $\frac{1}{2}$	22
28	22 $\frac{1}{4}$
28 $\frac{1}{2}$	22 $\frac{1}{2}$
29	22 $\frac{3}{4}$
29 $\frac{1}{2}$	22 $\frac{3}{4}$
30	23
30 $\frac{1}{2}$	23
31	23 $\frac{1}{4}$
31 $\frac{1}{2}$	23 $\frac{1}{2}$
32	23 $\frac{3}{4}$
32 $\frac{1}{2}$	23 $\frac{3}{4}$
33	24
33 $\frac{1}{2}$	24 $\frac{1}{4}$
34	24 $\frac{1}{2}$
34 $\frac{1}{2}$	24 $\frac{3}{4}$
35	24 $\frac{3}{4}$

17 In. BV

17 $\frac{1}{2}$ is	17 $\frac{1}{2}$
18	17 $\frac{1}{4}$
18 $\frac{1}{2}$	17 $\frac{3}{4}$
19	18
19 $\frac{1}{2}$	18 $\frac{1}{4}$
20	18 $\frac{1}{2}$
20 $\frac{1}{2}$	18 $\frac{3}{4}$
21	19
21 $\frac{1}{2}$	19
22	19 $\frac{1}{4}$
22 $\frac{1}{2}$	19 $\frac{1}{2}$
23	19 $\frac{3}{4}$
23 $\frac{1}{2}$	20
24	20 $\frac{1}{4}$
24 $\frac{1}{2}$	20 $\frac{1}{2}$
25	20 $\frac{3}{4}$
25 $\frac{1}{2}$	20 $\frac{3}{4}$
26	21
26 $\frac{1}{2}$	21 $\frac{1}{4}$
27	21 $\frac{1}{2}$
27 $\frac{1}{2}$	21 $\frac{3}{4}$
28	21 $\frac{3}{4}$
28 $\frac{1}{2}$	22

18 $\frac{1}{2}$  In. BV

19 is	18 $\frac{1}{2}$
19 $\frac{1}{2}$	19
20	19 $\frac{1}{4}$
20 $\frac{1}{2}$	19 $\frac{1}{2}$
21	19 $\frac{3}{4}$
21 $\frac{1}{2}$	20
22	20 $\frac{1}{4}$
22 $\frac{1}{2}$	20 $\frac{1}{2}$
23	20 $\frac{3}{4}$
23 $\frac{1}{2}$	20 $\frac{3}{4}$
24	21
24 $\frac{1}{2}$	21 $\frac{1}{4}$
25	21 $\frac{1}{2}$
25 $\frac{1}{2}$	21 $\frac{3}{4}$
26	22
26 $\frac{1}{2}$	22 $\frac{1}{4}$
27	22 $\frac{1}{2}$
27 $\frac{1}{2}$	22 $\frac{3}{4}$

18 In. BV

8 $\frac{1}{2}$ is	18 $\frac{1}{2}$
9	18 $\frac{1}{4}$
19 $\frac{1}{2}$	18 $\frac{3}{4}$

28	22½	35	25½	22	21
28½	23	35½	26	22½	21½
29	23½	36	26½	23	21¾
29½	24	36½	27	23½	22
30	24½	37	27½	24	22½
30½	25	37½	28	24½	23
31	25½	38	28½	25	23½
31½	26			25½	24
32	26½	19½ In. by		26	24½
32½	27	20	is 19½	26½	25
33	27½	20½	20	27	25½
33½	28	21	20½	27½	26
34	28½	21½	21	28	26½
34½	29	22	21½	28½	27
35	29½	22½	22	29	27½
35½	30	23	22½	29½	28
36	30½	23½	23	30	28½
36½	31	24	23½	30½	29
37	31½	24½	24	31	29½
19 In. by		25	24½	31½	30
19½ is 19½		25½	25	32	30½
20	19½	26	25½	32½	31
20½	20	26½	26	33	31½
21	20½	27	26½	33½	32
21½	21	27½	27	34	32½
22	21½	28	27½	34½	33
22½	22	28½	28	35	33½
23	22½	29	28½	35½	34
23½	23	29½	29	36	34½
24	23½	30	29½	36½	35
24½	24	30½	30	37	35½
25	24½	31	30½	37½	36
25½	25	31½	31	38	36½
26	25½	32	31½	38½	37
26½	26	32½	32	39	37½
27	26½	33	32½	39½	38
27½	27	33½	33	40	38½
28	27½	34	33½	20½ In. by	
28½	28	34½	34	21 is 20½	
29	28½	35	34½	21½	21
29½	29	35½	35	22	21½
30	29½	36	35½	22½	22
30½	30	36½	36	23	22½
31	30½	37	36½	23½	23
31½	31	37½	37	24	23½
32	31½	38	37½	24½	24
32½	32	38½	38	25	24½
33	32½	39	38½	25½	25
33½	33	20 In. by		26	25½
34	33½	20½ is 20½		26½	26
34½	34	21	20½	27	26½
		21½	21	27½	27

28	24	33½	26½	38½	28½
28½	24¼	34	26¾	39	29
29	24½	34½	27	39½	29¼
29½	24¾	35	27	40	29½
30	25	35½	27¼	40½	29¾
30½	25¼	36	27½	41	29¾
31	25½	36½	27¾	41½	29¾
31½	25¾	37	27¾	42	30
32	25¾	37½	28	42½	30¼
32½	25¾	38	28¼	43	30½
33	26	38½	28½		
33½	26¼	39	28¾	22 In. BY	
34	26½	39½	28¾		
34½	26¾	40	29	22½ is	22½
35	26¾	40½	29¼	23	22½
35½	27	41	29¼	23½	22¾
36	27¼	41½	29½	24	23
36½	27½	42	29½	24½	23¼
37	27½			25	23½
37½	27¾			25½	23½
38	28	21½ In. BY		26	24
38½	28¼	22 is	21¼	26½	24¼
39	28½	22½	22	27	24¼
39½	28¾	23	22¼	27½	24½
40	28¾	23½	22½	28	24¾
40½	29	24	22¾	28½	25
41	29¼	24½	23	29	25¼
		25	23¼	29½	25½
21 In. BY		25½	23½	30	25¾
		26	23¾	30½	26
21½ is	21¼	26½	23¾	31	26
22	21½	27	24	31½	26¼
22½	21¾	27½	24¼	32	26½
23	22	28	24½	32½	26¾
23½	22¼	28½	24¾	33	27
24	22½	29	25	33½	27¼
24½	22¾	29½	25¼	34	27½
25	23	30	25½	34½	27¾
25½	23¼	30½	25¾	35	27¾
26	23½	31	25¾	35½	28
26½	23¾	31½	26	36	28¼
27	23¾	32	26¼	36½	28½
27½	24	32½	26½	37	28¾
28	24¼	33	26¾	37½	28¾
28½	24½	33½	26¾	38	29
29	24¾	34	27	38½	29
29½	25	34½	27¼	39	29¼
30	25	35	27½	39½	29½
30½	25¼	35½	27¾	40	29¾
31	25½	36	27¾	40½	29¾
31½	25¾	36½	28	41	30
32	26	37	28¼	41½	30¼
32½	26¼	37½	28½	42	30½
33	26½	38	28¾	42½	30¾

43	30½	24	23½	27	25½
43½	31	24½	23¾	27½	25¾
44	31	25	24	28	25½
-----		25½	24½	28½	25¾
22½	IN. BY	26	24½	29	26
23	is 22¾	26½	24¾	29½	26½
23½	23	27	25	30	26¾
24	23¼	27½	25¼	30½	27
24½	23½	28	25½	31	27½
25	23¾	28½	25¾	31½	27¾
25½	24	29	25½	32	27½
26	24¼	29½	26	32½	27¾
26½	24½	30	26½	33	27½
27	24¾	30½	26¾	33½	28
27½	25	31	27	34	28½
28	25¼	31½	27¼	34½	28¾
28½	25½	32	27½	35	29
29	25¾	32½	27¾	35½	29½
29½	26	33	27½	36	29
30	26¼	33½	27¾	36½	29½
30½	26½	34	28	37	29½
31	26¾	34½	28¼	37½	29¾
31½	27	35	28½	38	29½
32	27¼	35½	28¾	38½	30
32½	27½	36	28½	39	30½
33	27¾	36½	29	39½	30¾
33½	28	37	29¼	40	30½
34	28¼	37½	29½	40½	30¾
34½	28½	38	29½	41	31
35	28¾	38½	29¾	41½	31½
35½	29	39	30	42	31½
36	29¼	39½	30¼	42½	31¾
36½	29½	40	30½	43	31¾
37	29¾	40½	30¾	43½	32
37½	30	41	31	44	32½
38	30¼	41½	31¼	44½	32¾
38½	30½	42	31½	45	32½
39	30¾	42½	31¾	45½	32¾
39½	31	43	31½	46	33
40	31¼	43½	31¾	46½	33
40½	31½	44	32	47	33½
41	31¾	44½	32¼	-----	
41½	32	45	32½	24	IN. BY
42	32¼	45½	32¾	24½	is 24¼
42½	32½	46	32½	25	24½
43	32¾	-----		25½	24¾
43½	33	23½	IN. BY	26	25
44	33¼	24	is 23¾	26½	25½
44½	33½	24½	24	27	25¾
45	33¾	25	24¼	27½	25½
-----		25½	24½	28	26
23	IN. BY	26	24¾	28½	26½
23½	is 23¼	26½	25	-----	

29	26 $\frac{1}{2}$	31	27 $\frac{1}{2}$	32	28 $\frac{1}{2}$
29 $\frac{1}{2}$	26 $\frac{3}{4}$	31 $\frac{1}{2}$	27 $\frac{3}{4}$	32 $\frac{1}{2}$	28 $\frac{3}{4}$
30	26 $\frac{1}{4}$	32	28	33	28 $\frac{1}{4}$
30 $\frac{1}{2}$	27	32 $\frac{1}{2}$	28 $\frac{1}{2}$	33 $\frac{1}{2}$	29
31	27 $\frac{1}{4}$	33	28 $\frac{3}{4}$	34	29 $\frac{1}{4}$
31 $\frac{1}{2}$	27 $\frac{1}{2}$	33 $\frac{1}{2}$	28 $\frac{1}{2}$	34 $\frac{1}{2}$	29 $\frac{1}{2}$
32	27 $\frac{3}{4}$	34	28 $\frac{3}{4}$	35	29 $\frac{3}{4}$
32 $\frac{1}{2}$	28	34 $\frac{1}{2}$	29	35 $\frac{1}{2}$	29 $\frac{1}{2}$
33	28 $\frac{1}{4}$	35	29 $\frac{1}{4}$	36	30
33 $\frac{1}{2}$	28 $\frac{1}{2}$	35 $\frac{1}{2}$	29 $\frac{1}{2}$	36 $\frac{1}{2}$	30 $\frac{1}{2}$
34	28 $\frac{3}{4}$	36	29 $\frac{3}{4}$	37	30 $\frac{3}{4}$
34 $\frac{1}{2}$	28 $\frac{1}{2}$	36 $\frac{1}{2}$	30	37 $\frac{1}{2}$	30 $\frac{1}{2}$
35	29	37	30	38	30 $\frac{1}{4}$
35 $\frac{1}{2}$	29 $\frac{1}{4}$	37 $\frac{1}{2}$	30 $\frac{1}{4}$	38 $\frac{1}{2}$	31
36	29 $\frac{1}{2}$	38	30 $\frac{1}{2}$	39	31 $\frac{1}{4}$
36 $\frac{1}{2}$	29 $\frac{3}{4}$	38 $\frac{1}{2}$	30 $\frac{3}{4}$	39 $\frac{1}{2}$	31 $\frac{1}{2}$
37	29 $\frac{1}{4}$	39	31	40	31 $\frac{3}{4}$
37 $\frac{1}{2}$	30	39 $\frac{1}{2}$	31	40 $\frac{1}{2}$	31 $\frac{1}{2}$
38	30 $\frac{1}{4}$	40	31 $\frac{1}{4}$	41	32
38 $\frac{1}{2}$	30 $\frac{1}{2}$	40 $\frac{1}{2}$	31 $\frac{1}{2}$	41 $\frac{1}{2}$	32 $\frac{1}{4}$
39	30 $\frac{3}{4}$	41	31 $\frac{3}{4}$	42	32 $\frac{1}{2}$
39 $\frac{1}{2}$	30 $\frac{1}{2}$	41 $\frac{1}{2}$	31 $\frac{1}{2}$	42 $\frac{1}{2}$	32 $\frac{3}{4}$
40	31	42	32	43	32 $\frac{1}{4}$
40 $\frac{1}{2}$	31 $\frac{1}{4}$	42 $\frac{1}{2}$	32 $\frac{1}{4}$	43 $\frac{1}{2}$	33
41	31 $\frac{1}{2}$	43	32 $\frac{1}{2}$	44	33 $\frac{1}{4}$
41 $\frac{1}{2}$	31 $\frac{3}{4}$	43 $\frac{1}{2}$	32 $\frac{3}{4}$	44 $\frac{1}{2}$	33 $\frac{1}{2}$
42	31 $\frac{1}{4}$	44	32 $\frac{1}{4}$	45	33 $\frac{3}{4}$
42 $\frac{1}{2}$	32	44 $\frac{1}{2}$	33	45 $\frac{1}{2}$	33 $\frac{1}{4}$
43	32	45	33 $\frac{1}{4}$	46	34
43 $\frac{1}{2}$	32 $\frac{1}{4}$	45 $\frac{1}{2}$	33 $\frac{1}{2}$	46 $\frac{1}{2}$	34
44	32 $\frac{1}{2}$	46	33 $\frac{3}{4}$	47	34 $\frac{1}{4}$
44 $\frac{1}{2}$	32 $\frac{3}{4}$	46 $\frac{1}{2}$	33 $\frac{1}{2}$	47 $\frac{1}{2}$	34 $\frac{1}{2}$
45	33	47	34	48	34 $\frac{3}{4}$
45 $\frac{1}{2}$	33	47 $\frac{1}{2}$	34	48 $\frac{1}{2}$	34 $\frac{1}{4}$
46	33 $\frac{1}{4}$	48	34 $\frac{1}{4}$	49	35
46 $\frac{1}{2}$	33 $\frac{1}{2}$	48 $\frac{1}{2}$	34 $\frac{1}{2}$	49 $\frac{1}{2}$	35 $\frac{1}{4}$
47	33 $\frac{3}{4}$	49	34 $\frac{3}{4}$	50	35 $\frac{1}{2}$
47 $\frac{1}{2}$	33 $\frac{1}{4}$				
48	34				

25 IN. BY

25 $\frac{1}{2}$  IN. BY

24 $\frac{1}{2}$  IN. BY

25	24 $\frac{1}{2}$
25 $\frac{1}{2}$	25
26	25 $\frac{1}{2}$
26 $\frac{1}{2}$	25 $\frac{1}{4}$
27	25 $\frac{3}{4}$
27 $\frac{1}{2}$	26
28	26 $\frac{1}{4}$
28 $\frac{1}{2}$	26 $\frac{1}{2}$
29	26 $\frac{3}{4}$
29 $\frac{1}{2}$	27
30	27
30 $\frac{1}{2}$	27 $\frac{1}{2}$

25 $\frac{1}{2}$	25 $\frac{1}{2}$
26	25 $\frac{1}{4}$
26 $\frac{1}{2}$	25 $\frac{3}{4}$
27	26
27 $\frac{1}{2}$	26 $\frac{1}{4}$
28	26 $\frac{1}{2}$
28 $\frac{1}{2}$	26 $\frac{3}{4}$
29	27
29 $\frac{1}{2}$	27 $\frac{1}{4}$
30	27 $\frac{1}{2}$
30 $\frac{1}{2}$	27 $\frac{3}{4}$
31	27 $\frac{1}{4}$
31 $\frac{1}{2}$	28

26	25 $\frac{1}{2}$
26 $\frac{1}{2}$	26
27	26 $\frac{1}{4}$
27 $\frac{1}{2}$	26 $\frac{1}{2}$
28	26 $\frac{3}{4}$
28 $\frac{1}{2}$	27
29	27 $\frac{1}{4}$
29 $\frac{1}{2}$	27 $\frac{1}{2}$
30	27 $\frac{3}{4}$
30 $\frac{1}{2}$	27 $\frac{1}{4}$
31	28
31 $\frac{1}{2}$	28 $\frac{1}{4}$
32	28 $\frac{1}{2}$
32 $\frac{1}{2}$	28 $\frac{3}{4}$

33	29	33	29½	33	29½
33½	29½	33½	29¾	33½	29¾
34	29¾	34	29¾	34	30
34½	29¾	34½	30	34½	30¼
35	29¾	35	30¼	35	30½
35½	30	35½	30½	35½	30½
36	30¼	36	30¾	36	31
36½	30½	36½	30¾	36½	31
37	30¾	37	31	37	31¼
37½	31	37½	31¼	37½	31½
38	31¼	38	31½	38	31¾
38½	31½	38½	31¾	38½	32
39	31¾	39	31¾	39	32¼
39½	31¾	39½	32	39½	32½
40	32	40	32¼	40	32¾
40½	32	40½	32½	40½	32¾
41	32¼	41	32¾	41	33
41½	32½	41½	32¾	41½	33¼
42	32¾	42	33	42	33¼
42½	33	42½	33¼	42½	33½
43	33	43	33½	43	33¾
43½	33¼	43½	33¾	43½	34
44	33½	44	33¾	44	34¼
44½	33¾	44½	34	44½	34½
45	33¾	45	34¼	45	34¾
45½	34	45½	34½	45½	34¾
46	34¼	46	34½	46	35
46½	34½	46½	34¾	46½	35
47	34¾	47	35	47	35¼
47½	34¾	47½	35½	47½	35½
48	35	48	35¼	48	35¾
48½	35¼	48½	35½	48½	35¾
49	35½	49	35¾	49	36
49½	35½	49½	35¾	49½	36¼
50	35¾	50	36	50	36½
50½	35¾	50½	36¼	50½	36½
51	36	51	36½	51	36¾
		51½	36¾	51½	37
		52	36¾	52	37
				52½	37¼
				53	37½

26 In. by

26½	is	26¼
27		26½
27½		26¾
28		27
28½		27¼
29		27½
29½		27¾
30		28
30½		28¼
31		28½
31½		28¾
32		29
32½		29¼

26½ In. by

27	is	26¾
27½		27¼
28		27½
28½		27¾
29		28
29½		28¼
30		28½
30½		28¾
31		28¾
31½		29
32		29
32½		29¼

27 In. by

27½	is	27¼
28		27½
28½		27¾
29		28
29½		28¼
30		28½
30½		28¾
31		29
31½		29¼



32	29½	31	29¼	30	29
32½	29¾	31½	29½	30½	29¼
33	29¾	32	29¾	31	29½
33½	30	32½	29¾	31½	29¾
34	30¼	33	30	32	30
34½	30½	33½	30¼	32½	30¼
35	30¾	34	30½	33	30½
35½	31	34½	30¾	33½	30¾
36	31¼	35	31	34	30¾
36½	31½	35½	31¼	34½	31
37	31¾	36	31½	35	31¼
37½	31¾	36½	31¾	35½	31½
38	32	37	32	36	31¾
38½	32¼	37½	32	36½	32
39	32½	38	32¼	37	32¼
39½	32¾	38½	32½	37½	32½
40	32¾	39	32¾	38	32¾
40½	33	39½	33	38½	32¾
41	33¼	40	33¼	39	33
41½	33½	40½	33½	39½	33¼
42	33¾	41	33¾	40	33½
42½	33¾	41½	33¾	40½	33¾
43	34	42	34	41	34
43½	34¼	42½	34¼	41½	34
44	34½	43	34½	42	34¼
44½	34¾	43½	34¾	42½	34½
45	34¾	44	34¾	43	34¾
45½	35	44½	35	43½	35
46	35¼	45	35¼	44	35
46½	35½	45½	35¼	44½	35¼
47	35½	46	35½	45	35½
47½	35¾	46½	35¾	45½	35¾
48	36	47	36	46	36
48½	36¼	47½	36¼	46½	36
49	36½	48	36½	47	36¼
49½	36¾	48½	36¾	47½	36½
50	36¾	49	36¾	48	36¾
50½	37	49½	37	48½	36¾
51	37	50	37	49	37
51½	37¼	50½	37¼	49½	37¼
52	37½	51	37½	50	37½
52½	37¾	51½	37¾	50½	37½
53	37¾	52	37¾	51	37¾
53½	38	52½	38	51½	38
54	38¼	53	38¼	52	38¼
		53½	38¼	52½	38¼
		54	38½	53	38½
				53½	38½
				54	39
-----		-----		-----	
27½ IN. BY		28 IN. BY		28½ IN. BY	
28	is 27½	29	is 28	29	is 28½
28½	28	29½	is 28½	30	is 28¾
29	28¼	30	is 28¾	30½	29
29½	28½	30½	29		
30	28¾				
30½	29				

30	29 $\frac{1}{4}$	30	29 $\frac{1}{2}$	31	30 $\frac{1}{4}$	
30 $\frac{1}{2}$	29 $\frac{1}{2}$	30 $\frac{1}{2}$	29 $\frac{3}{4}$	31 $\frac{1}{2}$	30 $\frac{1}{2}$	
31	29 $\frac{3}{4}$	31	30	32	30 $\frac{3}{4}$	
31 $\frac{1}{2}$	30	31 $\frac{1}{2}$	30 $\frac{1}{4}$	32 $\frac{1}{2}$	31	
32	30 $\frac{1}{4}$	32	30 $\frac{1}{2}$	33	31 $\frac{1}{4}$	
32 $\frac{1}{2}$	30 $\frac{1}{2}$	32 $\frac{1}{2}$	30 $\frac{3}{4}$	33 $\frac{1}{2}$	31 $\frac{1}{2}$	
33	30 $\frac{3}{4}$	33	31	34	31 $\frac{3}{4}$	
33 $\frac{1}{2}$	31	33 $\frac{1}{2}$	31 $\frac{1}{4}$	34 $\frac{1}{2}$	32	
34	31 $\frac{1}{4}$	34	31 $\frac{1}{2}$	35	32	
34 $\frac{1}{2}$	31 $\frac{1}{2}$	34 $\frac{1}{2}$	31 $\frac{3}{4}$	35 $\frac{1}{2}$	32 $\frac{1}{4}$	
35	31 $\frac{3}{4}$	35	31 $\frac{1}{4}$	36	32 $\frac{1}{2}$	
35 $\frac{1}{2}$	31 $\frac{1}{4}$	35 $\frac{1}{2}$	32	36 $\frac{1}{2}$	32 $\frac{3}{4}$	
36	32	36	32 $\frac{1}{4}$	37	33	
36 $\frac{1}{2}$	32 $\frac{1}{4}$	36 $\frac{1}{2}$	32 $\frac{1}{2}$	37 $\frac{1}{2}$	33 $\frac{1}{4}$	
37	32 $\frac{1}{2}$	37	32 $\frac{3}{4}$	38	33 $\frac{1}{2}$	
37 $\frac{1}{2}$	32 $\frac{3}{4}$	37 $\frac{1}{2}$	33	38 $\frac{1}{2}$	33 $\frac{3}{4}$	
38	33	38	33 $\frac{1}{4}$	39	34	
38 $\frac{1}{2}$	33	38 $\frac{1}{2}$	33 $\frac{1}{2}$	39 $\frac{1}{2}$	34 $\frac{1}{4}$	
39	33 $\frac{1}{4}$	39	33 $\frac{3}{4}$	40	34 $\frac{1}{2}$	
39 $\frac{1}{2}$	33 $\frac{1}{2}$	39 $\frac{1}{2}$	33 $\frac{1}{4}$	40 $\frac{1}{2}$	34 $\frac{3}{4}$	
40	33 $\frac{3}{4}$	40	34	41	34 $\frac{1}{4}$	
40 $\frac{1}{2}$	34	40 $\frac{1}{2}$	34 $\frac{1}{4}$	41 $\frac{1}{2}$	35	
41	34 $\frac{1}{4}$	41	34 $\frac{1}{2}$	42	35 $\frac{1}{4}$	
41 $\frac{1}{2}$	34 $\frac{1}{2}$	41 $\frac{1}{2}$	34 $\frac{3}{4}$	42 $\frac{1}{2}$	35 $\frac{1}{2}$	
42	34 $\frac{3}{4}$	42	35	43	35 $\frac{3}{4}$	
42 $\frac{1}{2}$	34 $\frac{1}{4}$	42 $\frac{1}{2}$	35	43 $\frac{1}{2}$	35 $\frac{1}{4}$	
43	35	43	35 $\frac{1}{4}$	44	36	
43 $\frac{1}{2}$	35 $\frac{1}{4}$	43 $\frac{1}{2}$	35 $\frac{1}{2}$	44 $\frac{1}{2}$	36 $\frac{1}{4}$	
44	35 $\frac{1}{2}$	44	35 $\frac{3}{4}$	45	36 $\frac{1}{2}$	
44 $\frac{1}{2}$	35 $\frac{3}{4}$	44 $\frac{1}{2}$	36	45 $\frac{1}{2}$	36 $\frac{3}{4}$	
45	35 $\frac{1}{4}$	45	36	46	36 $\frac{1}{4}$	
45 $\frac{1}{2}$	36	45 $\frac{1}{2}$	36 $\frac{1}{4}$	46 $\frac{1}{2}$	37	
46	36 $\frac{1}{4}$	46	36 $\frac{1}{2}$	47	37 $\frac{1}{4}$	
46 $\frac{1}{2}$	36 $\frac{1}{2}$	46 $\frac{1}{2}$	36 $\frac{3}{4}$	47 $\frac{1}{2}$	37 $\frac{1}{2}$	
47	36 $\frac{3}{4}$	47	37	48	37 $\frac{3}{4}$	
47 $\frac{1}{2}$	36 $\frac{1}{4}$	47 $\frac{1}{2}$	37	48 $\frac{1}{2}$	37 $\frac{1}{4}$	
48	37	48	37 $\frac{1}{4}$	49	38	
48 $\frac{1}{2}$	37 $\frac{1}{4}$	48 $\frac{1}{2}$	37 $\frac{1}{2}$	49 $\frac{1}{2}$	38 $\frac{1}{4}$	
49	37 $\frac{1}{2}$	49	37 $\frac{3}{4}$	50	38 $\frac{1}{2}$	
49 $\frac{1}{2}$	37 $\frac{3}{4}$	49 $\frac{1}{2}$	38	50 $\frac{1}{2}$	38 $\frac{3}{4}$	
50	38	50	38	51	38 $\frac{1}{4}$	
50 $\frac{1}{2}$	38	50 $\frac{1}{2}$	38 $\frac{1}{4}$	51 $\frac{1}{2}$	39	
51	38 $\frac{1}{4}$	51	38 $\frac{1}{2}$	52	39 $\frac{1}{4}$	
51 $\frac{1}{2}$	38 $\frac{1}{2}$	51 $\frac{1}{2}$	38 $\frac{3}{4}$	52 $\frac{1}{2}$	39 $\frac{1}{2}$	
52	38 $\frac{3}{4}$	52	39	53	39 $\frac{3}{4}$	
52 $\frac{1}{2}$	38 $\frac{1}{4}$	52 $\frac{1}{2}$	39 $\frac{1}{4}$	53 $\frac{1}{2}$	39 $\frac{1}{4}$	
53	39	53	39 $\frac{1}{2}$	54	40	
53 $\frac{1}{2}$	39 $\frac{1}{4}$	53 $\frac{1}{2}$	39 $\frac{3}{4}$			
54	39 $\frac{1}{2}$	54	40			
			30 IN. BY			
29 IN. BY			29 $\frac{1}{2}$ IN. BY			
			30 IN. BY			
29 $\frac{1}{2}$ IN. BY			30 $\frac{1}{2}$ IN. BY			
			31 IN. BY			
			31 $\frac{1}{2}$ IN. BY			

32	31	34	32½	36	33½
32½	31½	34½	32¾	36½	33¾
33	31¾	35	33	37	34
33½	32	35½	33¼	37½	34¼
34	32¼	36	33½	38	34½
34½	32½	36½	33¾	38½	34¾
35	32¾	37	34	39	35
35½	33	37½	34¼	39½	35½
36	33¼	38	34½	40	35¾
36½	33½	38½	34¾	40½	36
37	33¾	39	35	41	36¼
37½	34	39½	35¼	41½	36½
38	34¼	40	35½	42	36¾
38½	34½	40½	35¾	42½	37
39	34¾	41	36	43	37¼
39½	35	41½	36¼	43½	37½
40	35¼	42	36½	44	37¾
40½	35½	42½	36¾	44½	38
41	35¾	43	37	45	38¼
41½	36	43½	37¼	45½	38½
42	36¼	44	37½	46	38¾
42½	36½	44½	37¾	46½	39
43	36¾	45	38	47	39¼
43½	37	45½	38¼	47½	39½
44	37¼	46	38½	48	39¾
44½	37½	46½	38¾	48½	40
45	37¾	47	39	49	40¼
45½	38	47½	39¼	49½	40½
46	38¼	48	39½	50	40¾
46½	38½	48½	39¾	50½	41
47	38¾	49	40	51	
47½	39	49½	40¼	51½	
48	39¼	50	40½	52	
48½	39½	50½	40¾	52½	
49	39¾	51	41	53	
49½	40	51½	41¼	53½	
50	40¼	52	41½	54	
50½	40½	52½	41¾		
51	40¾	53	42		
51½	41	53½	42¼		
52	41¼	54	42½		
52½	41½				
53	41¾				
53½	42				
54	42¼				

31½ In. BY

32	is	31½
32½		32
33		32¼
33½		32½
34		32¾
34½		33
35		33¼
35½		33½
36		33¾
36½		34
37		34¼
37½		34½
38		34¾
38½		35

31 In. BY

31½	is	31¼
32		31½
32½		31¾
33		32
33½		32¼
34		32½
34½		32¾
35		33
35½		33¼

30½ In. BY

31	is	30¾
31½		31
32		31¼
32½		31½
33		31¾
33½		32

30	35	42	36½	46	35½
39½	35¼	42½	37	46½	35¾
40	35½	43	37	47	36
40½	35¾	43½	37¼	47½	36½
41	36	44	37½	48	36¾
41½	36¼	44½	37¾	48½	37
42	36½	45	38	49	40
42½	36¾	45½	38¼	49½	40½
43	37	46	38½	50	40¾
43½	37¼	46½	38¾	50½	41
44	37½	47	39	51	41½
44½	37¾	47½	39¼	51½	41¾
45	38	48	39½	52	42
45½	38¼	48½	39¾	52½	42½
46	38½	49	40	53	42¾
46½	38¾	49½	40½	53½	43
47	39	50	40¾	54	43½
47½	39¼	50½	41		44
48	39½	51	41¼		
48½	39¾	51½	41½		
49	40	52	41¾		
49½	40¼	52½	42		
50	40½	53	42¼		
50½	40¾	53½	42½		
51	41	54	42¾		
51½	41¼				
52	41½				
52½	41¾				
53	42				
53½	42¼				
54	42½				

33 IN. BY

33½	is	33¼
34		33½
34½		33¾
35		34
35½		34¼
36		34½
36½		34¾
37		35
37½		35½
38		35¾
38½		36
39		36½
39½		36¾
40		37
40½		37½
41		37¾
41½		38
42		38½
42½		38¾
43		39
43½		39½
44		39¾
44½		40
45		40½
45½		40¾
46		41
46½		41½
47		41¾
47½		42
48		42½
48½		42¾
49		43
49½		43½
50		44
50½		44½
51		45
51½		45½
52		46
52½		46½
53		47
53½		47½
54		48
54½		48½
55		49
55½		49½

32½ IN. BY

33	is	32¾
33½		33
34		33¼
34½		33½
35		33¾
35½		34
36		34¼
36½		34½
37		34¾
37½		35
38		35¼
38½		35½
39		35¾
39½		36
40		36¼
40½		36½
41		36¾
41½		37
42		37¼
42½		37½
43		37¾
43½		38
44		38¼
44½		38½
45		38¾
45½		39
46		39¼
46½		39½
47		39¾
47½		40
48		40½
48½		40¾
49		41
49½		41½

32 IN. BY

32½	is	32¼
33		32½
33½		32¾
34		33
34½		33¼
35		33½
35½		33¾
36		34
36½		34¼
37		34½
37½		34¾
38		35
38½		35¼
39		35½
39½		35¾
40		36
40½		36¼
41		36½
41½		36¾

50	40 $\frac{1}{2}$	34 IN. BY		40	37 $\frac{1}{2}$
50 $\frac{1}{2}$	40 $\frac{3}{4}$	34 $\frac{1}{2}$	is 34 $\frac{1}{4}$	40 $\frac{1}{2}$	37 $\frac{3}{4}$
51	40 $\frac{1}{2}$	35	34 $\frac{1}{2}$	41	37 $\frac{1}{2}$
51 $\frac{1}{2}$	41	35 $\frac{1}{2}$	34 $\frac{3}{4}$	41 $\frac{1}{2}$	37 $\frac{3}{4}$
52	41 $\frac{1}{2}$	36	35	42	38
52 $\frac{1}{2}$	41 $\frac{3}{4}$	36 $\frac{1}{2}$	35 $\frac{1}{2}$	42 $\frac{1}{2}$	38 $\frac{1}{2}$
53	41 $\frac{1}{2}$	37	35 $\frac{3}{4}$	43	38 $\frac{3}{4}$
53 $\frac{1}{2}$	41 $\frac{3}{4}$	37 $\frac{1}{2}$	35 $\frac{1}{2}$	43 $\frac{1}{2}$	39 $\frac{1}{2}$
54	42	38	35 $\frac{3}{4}$	44	39
		38 $\frac{1}{2}$	36	44 $\frac{1}{2}$	39 $\frac{1}{2}$
		39	36 $\frac{1}{4}$	45	39 $\frac{3}{4}$
33 $\frac{1}{2}$ IN. BY		39 $\frac{1}{2}$	36 $\frac{1}{2}$	45 $\frac{1}{2}$	39 $\frac{1}{2}$
34	is 33 $\frac{3}{4}$	40	36 $\frac{3}{4}$	46	39 $\frac{3}{4}$
34 $\frac{1}{2}$	34	40 $\frac{1}{2}$	37	46 $\frac{1}{2}$	40
35	34 $\frac{1}{4}$	41	37 $\frac{1}{4}$	47	40 $\frac{1}{4}$
35 $\frac{1}{2}$	34 $\frac{1}{2}$	41 $\frac{1}{2}$	37 $\frac{1}{2}$	47 $\frac{1}{2}$	40 $\frac{1}{2}$
36	34 $\frac{3}{4}$	42	37 $\frac{3}{4}$	48	40 $\frac{3}{4}$
36 $\frac{1}{2}$	35	42 $\frac{1}{2}$	38	48 $\frac{1}{2}$	41
37	35 $\frac{1}{4}$	43	38 $\frac{1}{4}$	49	41
37 $\frac{1}{2}$	35 $\frac{1}{2}$	43 $\frac{1}{2}$	38 $\frac{1}{2}$	49 $\frac{1}{2}$	41 $\frac{1}{2}$
38	35 $\frac{3}{4}$	44	38 $\frac{3}{4}$	50	41 $\frac{3}{4}$
38 $\frac{1}{2}$	36	44 $\frac{1}{2}$	38 $\frac{1}{2}$	50 $\frac{1}{2}$	41 $\frac{1}{2}$
39	36 $\frac{1}{4}$	45	39	51	42
39 $\frac{1}{2}$	36 $\frac{1}{2}$	45 $\frac{1}{2}$	39 $\frac{1}{2}$	51 $\frac{1}{2}$	42 $\frac{1}{4}$
40	36 $\frac{3}{4}$	46	39 $\frac{3}{4}$	52	42 $\frac{1}{2}$
40 $\frac{1}{2}$	36 $\frac{1}{2}$	46 $\frac{1}{2}$	39 $\frac{1}{2}$	52 $\frac{1}{2}$	42 $\frac{3}{4}$
41	37	47	40	53	42 $\frac{1}{2}$
41 $\frac{1}{2}$	37 $\frac{1}{4}$	47 $\frac{1}{2}$	40 $\frac{1}{4}$	53 $\frac{1}{2}$	43
42	37 $\frac{1}{2}$	48	40 $\frac{1}{2}$	54	43 $\frac{1}{4}$
42 $\frac{1}{2}$	37 $\frac{3}{4}$	48 $\frac{1}{2}$	40 $\frac{3}{4}$		
43	38	49	40 $\frac{1}{2}$	35 IN. BY	
43 $\frac{1}{2}$	38 $\frac{1}{4}$	49 $\frac{1}{2}$	41	35 $\frac{1}{2}$	is 35 $\frac{1}{4}$
44	38 $\frac{1}{2}$	50	41 $\frac{1}{4}$	36	35 $\frac{1}{2}$
44 $\frac{1}{2}$	38 $\frac{3}{4}$	50 $\frac{1}{2}$	41 $\frac{1}{2}$	36 $\frac{1}{2}$	35 $\frac{3}{4}$
45	38 $\frac{1}{2}$	51	41 $\frac{3}{4}$	37	36
45 $\frac{1}{2}$	39	51 $\frac{1}{2}$	41 $\frac{1}{2}$	37 $\frac{1}{2}$	36 $\frac{1}{4}$
46	39 $\frac{1}{4}$	52	42	38	36 $\frac{1}{2}$
46 $\frac{1}{2}$	39 $\frac{1}{2}$	52 $\frac{1}{2}$	42 $\frac{1}{4}$	38 $\frac{1}{2}$	36 $\frac{3}{4}$
47	39 $\frac{3}{4}$	53	42 $\frac{1}{2}$	39	37
47 $\frac{1}{2}$	40	53 $\frac{1}{2}$	42 $\frac{3}{4}$	39 $\frac{1}{2}$	37 $\frac{1}{4}$
48	40	54	42 $\frac{1}{2}$	40	37 $\frac{1}{2}$
48 $\frac{1}{2}$	40 $\frac{1}{4}$			40 $\frac{1}{2}$	37 $\frac{3}{4}$
49	40 $\frac{1}{2}$	34 $\frac{1}{2}$ IN. BY		41	38
49 $\frac{1}{2}$	40 $\frac{3}{4}$	35	is 34 $\frac{3}{4}$	41 $\frac{1}{2}$	38
50	41	35 $\frac{1}{2}$	35	42	38 $\frac{1}{4}$
50 $\frac{1}{2}$	41 $\frac{1}{4}$	36	35 $\frac{1}{4}$	42 $\frac{1}{2}$	38 $\frac{1}{2}$
51	41 $\frac{1}{2}$	36 $\frac{1}{2}$	35 $\frac{1}{2}$	43	38 $\frac{3}{4}$
51 $\frac{1}{2}$	41 $\frac{3}{4}$	37	35 $\frac{3}{4}$	43 $\frac{1}{2}$	39
52	41 $\frac{1}{2}$	37 $\frac{1}{2}$	36	44	39 $\frac{1}{4}$
52 $\frac{1}{2}$	42	38	36 $\frac{1}{4}$	44 $\frac{1}{2}$	39 $\frac{1}{2}$
53	42 $\frac{1}{4}$	38 $\frac{1}{2}$	36 $\frac{1}{2}$	45	39 $\frac{3}{4}$
53 $\frac{1}{2}$	42 $\frac{1}{2}$	39	36 $\frac{3}{4}$	45 $\frac{1}{2}$	40
54	42 $\frac{3}{4}$	39 $\frac{1}{2}$	37	46	40

46½	40½	53½	43½	43	39½
47	40½	54	43½	43½	39½
47½	40½	-----		44	40
48	41	36 In. BV		44½	40½
48½	41¼	36½	is 36¼	45	40½
49	41½	37	36½	45½	40½
49½	41½	37½	36½	46	41
50	41¾	38	37	46½	41¼
50½	42	38½	37¼	47	41½
51	42¼	39	37½	47½	41½
51½	42½	39½	37½	48	41¾
52	42½	40	38	48½	42
62½	42½	40½	38¼	49	42¼
53	43	41	38½	49½	42½
53½	43¼	41½	38½	50	42½
54	43½	42	39	50½	43
-----		42½	39	51	43¼
35½ In. BV		43	39½	51½	43¼
36	is 35¼	43½	39½	52	43½
36½	36	44	39½	52½	43½
37	36¼	44½	40	53	44
37½	36½	45	40¼	53½	44
38	36½	45½	40½	54	44¼
38½	36¾	46	40¼	-----	
39	37	46½	41	37 In. BV	
39½	37¼	47	41¼	37½	is 37¼
40	37½	47½	41¼	38	37½
40½	37¾	48	41½	38½	37¼
41	38	48½	41½	39	is
41½	38¼	49	42	39½	38¼
42	38½	49½	42¼	40	38½
42½	38½	50	42½	40½	38¼
43	39	50½	42½	41	39
43½	39¼	51	42¾	41½	39¼
44	39½	51½	43	42	39½
44½	39¾	52	43¼	42½	39¾
45	40	52½	43½	43	40
45½	40¼	53	43¾	43½	40
46	40½	53½	44	44	40¼
46½	40½	54	44	44½	40½
47	40¾	-----		45	40¾
47½	41	36½ In. BV		45½	41
48	41¼	37	is 36¼	46	41¼
48½	41½	37½	37	46½	41½
49	41¾	38	37¼	47	41¾
49½	41¾	38½	37½	47½	42
50	42	39	37½	48	42¼
50½	42¼	39½	38	48½	42¼
51	42½	40	38¼	49	42½
51½	42½	40½	38½	49½	42½
52	43	41	38¾	50	43
52½	43¼	41½	39	50½	43¼
53	43½	42	39¼	51	43½
		42½	39½	51½	43½

52	43 $\frac{1}{2}$	44	41	53 $\frac{1}{2}$	45 $\frac{1}{2}$
52 $\frac{1}{2}$	44	44 $\frac{1}{2}$	41	54	45 $\frac{1}{2}$
53	44 $\frac{1}{2}$	45	41 $\frac{1}{2}$	-----	
53 $\frac{1}{2}$	44 $\frac{1}{2}$	45 $\frac{1}{2}$	41 $\frac{1}{2}$	30 In. BY	
54	44 $\frac{1}{2}$	46	41 $\frac{1}{2}$	31 $\frac{1}{2}$ is	39 $\frac{1}{2}$
54 $\frac{1}{2}$	44 $\frac{1}{2}$	46 $\frac{1}{2}$	42	40	39 $\frac{1}{2}$
-----		47	42 $\frac{1}{2}$	40 $\frac{1}{2}$	39 $\frac{1}{2}$
37 $\frac{1}{2}$ In. BY		47 $\frac{1}{2}$	42 $\frac{1}{2}$	41	40
38 is	37 $\frac{1}{2}$	48	42 $\frac{1}{2}$	41 $\frac{1}{2}$	40 $\frac{1}{2}$
38 $\frac{1}{2}$	38	48 $\frac{1}{2}$	42 $\frac{1}{2}$	42	40 $\frac{1}{2}$
39	38 $\frac{1}{2}$	49	43	42 $\frac{1}{2}$	40 $\frac{1}{2}$
39 $\frac{1}{2}$	38 $\frac{1}{2}$	49 $\frac{1}{2}$	43 $\frac{1}{2}$	43	41
40	38 $\frac{3}{4}$	50	43 $\frac{1}{2}$	43 $\frac{1}{2}$	41 $\frac{1}{2}$
40 $\frac{1}{2}$	39	50 $\frac{1}{2}$	43 $\frac{1}{2}$	44	41 $\frac{1}{2}$
41	39 $\frac{1}{2}$	51	44	44 $\frac{1}{2}$	41 $\frac{3}{4}$
41 $\frac{1}{2}$	39 $\frac{1}{2}$	51 $\frac{1}{2}$	44	45	42
42	39 $\frac{3}{4}$	52	44 $\frac{1}{2}$	45 $\frac{1}{2}$	42
42 $\frac{1}{2}$	40	52 $\frac{1}{2}$	44 $\frac{1}{2}$	46	42 $\frac{1}{2}$
43	40 $\frac{1}{2}$	53	44 $\frac{3}{4}$	46 $\frac{1}{2}$	42 $\frac{1}{2}$
43 $\frac{1}{2}$	40 $\frac{1}{2}$	53 $\frac{1}{2}$	45	47	42 $\frac{3}{4}$
44	40 $\frac{3}{4}$	54	45 $\frac{1}{2}$	47 $\frac{1}{2}$	43
44 $\frac{1}{2}$	40 $\frac{3}{4}$	-----		48	43 $\frac{1}{2}$
45	41	38 $\frac{1}{2}$ In. BY		48 $\frac{1}{2}$	43 $\frac{1}{2}$
45 $\frac{1}{2}$	41 $\frac{1}{2}$	-----		49 $\frac{1}{2}$	43 $\frac{1}{2}$
46	41 $\frac{1}{2}$	39 is	38 $\frac{3}{4}$	50	44
46 $\frac{1}{2}$	41 $\frac{1}{2}$	39 $\frac{1}{2}$	39	50 $\frac{1}{2}$	44 $\frac{1}{2}$
47	42	40	39 $\frac{1}{4}$	51	44 $\frac{1}{2}$
47 $\frac{1}{2}$	42 $\frac{1}{4}$	40 $\frac{1}{2}$	39 $\frac{1}{2}$	51 $\frac{1}{2}$	44 $\frac{3}{4}$
48	42 $\frac{1}{2}$	41	39 $\frac{3}{4}$	52	45
48 $\frac{1}{2}$	42 $\frac{3}{4}$	41 $\frac{1}{2}$	40	52 $\frac{1}{2}$	45 $\frac{1}{2}$
49	42 $\frac{3}{4}$	42	40 $\frac{1}{4}$	53	45 $\frac{3}{4}$
49 $\frac{1}{2}$	43	42 $\frac{1}{2}$	40 $\frac{1}{2}$	53 $\frac{1}{2}$	45 $\frac{3}{4}$
50	43 $\frac{1}{4}$	43	40 $\frac{3}{4}$	54	46
50 $\frac{1}{2}$	43 $\frac{1}{2}$	43 $\frac{1}{2}$	40 $\frac{3}{4}$	-----	
51	43 $\frac{3}{4}$	44	41	39 $\frac{1}{2}$ In. BY	
51 $\frac{1}{2}$	44	44	41 $\frac{1}{4}$	40 is	39 $\frac{1}{2}$
52	44 $\frac{1}{4}$	44 $\frac{1}{2}$	41 $\frac{1}{2}$	40 $\frac{1}{2}$	40
52 $\frac{1}{2}$	44 $\frac{1}{2}$	45	41 $\frac{1}{2}$	41	40 $\frac{1}{2}$
53	44 $\frac{3}{4}$	45 $\frac{1}{2}$	41 $\frac{3}{4}$	41 $\frac{1}{2}$	40 $\frac{3}{4}$
53 $\frac{1}{2}$	44 $\frac{3}{4}$	46	42	42	40 $\frac{3}{4}$
54	45	46 $\frac{1}{2}$	42 $\frac{1}{4}$	42 $\frac{1}{2}$	40 $\frac{3}{4}$
-----		47	42 $\frac{1}{2}$	43	41
38 In. BY		47 $\frac{1}{2}$	42 $\frac{3}{4}$	43 $\frac{1}{2}$	41 $\frac{1}{2}$
38 $\frac{1}{2}$ is	38 $\frac{1}{2}$	48	43	44	41 $\frac{1}{2}$
39	38 $\frac{1}{4}$	48 $\frac{1}{2}$	43 $\frac{1}{4}$	44 $\frac{1}{2}$	42
39 $\frac{1}{2}$	38 $\frac{3}{8}$	49	43 $\frac{1}{2}$	45	42 $\frac{1}{4}$
40	39	49 $\frac{1}{2}$	43 $\frac{3}{4}$	45 $\frac{1}{2}$	42 $\frac{1}{2}$
40 $\frac{1}{2}$	39 $\frac{1}{2}$	50	43 $\frac{3}{4}$	46	42 $\frac{1}{2}$
41	39 $\frac{3}{4}$	50 $\frac{1}{2}$	44	46 $\frac{1}{2}$	42 $\frac{3}{4}$
41 $\frac{1}{2}$	39 $\frac{3}{4}$	51	44 $\frac{1}{4}$	47	43
42	40	51 $\frac{1}{2}$	44 $\frac{1}{2}$	47 $\frac{1}{2}$	43 $\frac{1}{2}$
42 $\frac{1}{2}$	40 $\frac{1}{4}$	52	44 $\frac{3}{4}$	48	43 $\frac{3}{4}$
43	40 $\frac{1}{2}$	52 $\frac{1}{2}$	45	48 $\frac{1}{2}$	43 $\frac{3}{4}$
43 $\frac{1}{2}$	40 $\frac{3}{4}$	53	45 $\frac{1}{2}$		

40	44	46	43 $\frac{1}{2}$	45	43 $\frac{1}{2}$
40 $\frac{1}{2}$	44 $\frac{1}{2}$	46 $\frac{1}{2}$	43 $\frac{1}{4}$	45 $\frac{1}{2}$	43 $\frac{1}{4}$
50	44 $\frac{1}{4}$	47	43 $\frac{1}{4}$	46	43 $\frac{1}{4}$
50 $\frac{1}{2}$	44 $\frac{1}{4}$	47 $\frac{1}{2}$	43 $\frac{1}{2}$	46 $\frac{1}{2}$	44
51	45	48	44	47	44 $\frac{1}{2}$
51 $\frac{1}{2}$	45	48 $\frac{1}{2}$	44 $\frac{1}{4}$	47 $\frac{1}{2}$	44 $\frac{1}{4}$
52	45 $\frac{1}{2}$	49	44 $\frac{1}{2}$	48	44 $\frac{1}{2}$
52 $\frac{1}{2}$	45 $\frac{1}{2}$	49 $\frac{1}{2}$	44 $\frac{3}{4}$	48 $\frac{1}{2}$	44 $\frac{3}{4}$
53	45 $\frac{3}{4}$	50	45	49	45
53 $\frac{1}{2}$	46	50 $\frac{1}{2}$	45 $\frac{1}{4}$	49 $\frac{1}{2}$	45 $\frac{1}{4}$
54	46 $\frac{1}{2}$	51	45 $\frac{1}{2}$	50	45 $\frac{1}{2}$
		51 $\frac{1}{2}$	45 $\frac{3}{4}$	50 $\frac{1}{2}$	45 $\frac{3}{4}$
40 IN. BY		52	46	51	46
40 $\frac{1}{2}$ is 40 $\frac{1}{2}$		52 $\frac{1}{2}$	46	51 $\frac{1}{2}$	46 $\frac{1}{2}$
41	40 $\frac{1}{2}$	53	46 $\frac{1}{4}$	52	46 $\frac{1}{4}$
41 $\frac{1}{2}$	40 $\frac{1}{4}$	53 $\frac{1}{2}$	46 $\frac{1}{2}$	52 $\frac{1}{2}$	46 $\frac{1}{2}$
42	41	54	46 $\frac{3}{4}$	53	47
42 $\frac{1}{2}$	41 $\frac{1}{4}$			53 $\frac{1}{2}$	47
43	41 $\frac{1}{2}$	41 IN. BY		54	47 $\frac{1}{2}$
43 $\frac{1}{2}$	41 $\frac{3}{4}$	41 $\frac{1}{2}$ is 41 $\frac{1}{2}$			
44	42	42	41 $\frac{1}{4}$	42 IN. BY	
44 $\frac{1}{2}$	42 $\frac{1}{4}$	42 $\frac{1}{2}$	41 $\frac{1}{2}$	42 $\frac{1}{2}$ is 42 $\frac{1}{2}$	
45	42 $\frac{1}{2}$	43	42	43	42 $\frac{1}{4}$
45 $\frac{1}{2}$	42 $\frac{3}{4}$	43 $\frac{1}{2}$	42 $\frac{1}{4}$	43 $\frac{1}{2}$	42 $\frac{3}{4}$
46	43	44	42 $\frac{1}{2}$	44	43
46 $\frac{1}{2}$	43 $\frac{1}{4}$	44 $\frac{1}{2}$	42 $\frac{3}{4}$	44 $\frac{1}{2}$	43 $\frac{1}{4}$
47	43 $\frac{1}{2}$	45	43	45	43 $\frac{1}{2}$
47 $\frac{1}{2}$	43 $\frac{3}{4}$	45 $\frac{1}{2}$	43 $\frac{1}{2}$	45 $\frac{1}{2}$	43 $\frac{3}{4}$
48	43 $\frac{3}{4}$	46	43 $\frac{3}{4}$	46	44
48 $\frac{1}{2}$	44	46 $\frac{1}{2}$	43 $\frac{1}{2}$	46 $\frac{1}{2}$	44 $\frac{1}{4}$
49	44 $\frac{1}{4}$	47	44	47	44 $\frac{1}{2}$
49 $\frac{1}{2}$	44 $\frac{1}{2}$	47 $\frac{1}{2}$	44 $\frac{1}{4}$	47 $\frac{1}{2}$	44 $\frac{3}{4}$
50	44 $\frac{3}{4}$	48	44 $\frac{1}{2}$	48	45
50 $\frac{1}{2}$	45	48 $\frac{1}{2}$	44 $\frac{3}{4}$	48 $\frac{1}{2}$	45 $\frac{1}{4}$
51	45 $\frac{1}{4}$	49	44 $\frac{1}{2}$	49	45 $\frac{1}{2}$
51 $\frac{1}{2}$	45 $\frac{1}{2}$	49 $\frac{1}{2}$	45	49 $\frac{1}{2}$	45 $\frac{3}{4}$
52	45 $\frac{3}{4}$	50	45 $\frac{1}{4}$	50	45 $\frac{1}{4}$
52 $\frac{1}{2}$	45 $\frac{3}{4}$	50 $\frac{1}{2}$	45 $\frac{1}{2}$	50 $\frac{1}{2}$	46
53	46	51	45 $\frac{3}{4}$	51	46 $\frac{1}{4}$
53 $\frac{1}{2}$	46 $\frac{1}{4}$	51 $\frac{1}{2}$	46	51 $\frac{1}{2}$	46 $\frac{1}{2}$
54	46 $\frac{1}{2}$	52	46 $\frac{1}{4}$	52	46 $\frac{1}{4}$
		52 $\frac{1}{2}$	46 $\frac{1}{2}$	52 $\frac{1}{2}$	47
40 $\frac{1}{2}$ IN. BY		53	46 $\frac{3}{4}$	53	47 $\frac{1}{4}$
41 is 40 $\frac{3}{4}$		53 $\frac{1}{2}$	46 $\frac{1}{2}$	53 $\frac{1}{2}$	47 $\frac{1}{2}$
41 $\frac{1}{2}$	41	54	47	54	47 $\frac{3}{4}$
42	41 $\frac{1}{4}$				
42 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$ IN. BY		42 $\frac{1}{2}$ IN. BY	
43	41 $\frac{3}{4}$	42 is 41 $\frac{1}{4}$		43	42 $\frac{1}{4}$
43 $\frac{1}{2}$	42	42 $\frac{1}{2}$	42	43 $\frac{1}{2}$	43
44	42 $\frac{1}{4}$	43	42 $\frac{1}{4}$	44	43 $\frac{1}{4}$
44 $\frac{1}{2}$	42 $\frac{1}{2}$	43 $\frac{1}{2}$	42 $\frac{1}{2}$	44 $\frac{1}{2}$	43 $\frac{1}{2}$
45	42 $\frac{3}{4}$	44	42 $\frac{3}{4}$	45	43 $\frac{3}{4}$
45 $\frac{1}{2}$	43	44 $\frac{1}{2}$	43	45 $\frac{1}{2}$	44



46	44 $\frac{1}{4}$	49	46 $\frac{1}{4}$	45 In. BV	
46 $\frac{1}{2}$	44 $\frac{1}{2}$	49 $\frac{1}{2}$	46 $\frac{1}{2}$	45 $\frac{1}{2}$ is	45 $\frac{1}{4}$
47	44 $\frac{3}{4}$	50	46 $\frac{3}{4}$	46	45 $\frac{3}{4}$
47 $\frac{1}{2}$	45	50 $\frac{1}{2}$	46 $\frac{1}{2}$	46 $\frac{1}{2}$	45 $\frac{1}{2}$
48	45 $\frac{1}{4}$	51	47	47	46
48 $\frac{1}{2}$	45 $\frac{1}{2}$	51 $\frac{1}{2}$	47 $\frac{1}{4}$	47 $\frac{1}{2}$	46 $\frac{1}{4}$
49	45 $\frac{3}{4}$	52	47 $\frac{1}{2}$	48	46 $\frac{1}{2}$
49 $\frac{1}{2}$	45 $\frac{1}{2}$	52 $\frac{1}{2}$	47 $\frac{3}{4}$	48 $\frac{1}{2}$	46 $\frac{3}{4}$
50	46	53	48	49	47
50 $\frac{1}{2}$	46 $\frac{1}{4}$	53 $\frac{1}{2}$	48 $\frac{1}{4}$	49 $\frac{1}{2}$	47 $\frac{1}{4}$
51	46 $\frac{1}{2}$	54	48 $\frac{1}{2}$	50	47 $\frac{1}{2}$
51 $\frac{1}{2}$	46 $\frac{3}{4}$	~~~~~		50 $\frac{1}{2}$	47 $\frac{3}{4}$
52	47	44 In. BV		51	48
52 $\frac{1}{2}$	47 $\frac{1}{4}$	44 $\frac{1}{2}$ is	44 $\frac{1}{2}$	51 $\frac{1}{2}$	48 $\frac{1}{2}$
53	47 $\frac{1}{2}$	45	44 $\frac{3}{4}$	52	48 $\frac{3}{4}$
53 $\frac{1}{2}$	47 $\frac{3}{4}$	45 $\frac{1}{2}$	44 $\frac{1}{2}$	52 $\frac{1}{2}$	48 $\frac{1}{2}$
54	48	46	45	53	48 $\frac{3}{4}$
~~~~~		46 $\frac{1}{2}$	45 $\frac{1}{4}$	53 $\frac{1}{2}$	49
43 In. BV		47	45 $\frac{1}{2}$	54	49 $\frac{1}{2}$
43 $\frac{1}{2}$ is	43 $\frac{1}{2}$	47 $\frac{1}{2}$	45 $\frac{3}{4}$	~~~~~	
44	43 $\frac{3}{4}$	48	46	45 $\frac{1}{2}$ In. BV	
44 $\frac{1}{2}$	43 $\frac{1}{4}$	48 $\frac{1}{2}$	46 $\frac{1}{4}$	46 is	45 $\frac{1}{4}$
45	44	49	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46
45 $\frac{1}{2}$	44 $\frac{1}{4}$	49 $\frac{1}{2}$	46 $\frac{3}{4}$	47	46 $\frac{1}{4}$
46	44 $\frac{1}{2}$	50	47	47 $\frac{1}{2}$	46 $\frac{1}{2}$
46 $\frac{1}{2}$	44 $\frac{3}{4}$	50 $\frac{1}{2}$	47 $\frac{1}{4}$	48	46 $\frac{3}{4}$
47	45	51	47 $\frac{1}{2}$	48 $\frac{1}{2}$	47
47 $\frac{1}{2}$	45 $\frac{1}{4}$	51 $\frac{1}{2}$	47 $\frac{3}{4}$	49	47 $\frac{1}{4}$
48	45 $\frac{1}{2}$	52	47 $\frac{1}{2}$	49 $\frac{1}{2}$	47 $\frac{1}{2}$
48 $\frac{1}{2}$	45 $\frac{3}{4}$	52 $\frac{1}{2}$	48	50	47 $\frac{3}{4}$
49	46	53	48 $\frac{1}{4}$	50 $\frac{1}{2}$	48
49 $\frac{1}{2}$	46 $\frac{1}{4}$	53 $\frac{1}{2}$	48 $\frac{1}{2}$	51	48 $\frac{1}{4}$
50	46 $\frac{1}{2}$	54	48 $\frac{3}{4}$	51 $\frac{1}{2}$	48 $\frac{1}{2}$
50 $\frac{1}{2}$	46 $\frac{3}{4}$	~~~~~		52	48 $\frac{3}{4}$
51	46 $\frac{1}{2}$	44 $\frac{1}{2}$ In. BV		52 $\frac{1}{2}$	48 $\frac{1}{2}$
51 $\frac{1}{2}$	47	45 is	44 $\frac{1}{2}$	53	49
52	47 $\frac{1}{4}$	45 $\frac{1}{2}$	45	53 $\frac{1}{2}$	49 $\frac{1}{2}$
52 $\frac{1}{2}$	47 $\frac{1}{2}$	46	45 $\frac{1}{4}$	54	49 $\frac{1}{2}$
53	47 $\frac{3}{4}$	46 $\frac{1}{2}$	45 $\frac{1}{2}$	~~~~~	
53 $\frac{1}{2}$	48	47	45 $\frac{3}{4}$	46 In. BV	
54	48 $\frac{1}{4}$	47 $\frac{1}{2}$	46	46 $\frac{1}{2}$ is	46 $\frac{1}{2}$
~~~~~		48	46 $\frac{1}{4}$	47	46 $\frac{1}{4}$
43 $\frac{1}{2}$ In. BV		48 $\frac{1}{2}$	46 $\frac{1}{2}$	47 $\frac{1}{2}$	46 $\frac{1}{2}$
44 is	43 $\frac{1}{2}$	49	46 $\frac{3}{4}$	48	47.
44 $\frac{1}{2}$	44	49 $\frac{1}{2}$	47	48 $\frac{1}{2}$	47 $\frac{1}{4}$
45	44 $\frac{1}{4}$	50	47 $\frac{1}{4}$	49	47 $\frac{1}{2}$
45 $\frac{1}{2}$	44 $\frac{1}{2}$	50 $\frac{1}{2}$	47 $\frac{1}{2}$	49 $\frac{1}{2}$	47 $\frac{3}{4}$
46	44 $\frac{3}{4}$	51	47 $\frac{3}{4}$	50	48
46 $\frac{1}{2}$	45	51 $\frac{1}{2}$	47 $\frac{1}{2}$	50 $\frac{1}{2}$	48 $\frac{1}{4}$
47	45 $\frac{1}{4}$	52	48	51	48 $\frac{1}{2}$
47 $\frac{1}{2}$	45 $\frac{1}{2}$	52 $\frac{1}{2}$	48 $\frac{1}{4}$	51 $\frac{1}{2}$	48 $\frac{3}{4}$
48	45 $\frac{3}{4}$	53	48 $\frac{1}{2}$	52	49
48 $\frac{1}{2}$	46	53 $\frac{1}{2}$	48 $\frac{3}{4}$	52 $\frac{1}{2}$	49
		54	49		

22 Of Unequal Sided Timber, &c.

53	49 $\frac{1}{4}$	48 IN. BY	50 IN. BY
53 $\frac{1}{2}$	49 $\frac{1}{2}$		
54	49 $\frac{3}{4}$		
-----			
46 $\frac{1}{2}$ IN. BY			
47	46 $\frac{1}{4}$		
47 $\frac{1}{2}$	47		
48	47 $\frac{1}{4}$		
48 $\frac{1}{2}$	47 $\frac{1}{2}$		
49	47 $\frac{3}{4}$		
49 $\frac{1}{2}$	48		
50	48 $\frac{1}{4}$		
50 $\frac{1}{2}$	48 $\frac{1}{2}$		
51	48 $\frac{3}{4}$		
51 $\frac{1}{2}$	49		
52	49 $\frac{1}{4}$		
52 $\frac{1}{2}$	49 $\frac{1}{2}$		
53	49 $\frac{3}{4}$		
53 $\frac{1}{2}$	49 $\frac{3}{4}$		
54	50		
-----			
47 IN. BY			
47 $\frac{1}{2}$	47 $\frac{1}{4}$		
48	47 $\frac{1}{2}$		
48 $\frac{1}{2}$	47 $\frac{3}{4}$		
49	48		
49 $\frac{1}{2}$	48 $\frac{1}{4}$		
50	48 $\frac{1}{2}$		
50 $\frac{1}{2}$	48 $\frac{3}{4}$		
51	49		
51 $\frac{1}{2}$	49 $\frac{1}{4}$		
52	49 $\frac{1}{2}$		
52 $\frac{1}{2}$	49 $\frac{3}{4}$		
53	50		
53 $\frac{1}{2}$	50 $\frac{1}{4}$		
54	50 $\frac{1}{2}$		
-----			
47 $\frac{1}{2}$ IN. BY			
48	47 $\frac{1}{4}$		
48 $\frac{1}{2}$	48		
49	48 $\frac{1}{4}$		
49 $\frac{1}{2}$	48 $\frac{1}{2}$		
50	48 $\frac{3}{4}$		
50 $\frac{1}{2}$	49		
51	49 $\frac{1}{4}$		
51 $\frac{1}{2}$	49 $\frac{1}{2}$		
52	49 $\frac{3}{4}$		
52 $\frac{1}{2}$	50		
53	50 $\frac{1}{4}$		
53 $\frac{1}{2}$	50 $\frac{1}{2}$		
54	50 $\frac{3}{4}$		
-----			
49 $\frac{1}{2}$ IN. BY			
50	49 $\frac{1}{4}$		
50 $\frac{1}{2}$	49 $\frac{1}{2}$		
51	49 $\frac{3}{4}$		
51 $\frac{1}{2}$	50		
52	50 $\frac{1}{4}$		
52 $\frac{1}{2}$	50 $\frac{1}{2}$		
53	50 $\frac{3}{4}$		
53 $\frac{1}{2}$	51		
54	51 $\frac{1}{4}$		
-----			
49 $\frac{1}{2}$ IN. BY			
50	49 $\frac{1}{4}$		
50 $\frac{1}{2}$	49 $\frac{1}{2}$		
51	49 $\frac{3}{4}$		
51 $\frac{1}{2}$	50		
52	50 $\frac{1}{4}$		
52 $\frac{1}{2}$	50 $\frac{1}{2}$		
53	50 $\frac{3}{4}$		
53 $\frac{1}{2}$	51		
54	51 $\frac{1}{4}$		
-----			
50 IN. BY			
50 $\frac{1}{2}$	50		
51	50 $\frac{1}{4}$		
51 $\frac{1}{2}$	50 $\frac{1}{2}$		
52	50 $\frac{3}{4}$		
52 $\frac{1}{2}$	51		
53	51 $\frac{1}{4}$		
53 $\frac{1}{2}$	51 $\frac{1}{2}$		
54	51 $\frac{3}{4}$		
-----			
50 IN. BY			
50 $\frac{1}{2}$	50 $\frac{1}{4}$		
51	50 $\frac{1}{2}$		
51 $\frac{1}{2}$	50 $\frac{3}{4}$		
52	51		
52 $\frac{1}{2}$	51 $\frac{1}{4}$		
53	51 $\frac{1}{2}$		
53 $\frac{1}{2}$	51 $\frac{3}{4}$		
54	52		
-----			
50 $\frac{1}{2}$ IN. BY			
51	50 $\frac{1}{4}$		
51 $\frac{1}{2}$	50 $\frac{1}{2}$		
52	50 $\frac{3}{4}$		
52 $\frac{1}{2}$	51		
53	51 $\frac{1}{4}$		
53 $\frac{1}{2}$	51 $\frac{1}{2}$		
54	51 $\frac{3}{4}$		
-----			
51 IN. BY			
51 $\frac{1}{2}$	51 $\frac{1}{4}$		
52	51 $\frac{1}{2}$		
52 $\frac{1}{2}$	51 $\frac{3}{4}$		
53	52		
53 $\frac{1}{2}$	52 $\frac{1}{4}$		
54	52 $\frac{1}{2}$		
-----			
51 $\frac{1}{2}$ IN. BY			
52	51 $\frac{1}{4}$		
52 $\frac{1}{2}$	52		
53	52 $\frac{1}{4}$		
53 $\frac{1}{2}$	52 $\frac{1}{2}$		
54	52 $\frac{3}{4}$		
-----			
52 IN. BY			
52 $\frac{1}{2}$	52 $\frac{1}{4}$		
53	52 $\frac{1}{2}$		
53 $\frac{1}{2}$	52 $\frac{3}{4}$		
54	53		
-----			
52 $\frac{1}{2}$ IN. BY			
53	52 $\frac{1}{4}$		
53 $\frac{1}{2}$	53		
54	53 $\frac{1}{4}$		
-----			
53 IN. BY			
53 $\frac{1}{2}$	53 $\frac{1}{4}$		
54	53 $\frac{1}{2}$		
-----			
53 $\frac{1}{2}$ IN. BY			
54	53 $\frac{1}{4}$		
-----			
54 IN. BY			

A NEW  
**TABLE**  
OF  
**SOLID MEASURE,**

Ready cast up:

Whereby the Solid Content, and consequently the Value, of any Piece or Quantity of Timber, Stone, &c. may be found, AT SIGHT, from 2 to 54 inches, the side of the Square, (or one-fourth of the Girt) and from one Quarter of a Foot, to 45 Feet, the Length; and therefore, by addition only, may serve to any greater breadth, if there should ever be occasion.

*See this Table explained on page 1, &c.*

FT. LNG.	SIDE 2 IN.			FT. LNG.	SIDE 2½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	0	4	1	0	0	5		
2	0	0	8	2	0	0	10		
3	0	1	0	3	0	1	3		
4	0	1	4	4	0	1	8		
5	0	1	8	5	0	2	1		
6	0	2	0	6	0	2	6		
7	0	2	4	7	0	2	11		
8	0	2	8	8	0	3	4		
9	0	3	0	9	0	3	9		
10	0	3	4	10	0	4	2		
11	0	3	8	11	0	4	7		
12	0	4	0	12	0	5	0		
13	0	4	4	13	0	5	5		
14	0	4	8	14	0	5	10		
15	0	5	0	15	0	6	3		
16	0	5	4	16	0	6	8		
17	0	5	8	17	0	7	1		
18	0	6	0	18	0	7	6		
19	0	6	4	19	0	7	11		
20	0	6	8	20	0	8	4		
21	0	7	0	21	0	8	9		
22	0	7	4	22	0	9	2		
23	0	7	8	23	0	9	7		
24	0	8	0	24	0	10	0		
25	0	8	4	25	0	10	5		
26	0	8	8	26	0	10	10		
27	0	9	0	27	0	11	3		
28	0	9	4	28	0	11	8		
29	0	9	8	29	1	0	1		
30	0	10	0	30	1	0	6		
31	0	10	4	31	1	0	11		
32	0	10	8	32	1	1	4		
33	0	11	0	33	1	1	9		
34	0	11	4	34	1	2	2		
35	0	11	8	35	1	2	7		
36	1	0	0	36	1	3	0		
37	1	0	4	37	1	3	5		
38	1	0	8	38	1	3	10		
39	1	1	0	39	1	4	3		
40	1	1	4	40	1	4	8		
41	1	1	8	41	1	5	1		
42	1	2	0	42	1	5	6		
43	1	2	4	43	1	5	11		
44	1	2	8	44	1	6	4		
45	1	3	0	45	1	6	9		
¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8
¼	0	0	1	0	¼	0	0	1	3
½	0	0	2	0	½	0	0	2	6
¾	0	0	3	0	¾	0	0	3	9

FT. LNG.	SIDE 2½ IN.			FT. LNG.	SIDE 2¾ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	0	6	1	0	0	7		
2	0	1	0	2	0	1	3		
3	0	1	6	3	0	1	10		
4	0	2	1	4	0	2	6		
5	0	2	7	5	0	3	1		
6	0	3	1	6	0	3	9		
7	0	3	7	7	0	4	4		
8	0	4	2	8	0	5	0		
9	0	4	8	9	0	5	8		
10	0	5	2	10	0	6	3		
11	0	5	8	11	0	6	11		
12	0	6	3	12	0	7	6		
13	0	6	9	13	0	8	2		
14	0	7	3	14	0	8	9		
15	0	7	9	15	0	9	5		
16	0	8	4	16	0	10	1		
17	0	8	10	17	0	10	8		
18	0	9	4	18	0	11	4		
19	0	9	10	19	0	11	11		
20	0	10	5	20	1	0	7		
21	0	10	11	21	1	1	2		
22	0	11	5	22	1	1	10		
23	0	11	11	23	1	2	5		
24	1	0	6	24	1	3	1		
25	1	1	0	25	1	3	9		
26	1	1	6	26	1	4	4		
27	1	2	0	27	1	5	0		
28	1	2	7	28	1	5	7		
29	1	3	1	29	1	6	3		
30	1	3	7	30	1	6	10		
31	1	4	1	31	1	7	6		
32	1	4	8	32	1	8	2		
33	1	5	2	33	1	8	9		
34	1	5	8	34	1	9	5		
35	1	6	2	35	1	10	0		
36	1	6	9	36	1	10	8		
37	1	7	3	37	1	11	3		
38	1	7	9	38	1	11	10		
39	1	8	3	39	2	0	6		
40	1	8	10	40	2	1	2		
41	1	9	4	41	2	1	10		
42	1	9	10	42	2	2	5		
43	1	10	4	43	2	3	1		
44	1	10	11	44	2	3	8		
45	1	11	5	45	2	4	4		
½ FT.	FT.	IN.	PA.	8.	½ FT.	FT.	IN.	PA.	8.
½	0	0	1	6	½	0	0	1	9
¼	0	0	3	0	¼	0	0	3	6
¼	0	0	4	6	¼	0	0	5	3

SIDE 3 IN.				SIDE 3½ IN.			
FT.	.....			FT.	.....		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	0	0	9	1	0	0	10
2	0	1	6	2	0	1	9
3	0	2	3	3	0	2	7
4	0	3	0	4	0	3	6
5	0	3	9	5	0	4	4
6	0	4	6	6	0	5	2
7	0	5	3	7	0	6	1
8	0	6	0	8	0	7	0
9	0	6	9	9	0	7	11
10	0	7	6	10	0	8	9
11	0	8	3	11	0	9	8
12	0	9	0	12	0	10	6
13	0	9	9	13	0	11	5
14	0	10	6	14	1	0	3
15	0	11	3	15	1	1	2
16	1	0	0	16	1	2	1
17	1	0	9	17	1	2	11
18	1	1	6	18	1	3	10
19	1	2	3	19	1	4	8
20	1	3	0	20	1	5	7
21	1	3	9	21	1	6	5
22	1	4	6	22	1	7	4
23	1	5	3	23	1	8	2
24	1	6	0	24	1	9	1
25	1	6	9	25	1	10	0
26	1	7	6	26	1	10	10
27	1	8	3	27	1	11	9
28	1	9	0	28	2	0	7
29	1	9	9	29	2	1	6
30	1	10	6	30	2	2	4
31	1	11	3	31	2	3	3
32	2	0	0	32	2	4	2
33	2	0	9	33	2	5	0
34	2	1	6	34	2	5	11
35	2	2	3	35	2	6	9
36	2	3	0	36	2	7	8
37	2	3	9	37	2	8	6
38	2	4	6	38	2	9	5
39	2	5	3	39	2	10	3
40	2	6	0	40	2	11	2
41	2	6	9	41	3	0	0
42	2	7	6	42	3	0	11
43	2	8	3	43	3	1	10
44	2	9	0	44	3	2	8
45	2	9	9	45	3	3	7
¼ FT.	.....			¼ FT.	.....		
¼	FT.	IN.	PA.	¼	FT.	IN.	PA.
¼	0	0	2 3	¼	0	0	2 6
½	0	0	4 6	½	0	0	5 0
¾	0	0	6 9	¾	0	0	7 6

SIDE 3½ IN.				SIDE 3½ IN.			
FT.	FT. IN. PA.			FT.	FT. IN. PA.		
LNG.				LNG.			
1	0	1	0	1	0	1	2
2	0	2	0	2	0	2	4
3	0	3	0	3	0	3	6
4	0	4	1	4	0	4	8
5	0	5	1	5	0	5	10
6	0	6	1	6	0	7	0
7	0	7	1	7	0	8	2
8	0	8	2	8	0	9	4
9	0	9	2	9	0	10	6
10	0	10	2	10	0	11	8
11	0	11	2	11	1	0	10
12	1	0	3	12	1	2	0
13	1	1	3	13	1	3	2
14	1	2	3	14	1	4	4
15	1	3	3	15	1	5	6
16	1	4	4	16	1	6	9
17	1	5	4	17	1	7	11
18	1	6	4	18	1	9	1
19	1	7	4	19	1	10	3
20	1	8	5	20	1	11	5
21	1	9	5	21	2	0	7
22	1	10	5	22	2	1	9
23	1	11	5	23	2	2	11
24	2	0	6	24	2	4	1
25	2	1	6	25	2	5	3
26	2	2	6	26	2	6	5
27	2	3	6	27	2	7	7
28	2	4	7	28	2	8	9
29	2	5	7	29	2	9	11
30	2	6	7	30	2	11	1
31	2	7	7	31	3	0	3
32	2	8	8	32	3	1	6
33	2	9	8	33	3	2	8
34	2	10	8	34	3	3	10
35	2	11	8	35	3	5	0
36	3	0	9	36	3	6	2
37	3	1	9	37	3	7	4
38	3	2	9	38	3	8	6
39	3	3	9	39	3	9	8
40	3	4	10	40	3	10	10
41	3	5	10	41	4	0	0
42	3	6	10	42	4	1	2
43	3	7	10	43	4	2	4
44	3	8	11	44	4	3	6
45	3	9	11	45	4	4	8

¼ FT.	FT. IN. PA. S.				¼ FT.	FT. IN. PA. S.			
¼	0	0	3	0	¼	0	0	3	6
½	0	0	6	0	½	0	0	7	0
¾	0	0	9	0	¾	0	0	10	6

FT. LNG.	SIDE 4 IN.			FT. LNG.	SIDE 4½ IN.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	1	4	1	0	1	6
2	0	2	8	2	0	3	0
3	0	4	0	3	0	4	6
4	0	5	4	4	0	6	0
5	0	6	8	5	0	7	6
6	0	8	0	6	0	9	0
7	0	9	4	7	0	10	6
8	0	10	8	8	1	0	0
9	1	0	0	9	1	1	6
10	1	1	4	10	1	3	0
11	1	2	8	11	1	4	6
12	1	4	0	12	1	6	0
13	1	5	4	13	1	7	6
14	1	6	8	14	1	9	0
15	1	8	0	15	1	10	6
16	1	9	4	16	2	0	1
17	1	10	8	17	2	1	7
18	2	0	0	18	2	3	1
19	2	1	4	19	2	4	7
20	2	2	8	20	2	6	1
21	2	4	0	21	2	7	7
22	2	5	4	22	2	9	1
23	2	6	8	23	2	10	7
24	2	8	0	24	3	0	1
25	2	9	4	25	3	1	7
26	2	10	8	26	3	3	1
27	3	0	0	27	3	4	7
28	3	1	4	28	3	6	1
29	3	2	8	29	3	7	7
30	3	4	0	30	3	9	1
31	3	5	4	31	3	10	7
32	3	6	8	32	4	0	2
33	3	8	0	33	4	1	8
34	3	9	4	34	4	3	2
35	3	10	8	35	4	4	8
36	4	0	0	36	4	6	2
37	4	1	4	37	4	7	8
38	4	2	8	38	4	9	2
39	4	4	0	39	4	10	8
40	4	5	4	40	5	0	2
41	4	6	8	41	5	1	8
42	4	8	0	42	5	3	2
43	4	9	4	43	5	4	8
44	4	10	8	44	5	6	2
45	5	0	0	45	5	7	8
½ FT.	FT. IN. PA. S			½ FT.	FT. IN. PA. S		
¼	0	0	4	0	0	4	6
⅓	0	0	8	0	0	9	0
⅔	0	1	0	0	1	1	6



SIDE 4½ IN.				SIDE 4⅓ IN.			
FT.	FT. IN. PA.			FT.	FT. IN. PA.		
LNG.				LNG			
1	0	1	8	1	0	1	10
2	0	3	4	2	0	3	9
3	0	5	0	3	0	5	7
4	0	6	9	4	0	7	6
5	0	8	5	5	0	9	4
6	0	10	1	6	0	11	3
7	0	11	9	7	1	1	1
8	1	1	6	8	1	3	0
9	1	3	2	9	1	4	11
10	1	4	10	10	1	6	9
11	1	6	6	11	1	8	8
12	1	8	3	12	1	10	6
13	1	9	11	13	2	0	5
14	1	11	7	14	2	2	3
15	2	1	3	15	2	4	2
16	2	3	0	16	2	6	1
17	2	4	8	17	2	7	11
18	2	6	4	18	2	9	10
19	2	8	0	19	2	11	8
20	2	9	9	20	3	1	7
21	2	11	5	21	3	3	5
22	3	1	1	22	3	5	4
23	3	2	9	23	3	7	2
24	3	4	6	24	3	9	1
25	3	6	2	25	3	11	0
26	3	7	10	26	4	0	10
27	3	9	6	27	4	2	9
28	3	11	3	28	4	4	7
29	4	0	11	29	4	6	6
30	4	2	7	30	4	8	4
31	4	4	3	31	4	10	3
32	4	6	0	32	5	0	2
33	4	7	8	33	5	2	0
34	4	9	4	34	5	3	11
35	4	11	0	35	5	5	9
36	5	0	9	36	5	7	8
37	5	2	5	37	5	9	6
38	5	4	1	38	5	11	5
39	5	5	9	39	6	1	3
40	5	7	6	40	6	3	2
41	5	9	2	41	6	5	1
42	5	10	10	42	6	6	11
43	6	0	6	43	6	8	10
44	6	2	3	44	6	10	8
45	6	3	11	45	7	0	7
¼ FT	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.		
¼	0	0	5	0	0	0	5
½	0	0	10	0	0	0	11
¾	0	1	3	0	0	1	4

FT. LNG.	SIDE 5 IN.			FT. LNG.	SIDE 5½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	2	1	1	0	2	3		
2	0	4	2	2	0	4	7		
3	0	6	3	3	0	6	10		
4	0	8	4	4	0	9	2		
5	0	10	5	5	0	11	5		
6	1	0	6	6	1	1	9		
7	1	2	7	7	1	4	0		
8	1	4	8	8	1	6	4		
9	1	6	9	9	1	8	8		
10	1	8	10	10	1	10	11		
11	1	10	11	11	2	1	3		
12	2	1	0	12	2	3	6		
13	2	3	1	13	2	5	10		
14	2	5	2	14	2	8	1		
15	2	7	3	15	2	10	5		
16	2	9	4	16	3	0	9		
17	2	11	5	17	3	3	0		
18	3	1	6	18	3	5	4		
19	3	3	7	19	3	7	7		
20	3	5	8	20	3	9	11		
21	3	7	9	21	4	0	2		
22	3	9	10	22	4	2	6		
23	3	11	11	23	4	4	9		
24	4	2	0	24	4	7	1		
25	4	4	1	25	4	9	5		
26	4	6	2	26	4	11	8		
27	4	8	3	27	5	2	0		
28	4	10	4	28	5	4	3		
29	5	0	5	29	5	6	7		
30	5	2	6	30	5	8	10		
31	5	4	7	31	5	11	2		
32	5	6	8	32	6	1	6		
33	5	8	9	33	6	3	9		
34	5	10	10	34	6	6	1		
35	6	0	11	35	6	8	4		
36	6	3	0	36	6	10	8		
37	6	5	1	37	7	0	11		
38	6	7	2	38	7	3	3		
39	6	9	3	39	7	5	6		
40	6	11	4	40	7	7	10		
41	7	1	5	41	7	10	2		
42	7	3	6	42	8	0	5		
43	7	5	7	43	8	2	9		
44	7	7	8	44	8	5	0		
45	7	9	9	45	8	7	4		
¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8
¼	0	0	6	3	¼	0	0	6	9
½	0	1	0	6	½	0	1	1	6
¾	0	1	6	9	¾	0	1	8	3

FT. LNG.	SIDE 5½ IN.			FT. LNG.	SIDE 5¾ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	2	6	1	0	2	9		
2	0	5	0	2	0	5	6		
3	0	7	6	3	0	8	3		
4	0	10	1	4	0	11	0		
5	1	0	7	5	1	1	9		
6	1	3	1	6	1	4	6		
7	1	5	7	7	1	7	3		
8	1	8	2	8	1	10	0		
9	1	10	8	9	2	0	9		
10	2	1	2	10	2	3	6		
11	2	3	8	11	2	6	3		
12	2	6	3	12	2	9	0		
13	2	8	9	13	2	11	9		
14	2	11	3	14	3	2	6		
15	3	1	9	15	3	5	3		
16	3	4	4	16	3	8	1		
17	3	6	10	17	3	10	10		
18	3	9	4	18	4	1	7		
19	3	11	10	19	4	4	4		
20	4	2	5	20	4	7	1		
21	4	4	11	21	4	9	10		
22	4	7	5	22	5	0	7		
23	4	9	11	23	5	3	4		
24	5	0	6	24	5	6	1		
25	5	3	0	25	5	8	10		
26	5	5	6	26	5	11	7		
27	5	8	0	27	6	2	4		
28	5	10	7	28	6	5	1		
29	6	1	1	29	6	7	10		
30	6	3	7	30	6	10	7		
31	6	6	1	31	7	1	4		
32	6	8	8	32	7	4	2		
33	6	11	2	33	7	6	11		
34	7	1	8	34	7	9	8		
35	7	4	2	35	8	0	5		
36	7	6	9	36	8	3	2		
37	7	9	3	37	8	5	11		
38	7	11	9	38	8	8	8		
39	8	2	3	39	8	11	5		
40	8	4	10	40	9	2	2		
41	8	7	4	41	9	4	11		
42	8	9	10	42	9	7	8		
43	9	0	4	43	9	10	5		
44	9	2	11	44	10	1	2		
45	9	5	5	45	10	3	11		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	0	7	6	¼	0	0	8	3
½	0	1	3	0	½	0	1	4	6
¾	0	1	10	6	¾	0	2	0	9

FT. LNG.	SIDE 6 IN.			FT. LNG.	SIDE 6½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	3	0	1	0	3	3		
2	0	6	0	2	0	6	6		
3	0	9	0	3	0	9	9		
4	1	0	0	4	1	1	0		
5	1	3	0	5	1	4	3		
6	1	6	0	6	1	7	6		
7	1	9	0	7	1	10	9		
8	2	0	0	8	2	2	0		
9	2	3	0	9	2	5	3		
10	2	6	0	10	2	8	6		
11	2	9	0	11	2	11	9		
12	3	0	0	12	3	3	0		
13	3	3	0	13	3	6	3		
14	3	6	0	14	3	9	6		
15	3	9	0	15	4	0	9		
16	4	0	0	16	4	4	1		
17	4	3	0	17	4	7	4		
18	4	6	0	18	4	10	7		
19	4	9	0	19	5	1	10		
20	5	0	0	20	5	5	1		
21	5	3	0	21	5	8	4		
22	5	6	0	22	5	11	7		
23	5	9	0	23	6	2	10		
24	6	0	0	24	6	6	1		
25	6	3	0	25	6	9	4		
26	6	6	0	26	7	0	7		
27	6	9	0	27	7	3	10		
28	7	0	0	28	7	7	1		
29	7	3	0	29	7	10	4		
30	7	6	0	30	8	1	7		
31	7	9	0	31	8	4	10		
32	8	0	0	32	8	8	2		
33	8	3	0	33	8	11	5		
34	8	6	0	34	9	2	8		
35	8	9	0	35	9	5	11		
36	9	0	0	36	9	9	2		
37	9	3	0	37	10	0	5		
38	9	6	0	38	10	3	8		
39	9	9	0	39	10	6	11		
40	10	0	0	40	10	10	2		
41	10	3	0	41	11	1	5		
42	10	6	0	42	11	4	8		
43	10	9	0	43	11	7	11		
44	11	0	0	44	11	11	2		
45	11	3	0	45	12	2	5		
¼ FT.	PT.	IN.	PA.	S	¼ FT.	PT.	IN.	PA.	S
¼	0	0	9	0	¼	0	0	9	9
½	0	1	6	0	½	0	1	7	6
¾	0	2	3	0	¾	0	2	5	3

SIDE 6½ IN.				SIDE 6¾ IN.					
PT.	LNG.			PT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	3	6	1	0	3	9		
2	0	7	0	2	0	7	7		
3	0	10	6	3	0	11	4		
4	1	2	1	4	1	3	2		
5	1	5	7	5	1	6	11		
6	1	9	1	6	1	10	9		
7	2	0	7	7	2	2	6		
8	2	4	2	8	2	6	4		
9	2	7	8	9	2	10	2		
10	2	11	2	10	3	1	11		
11	3	2	8	11	3	5	9		
12	3	6	3	12	3	9	6		
13	3	9	9	13	4	1	4		
14	4	1	3	14	4	5	1		
15	4	4	9	15	4	8	11		
16	4	8	4	16	5	0	9		
17	4	11	10	17	5	4	6		
18	5	3	4	18	5	8	4		
19	5	6	10	19	6	0	1		
20	5	10	5	20	6	3	11		
21	6	1	11	21	6	7	8		
22	6	5	5	22	6	11	6		
23	6	8	11	23	7	3	3		
24	7	0	6	24	7	7	1		
25	7	4	0	25	7	10	11		
26	7	7	6	26	8	2	8		
27	7	11	0	27	8	6	6		
28	8	2	7	28	8	10	3		
29	8	6	1	29	9	2	1		
30	8	9	7	30	9	5	11		
31	9	1	1	31	9	9	8		
32	9	4	8	32	10	1	6		
33	9	8	2	33	10	5	3		
34	9	11	8	34	10	9	1		
35	10	3	2	35	11	0	10		
36	10	6	9	36	11	4	8		
37	10	10	3	37	11	8	5		
38	11	1	9	38	12	0	3		
39	11	5	3	39	12	4	0		
40	11	8	10	40	12	7	10		
41	12	0	4	41	12	11	8		
42	12	3	10	42	13	3	5		
43	12	7	4	43	13	7	3		
44	12	10	11	44	13	11	0		
45	13	2	5	45	14	2	10		
¼ PT.	PT. IN. PA. S.			¼ PT.	PT. IN. PA. S.				
½	0	0	10	6	½	0	0	11	3
¾	0	1	0	0	¾	0	1	10	6
1	0	2	7	6	1	0	2	9	9

FT. LNG.	SIDE 7 IN.			FT. LNG.	SIDE 7½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	4	1	1	0	4	4		
2	0	8	2	2	0	8	9		
3	1	0	3	3	1	1	1		
4	1	4	4	4	1	5	6		
5	1	8	5	5	1	9	10		
6	2	0	6	6	2	2	3		
7	2	4	7	7	2	6	7		
8	2	8	8	8	2	11	0		
9	3	0	9	9	3	3	5		
10	3	4	10	10	3	7	6		
11	3	8	11	11	4	0	2		
12	4	1	0	12	4	4	6		
13	4	5	1	13	4	8	11		
14	4	9	2	14	5	1	3		
15	5	1	3	15	5	5	8		
16	5	5	4	16	5	10	1		
17	5	9	5	17	6	2	5		
18	6	1	6	18	6	6	10		
19	6	5	7	19	6	11	2		
20	6	9	8	20	7	3	7		
21	7	1	9	21	7	7	11		
22	7	5	10	22	8	0	4		
23	7	9	11	23	8	4	8		
24	8	2	0	24	8	9	1		
25	8	6	1	25	9	1	6		
26	8	10	2	26	9	5	10		
27	9	2	3	27	9	10	3		
28	9	6	4	28	10	2	7		
29	9	10	5	29	10	7	0		
30	10	2	6	30	10	11	4		
31	10	6	7	31	11	3	9		
32	10	10	8	32	11	8	2		
33	11	2	9	33	12	0	6		
34	11	6	10	34	12	4	11		
35	11	10	11	35	12	9	3		
36	12	3	0	36	13	1	8		
37	12	7	1	37	13	6	0		
38	12	11	2	38	13	10	5		
39	13	3	3	39	14	2	9		
40	13	7	4	40	14	7	2		
41	13	11	5	41	14	11	7		
42	14	3	6	42	15	3	11		
43	14	7	7	43	15	8	4		
44	14	11	8	44	16	0	8		
45	15	3	9	45	16	5	1		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	1	0	3	¼	0	1	1	0
½	0	2	0	6	½	0	2	2	0
¾	0	3	0	9	¾	0	3	3	0

FT. LNG.	SIDE 7½ IN.			FT. LNG.	SIDE 7¾ IN.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	4	8	1	0	5	0
2	0	9	4	2	0	10	0
3	1	2	0	3	1	3	0
4	1	6	9	4	1	8	0
5	1	11	5	5	2	1	0
6	2	4	1	6	2	6	0
7	2	8	9	7	2	11	0
8	3	1	6	8	3	4	0
9	3	6	2	9	3	9	0
10	3	10	10	10	4	2	0
11	4	3	6	11	4	7	0
12	4	8	3	12	5	0	0
13	5	0	11	13	5	5	0
14	5	5	7	14	5	10	0
15	5	10	3	15	6	3	0
16	6	3	0	16	6	8	1
17	6	7	8	17	7	1	1
18	7	0	4	18	7	6	1
19	7	5	0	19	7	11	1
20	7	9	9	20	8	4	1
21	8	2	5	21	8	9	1
22	8	7	1	22	9	2	1
23	8	11	9	23	9	7	1
24	9	4	6	24	10	0	1
25	9	9	2	25	10	5	1
26	10	1	10	26	10	10	1
27	10	6	6	27	11	3	1
28	10	11	3	28	11	8	1
29	11	3	11	29	12	1	1
30	11	8	7	30	12	6	1
31	12	1	3	31	12	11	1
32	12	6	0	32	13	4	2
33	12	10	8	33	13	9	2
34	13	3	4	34	14	2	2
35	13	8	0	35	14	7	2
36	14	0	9	36	15	0	2
37	14	5	5	37	15	5	2
38	14	10	1	38	15	10	2
39	15	2	9	39	16	3	2
40	15	7	6	40	16	8	2
41	16	0	2	41	17	1	2
42	16	4	10	42	17	6	2
43	16	9	6	43	17	11	2
44	17	2	3	44	18	4	2
45	17	6	11	45	18	9	2

¼ FT.	FT. IN. PA. S			¼ FT.	FT. IN. PA. S.			
¼	0	1	2	0	0	1	3	0
½	0	2	4	0	0	2	6	0
¾	0	3	6	0	0	3	9	0

FT. LNG.	SIDE 8 IN.			FT. LNG.	SIDE 8½ IN.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	5	4	1	0	5	8
2	0	10	8	2	0	11	4
3	1	4	0	3	1	5	0
4	1	9	4	4	1	10	8
5	2	2	8	5	2	4	4
6	2	8	0	6	2	10	0
7	3	1	4	7	3	3	8
8	3	6	8	8	3	9	4
9	4	0	0	9	4	3	0
10	4	5	4	10	4	8	8
11	4	10	8	11	5	2	4
12	5	4	0	12	5	8	0
13	5	9	4	13	6	1	8
14	6	2	8	14	6	7	4
15	6	8	0	15	7	1	0
16	7	1	4	16	7	6	9
17	7	6	8	17	8	0	5
18	8	0	0	18	8	6	1
19	8	5	4	19	8	11	9
20	8	10	8	20	9	5	5
21	9	4	0	21	9	11	1
22	9	9	4	22	10	4	9
23	10	2	8	23	10	10	5
24	10	8	0	24	11	4	1
25	11	1	4	25	11	9	9
26	11	6	8	26	12	3	5
27	12	0	0	27	12	9	1
28	12	5	4	28	13	2	9
29	12	10	8	29	13	8	5
30	13	4	0	30	14	2	1
31	13	9	4	31	14	7	9
32	14	2	8	32	15	1	6
33	14	8	0	33	15	7	2
34	15	1	4	34	16	0	10
35	15	6	8	35	16	6	6
36	16	0	0	36	17	0	2
37	16	5	4	37	17	5	10
38	16	10	8	38	17	11	6
39	17	4	0	39	18	5	2
40	17	9	4	40	18	10	10
41	18	2	8	41	19	4	6
42	18	8	0	42	19	10	2
43	19	1	4	43	20	3	10
44	19	6	8	44	20	9	6
45	20	0	0	45	21	3	2

¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8
¼	0	1	4	0	¼	0	1	5	0
½	0	2	8	0	½	0	2	10	0
¾	0	4	0	0	¾	0	4	3	0



SIDE 8½ IN.				SIDE 8⅓ IN.			
FT.	FT. IN. PA.			FT.	FT. IN. PA.		
LNG.				LNG.			
1	0	6	0	1	0	6	4
2	1	0	0	2	1	0	9
3	1	6	0	3	1	7	1
4	2	0	1	4	2	1	6
5	2	6	1	5	2	7	10
6	3	0	1	6	3	2	3
7	3	6	1	7	3	8	7
8	4	0	2	8	4	3	0
9	4	6	2	9	4	9	5
10	5	0	2	10	5	3	9
11	5	6	2	11	5	10	2
12	6	0	3	12	6	4	6
13	6	6	3	13	6	10	11
14	7	0	3	14	7	5	3
15	7	6	3	15	7	11	8
16	8	0	4	16	8	6	1
17	8	6	4	17	9	0	5
18	9	0	4	18	9	6	10
19	9	6	4	19	10	1	2
20	10	0	5	20	10	7	7
21	10	6	5	21	11	1	11
22	11	0	5	22	11	8	4
23	11	6	5	23	12	2	8
24	12	0	6	24	12	9	1
25	12	6	6	25	13	3	6
26	13	0	6	26	13	9	10
27	13	6	6	27	14	4	3
28	14	0	7	28	14	10	7
29	14	6	7	29	15	5	0
30	15	0	7	30	15	11	4
31	15	6	7	31	16	5	9
32	16	0	8	32	17	0	2
33	16	6	8	33	17	6	6
34	17	0	8	34	18	0	11
35	17	6	8	35	18	7	3
36	18	0	9	36	19	1	8
37	18	6	9	37	19	8	0
38	19	0	9	38	20	2	5
39	19	6	9	39	20	8	9
40	20	0	10	40	21	3	2
41	20	6	10	41	21	9	7
42	21	0	10	42	22	3	11
43	21	6	10	43	22	10	4
44	22	0	11	44	23	4	8
45	22	6	11	45	23	11	1

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	0	1	6	0	¼	0	1	7	0
½	0	3	0	0	½	0	3	2	0
¾	0	4	6	0	¾	0	4	9	0

FT. LNG.	SIDE 9 IN.			FT. LNG.	SIDE 9½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	6	9	1	0	7	1		
2	1	1	6	2	1	2	3		
3	1	8	3	3	1	9	4		
4	2	3	0	4	2	4	6		
5	2	9	9	5	2	11	7		
6	3	4	6	6	3	6	9		
7	3	11	3	7	4	1	10		
8	4	6	0	8	4	9	0		
9	5	0	9	9	5	4	2		
10	5	7	6	10	5	11	3		
11	6	2	3	11	6	6	5		
12	6	9	0	12	7	1	6		
13	7	3	9	13	7	8	8		
14	7	10	6	14	8	3	9		
15	8	5	3	15	8	10	11		
16	9	0	0	16	9	6	1		
17	9	6	9	17	10	1	2		
18	10	1	6	18	10	8	4		
19	10	8	3	19	11	3	5		
20	11	3	0	20	11	10	7		
21	11	9	9	21	12	5	8		
22	12	4	6	22	13	0	10		
23	12	11	3	23	13	7	11		
24	13	6	0	24	14	3	1		
25	14	0	9	25	14	10	3		
26	14	7	6	26	15	5	4		
27	15	2	3	27	16	0	6		
28	15	8	0	28	16	7	7		
29	16	3	9	29	17	2	9		
30	16	10	6	30	17	9	10		
31	17	5	3	31	18	5	0		
32	18	0	0	32	19	0	2		
33	18	6	9	33	19	7	3		
34	19	1	6	34	20	2	5		
35	19	8	3	35	20	9	6		
36	20	3	0	36	21	4	8		
37	20	9	9	37	21	11	9		
38	21	4	6	38	22	6	11		
39	21	11	3	39	23	2	0		
40	22	6	0	40	23	9	2		
41	23	0	9	41	24	4	4		
42	23	7	6	42	24	11	5		
43	24	2	3	43	25	6	7		
44	24	9	0	44	26	1	8		
45	25	3	9	45	26	8	10		
¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8
¼	0	1	8	3	¼	0	1	9	3
½	0	3	4	6	½	0	3	6	6
¾	0	5	0	9	¾	0	5	3	9

FT. LNG.	SIDE 9½ IN.			FT. LNG.	SIDE 9½ IN.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	7	6	1	0	7	11
2	1	3	0	2	1	3	10
3	1	10	6	3	1	11	9
4	2	6	1	4	2	7	8
5	3	1	7	5	3	3	7
6	3	9	1	6	3	11	6
7	4	4	7	7	4	7	5
8	5	0	2	8	5	3	4
9	5	7	8	9	5	11	3
10	6	3	2	10	6	7	2
11	6	10	8	11	7	3	1
12	7	6	3	12	7	11	0
13	8	1	9	13	8	6	11
14	8	9	3	14	9	2	10
15	9	4	9	15	9	10	9
16	10	0	4	16	10	6	9
17	10	7	10	17	11	2	8
18	11	3	4	18	11	10	7
19	11	10	10	19	12	6	6
20	12	6	5	20	13	2	5
21	13	1	11	21	13	10	4
22	13	9	5	22	14	6	3
23	14	4	11	23	15	2	2
24	15	0	6	24	15	10	1
25	15	8	0	25	16	6	0
26	16	3	6	26	17	1	11
27	16	11	0	27	17	9	10
28	17	6	7	28	18	5	9
29	18	2	1	29	19	1	8
30	18	9	7	30	19	9	7
31	19	5	1	31	20	5	6
32	20	0	8	32	21	1	6
33	20	8	2	33	21	9	5
34	21	3	8	34	22	5	4
35	21	11	2	35	23	1	3
36	22	6	9	36	23	9	2
37	23	2	3	37	24	5	1
38	23	9	9	38	25	1	0
39	24	5	3	39	25	8	11
40	25	0	10	40	26	4	10
41	25	8	4	41	27	0	9
42	26	3	10	42	27	8	8
43	26	11	4	43	28	4	7
44	27	6	11	44	29	0	6
45	28	2	5	45	29	8	5

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.			
¼	0	1	10	0	0	1	11	9
½	0	3	9	0	0	3	11	6
¾	0	5	7	0	0	5	11	3

FT. LNG.	SIDE 10 IN.			FT. LNG.	SIDE 10½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	8	4	1	0	8	9		
2	1	4	8	2	1	5	6		
3	2	1	0	3	2	2	3		
4	2	9	4	4	2	11	0		
5	3	5	8	5	3	7	9		
6	4	2	0	6	4	4	6		
7	4	10	4	7	5	1	3		
8	5	6	8	8	5	10	0		
9	6	3	0	9	6	6	9		
10	6	11	4	10	7	3	6		
11	7	7	8	11	8	0	3		
12	8	4	0	12	8	9	0		
13	9	0	4	13	9	5	9		
14	9	8	8	14	10	2	6		
15	10	5	0	15	10	11	3		
16	11	1	4	16	11	8	1		
17	11	9	8	17	12	4	10		
18	12	6	0	18	13	1	7		
19	13	2	4	19	13	10	4		
20	13	10	8	20	14	7	1		
21	14	7	0	21	15	3	10		
22	15	3	4	22	16	0	7		
23	15	11	8	23	16	9	4		
24	16	8	0	24	17	6	1		
25	17	4	4	25	18	2	10		
26	18	0	8	26	18	11	7		
27	18	9	0	27	19	8	4		
28	19	5	4	28	20	5	1		
29	20	1	8	29	21	1	10		
30	20	10	0	30	21	10	7		
31	21	6	4	31	22	7	4		
32	22	2	8	32	23	4	2		
33	22	11	0	33	24	0	11		
34	23	7	4	34	24	9	8		
35	24	3	8	35	25	6	5		
36	25	0	0	36	26	3	2		
37	25	8	4	37	26	11	11		
38	26	4	8	38	27	8	8		
39	27	1	0	39	28	5	5		
40	27	9	4	40	29	2	2		
41	28	5	8	41	29	10	11		
42	29	2	0	42	30	7	8		
43	29	10	4	43	31	4	5		
44	30	6	8	44	32	1	2		
45	31	3	0	45	32	9	11		
¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8
¼	0	2	1	0	¼	0	2	2	3
½	0	4	2	0	½	0	4	4	6
¾	0	6	3	0	¾	0	6	6	9

SIDE 10½ IN.				SIDE 10¾ IN.			
FT.	.....			FT.	.....		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	0	9	2	1	0	9	7
2	1	6	4	2	1	7	3
3	2	3	6	3	2	4	10
4	3	0	9	4	3	2	6
5	3	9	11	5	4	0	1
6	4	7	1	6	4	9	9
7	5	4	3	7	5	7	4
8	6	1	6	8	6	5	0
9	6	10	8	9	7	2	7
10	7	7	10	10	8	0	3
11	8	5	0	11	8	9	11
12	9	2	3	12	9	7	6
13	9	11	5	13	10	5	2
14	10	8	7	14	11	2	9
15	11	5	9	15	12	9	5
16	12	3	0	16	12	10	0
17	13	0	2	17	13	7	8
18	13	9	4	18	14	5	4
19	14	6	6	19	15	2	11
20	15	3	9	20	16	0	7
21	16	0	11	21	16	10	2
22	16	10	1	22	17	7	10
23	17	7	3	23	18	5	5
24	18	4	6	24	19	3	1
25	19	1	8	25	20	0	9
26	19	10	10	26	20	10	4
27	20	8	0	27	21	8	0
28	21	5	3	28	22	5	7
29	22	2	5	29	23	3	3
30	22	11	7	30	24	0	10
31	23	8	9	31	24	10	6
32	24	6	0	32	25	8	2
33	25	3	2	33	26	5	9
34	26	0	4	34	27	3	5
35	26	9	6	35	28	1	9
36	27	6	9	36	28	10	8
37	28	3	11	37	29	8	3
38	29	1	1	38	30	5	11
39	29	10	3	39	31	3	6
40	30	7	6	40	32	1	2
41	31	4	8	41	32	10	10
42	32	1	10	42	33	8	5
43	32	11	0	43	34	6	1
44	33	8	3	44	35	3	8
45	34	5	5	45	36	1	4

¼ FT.	.....			¼ FT.	.....				
	FT.	IN.	PA.	S.	FT.	IN.	PA.	S.	
¼	0	2	3	6	¼	0	2	4	9
½	0	4	7	0	½	0	4	9	6
¾	0	6	10	6	¾	0	7	2	3

FT. LNG.	SIDE 11 IN.			FT. LNG.	SIDE 11½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	0	10	1	1	0	10	6		
2	1	8	2	2	1	9	1		
3	2	6	3	3	2	7	7		
4	3	4	4	4	3	6	2		
5	4	2	5	5	4	4	8		
6	5	0	6	6	5	3	3		
7	5	10	7	7	6	1	9		
8	6	8	8	8	7	0	4		
9	7	6	9	9	7	10	10		
10	8	4	10	10	8	9	5		
11	9	2	11	11	9	8	0		
12	10	1	0	12	10	6	6		
13	10	11	1	13	11	5	1		
14	11	9	2	14	12	3	7		
15	12	7	3	15	13	2	2		
16	13	5	4	16	14	0	9		
17	14	3	5	17	14	11	3		
18	15	1	6	18	15	9	10		
19	15	11	7	19	16	8	4		
20	16	9	8	20	17	6	11		
21	17	7	9	21	18	5	5		
22	18	5	10	22	19	4	0		
23	19	3	11	23	20	2	6		
24	20	2	0	24	21	1	1		
25	21	0	1	25	21	11	8		
26	21	10	2	26	22	10	2		
27	22	8	3	27	23	8	9		
28	23	6	4	28	24	7	3		
29	24	4	5	29	25	5	10		
30	25	2	6	30	26	4	4		
31	26	0	7	31	27	2	11		
32	26	10	8	32	28	1	6		
33	27	8	9	33	29	0	0		
34	28	6	10	34	29	10	7		
35	29	4	11	35	30	9	1		
36	30	3	0	36	31	7	8		
37	31	1	1	37	32	6	2		
38	31	11	2	38	33	4	9		
39	32	9	3	39	34	3	3		
40	33	7	4	40	35	1	10		
41	34	5	5	41	36	0	5		
42	35	3	6	42	36	10	11		
43	36	1	7	43	37	9	6		
44	36	11	8	44	38	8	0		
45	37	9	9	45	39	6	7		
¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8
¼	0	2	6	3	¼	0	2	7	6
½	0	5	0	6	½	0	5	3	0
¾	0	7	6	9	¾	0	7	10	6

		SIDE 11½ IN.					SIDE 11¾ IN.				
FT.	LNQ.	FT.	IN.	PA.	FT.	LNQ.	FT.	IN.	PA.		
1		0	11	0	1		0	11	6		
2		1	10	0	2		1	11	0		
3		2	9	0	3		2	10	6		
4		3	8	1	4		3	10	0		
5		4	7	1	5		4	9	6		
6		5	6	1	6		5	9	0		
7		6	5	1	7		6	8	6		
8		7	4	2	8		7	8	0		
9		8	3	2	9		8	7	6		
10		9	2	2	10		9	7	0		
11		10	1	2	11		10	6	6		
12		11	0	3	12		11	6	0		
13		11	11	3	13		12	5	6		
14		12	10	3	14		13	5	0		
15		13	9	3	15		14	4	6		
16		14	8	4	16		15	4	1		
17		15	7	4	17		16	3	7		
18		16	6	4	18		17	3	1		
19		17	5	4	19		18	2	7		
20		18	4	5	20		19	2	1		
21		19	3	5	21		20	1	7		
22		20	2	5	22		21	1	1		
23		21	1	5	23		22	0	7		
24		22	0	6	24		23	0	1		
25		22	11	6	25		23	11	7		
26		23	10	6	26		24	11	1		
27		24	9	6	27		25	10	7		
28		25	8	7	28		26	10	1		
29		26	7	7	29		27	9	7		
30		27	6	7	30		28	9	1		
31		28	5	7	31		29	8	7		
32		29	4	8	32		30	8	2		
33		30	3	8	33		31	7	8		
34		31	2	8	34		32	7	2		
35		32	1	8	35		33	6	8		
36		33	0	9	36		34	6	2		
37		33	11	9	37		35	5	8		
38		34	10	9	38		36	5	2		
39		35	9	9	39		37	4	8		
40		36	8	10	40		38	4	2		
41		37	7	10	41		39	3	8		
42		38	6	10	42		40	3	2		
43		39	5	10	43		41	2	8		
44		40	4	11	44		42	2	2		
45		41	3	11	45		43	1	8		
¼ FT.		FT.	IN.	PA.	S.	¼ FT.		FT.	IN.	PA.	S.
¼		0	2	9	0	¼		0	2	10	6
½		0	5	6	0	½		0	5	9	0
¾		0	8	3	0	¾		0	8	7	6

FT. LNG.	SIDE 12 IN.			FT. LNG.	SIDE 12½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	0	0	1	1	0	6		
2	2	0	0	2	2	1	0		
3	3	0	0	3	3	1	6		
4	4	0	0	4	4	2	0		
5	5	0	0	5	5	2	6		
6	6	0	0	6	6	3	0		
7	7	0	0	7	7	3	6		
8	8	0	0	8	8	4	0		
9	9	0	0	9	9	4	6		
10	10	0	0	10	10	5	0		
11	11	0	0	11	11	5	6		
12	12	0	0	12	12	6	0		
13	13	0	0	13	13	6	6		
14	14	0	0	14	14	7	0		
15	15	0	0	15	15	7	6		
16	16	0	0	16	16	8	1		
17	17	0	0	17	17	8	7		
18	18	0	0	18	18	9	1		
19	19	0	0	19	19	9	7		
20	20	0	0	20	20	10	1		
21	21	0	0	21	21	10	7		
22	22	0	0	22	22	11	1		
23	23	0	0	23	23	11	7		
24	24	0	0	24	25	0	1		
25	25	0	0	25	26	0	7		
26	26	0	0	26	27	1	1		
27	27	0	0	27	28	1	7		
28	28	0	0	28	29	2	1		
29	29	0	0	29	30	2	7		
30	30	0	0	30	31	3	1		
31	31	0	0	31	32	3	8		
32	32	0	0	32	33	4	2		
33	33	0	0	33	34	4	8		
34	34	0	0	34	35	5	2		
35	35	0	0	35	36	5	8		
36	36	0	0	36	37	6	2		
37	37	0	0	37	38	6	8		
38	38	0	0	38	39	7	2		
39	39	0	0	39	40	7	8		
40	40	0	0	40	41	8	2		
41	41	0	0	41	42	8	8		
42	42	0	0	42	43	9	2		
43	43	0	0	43	44	9	8		
44	44	0	0	44	45	10	2		
45	45	0	0	45	46	10	8		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	3	0	0	¼	0	3	1	6
½	0	6	0	0	½	0	6	3	0
¾	0	9	0	0	¾	0	9	4	6



SIDE 12½ IN.				SIDE 12½ IN.			
PT.	FT. IN. PA.			PT.	FT. IN. PA.		
1	1	1	0	1	1	1	6
2	2	2	0	2	2	3	1
3	3	3	0	3	3	4	7
4	4	4	1	4	4	6	2
5	5	5	1	5	5	7	8
6	6	6	1	6	6	9	3
7	7	7	1	7	7	10	9
8	8	8	2	8	9	0	4
9	9	9	2	9	10	1	11
10	10	10	2	10	11	3	5
11	11	11	2	11	12	5	0
12	13	0	3	12	13	6	6
13	14	1	3	13	14	8	1
14	15	2	3	14	15	9	7
15	16	3	3	15	16	11	2
16	17	4	4	16	18	0	9
17	18	5	4	17	19	2	3
18	19	6	4	18	20	3	10
19	20	7	4	19	21	5	4
20	21	8	5	20	22	6	11
21	22	9	5	21	23	8	5
22	23	10	5	22	24	10	0
23	24	11	5	23	25	11	6
24	26	0	6	24	27	1	1
25	27	1	6	25	28	2	8
26	28	2	6	26	29	4	2
27	29	3	6	27	30	5	0
28	30	4	7	28	31	7	3
29	31	5	7	29	32	8	10
30	32	6	7	30	33	10	4
31	33	7	7	31	34	11	11
32	34	8	8	32	36	1	6
33	35	9	8	33	37	3	0
34	36	10	8	34	38	4	7
35	37	11	8	35	39	6	1
36	39	0	9	36	40	7	8
37	40	1	9	37	41	9	2
38	41	2	9	38	42	10	9
39	42	3	9	39	44	0	3
40	43	4	10	40	45	1	10
41	44	5	10	41	46	3	5
42	45	6	10	42	47	4	11
43	46	7	10	43	48	6	6
44	47	8	11	44	49	8	0
45	48	9	11	45	50	9	7

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	0	3	3	0	¼	0	3	4	6
½	0	6	6	0	½	0	6	9	0
¾	0	9	9	0	¾	0	10	1	6

FT. LNG.	SIDE 13 IN.			FT. LNG.	SIDE 13 $\frac{1}{4}$ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	2	1	1	1	2	7		
2	2	4	2	2	2	5	3		
3	3	6	3	3	3	7	10		
4	4	8	4	4	4	10	6		
5	5	10	5	5	6	1	1		
6	7	0	6	6	7	3	9		
7	8	2	7	7	8	6	4		
8	9	4	8	8	9	9	0		
9	10	6	9	9	10	11	8		
10	11	8	10	10	12	2	3		
11	12	10	11	11	13	4	11		
12	14	1	0	12	14	7	6		
13	15	3	1	13	15	10	2		
14	16	5	2	14	17	0	9		
15	17	7	3	15	18	3	5		
16	18	9	4	16	19	6	1		
17	19	11	5	17	20	8	8		
18	21	1	6	18	21	11	4		
19	22	3	7	19	23	1	11		
20	23	5	8	20	24	4	7		
21	24	7	9	21	25	7	2		
22	25	9	10	22	26	9	10		
23	26	11	11	23	28	0	5		
24	28	2	0	24	29	3	1		
25	29	4	1	25	30	5	9		
26	30	6	2	26	31	8	4		
27	31	8	3	27	32	11	0		
28	32	10	4	28	34	1	7		
29	34	0	5	29	35	4	3		
30	35	2	6	30	36	6	10		
31	36	4	7	31	37	9	6		
32	37	6	8	32	39	0	2		
33	38	8	9	33	40	2	9		
34	39	10	10	34	41	5	5		
35	41	0	11	35	42	8	0		
36	42	3	0	36	43	10	8		
37	43	5	1	37	45	1	3		
38	44	7	2	38	46	3	11		
39	45	9	3	39	47	6	6		
40	46	11	4	40	48	9	2		
41	48	1	5	41	49	11	10		
42	49	3	6	42	51	2	5		
43	50	5	7	43	52	5	1		
44	51	7	8	44	53	7	8		
45	52	9	9	45	54	10	4		
$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.	$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.
$\frac{1}{4}$	0	3	6	3	$\frac{1}{4}$	0	3	7	9
$\frac{1}{2}$	0	7	0	6	$\frac{1}{2}$	0	7	3	6
$\frac{3}{4}$	0	0	6	9	$\frac{3}{4}$	0	10	11	3

FT. LNG.	SIDE 13½ IN.			FT. LNG.	SIDE 13¾ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	3	2	1	1	3	9		
2	2	6	4	2	2	7	6		
3	3	9	6	3	3	11	3		
4	5	0	9	4	5	3	0		
5	6	3	11	5	6	6	9		
6	7	7	1	6	7	10	6		
7	8	10	3	7	9	2	3		
8	10	1	6	8	10	6	0		
9	11	4	5	9	11	9	9		
10	12	7	10	10	13	1	6		
11	13	11	0	11	14	5	3		
12	15	2	3	12	15	9	0		
13	16	5	5	13	17	0	9		
14	17	8	7	14	18	4	6		
15	18	11	9	15	19	8	3		
16	20	3	0	16	21	0	1		
17	21	6	2	17	22	3	10		
18	22	9	4	18	23	7	7		
19	24	0	6	19	24	11	4		
20	25	3	9	20	26	3	1		
21	26	6	11	21	27	6	10		
22	27	10	1	22	28	10	7		
23	29	1	3	23	30	2	4		
24	30	4	6	24	31	6	1		
25	31	7	8	25	32	9	10		
26	32	10	10	26	34	1	7		
27	34	2	0	27	35	5	4		
28	35	5	3	28	36	9	1		
29	36	8	5	29	38	0	10		
30	37	11	7	30	39	4	7		
31	39	2	9	31	40	8	4		
32	40	6	0	32	42	0	2		
33	41	9	2	33	43	3	11		
34	43	0	4	34	44	7	8		
35	44	3	6	35	45	11	5		
36	45	6	9	36	47	3	2		
37	46	9	11	37	48	6	11		
38	48	1	1	38	49	10	8		
39	49	4	3	39	51	2	5		
40	50	7	6	40	52	6	2		
41	51	10	8	41	53	9	11		
42	53	1	10	42	55	1	8		
43	54	5	0	43	56	5	5		
44	55	8	3	44	57	9	2		
45	56	11	5	45	59	0	11		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	3	9	6	¼	0	3	11	3
½	0	7	7	0	½	0	7	10	6
¾	0	11	4	6	¾	0	11	9	9

SIDE 14 IN.				SIDE 14½ IN.					
FT.	LNG.			FT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	4	4	1	1	4	11		
2	2	8	8	2	2	9	10		
3	4	1	0	3	4	2	9		
4	5	5	4	4	5	7	8		
5	6	9	8	5	7	0	7		
6	8	2	0	6	8	5	6		
7	9	6	4	7	9	10	5		
8	10	10	8	8	11	3	4		
9	12	3	0	9	12	8	3		
10	13	7	4	10	14	1	2		
11	14	11	8	11	15	6	1		
12	16	4	0	12	16	11	0		
13	17	8	4	13	18	3	11		
14	19	0	8	14	19	8	10		
15	20	5	0	15	21	1	9		
16	21	9	4	16	22	6	9		
17	23	1	8	17	23	11	8		
18	24	6	0	18	25	4	7		
19	25	10	4	19	26	9	6		
20	27	2	8	20	28	2	5		
21	28	7	0	21	29	7	4		
22	29	11	4	22	31	0	3		
23	31	3	8	23	32	5	2		
24	32	8	0	24	33	10	1		
25	34	0	4	25	35	3	0		
26	35	4	8	26	36	7	11		
27	36	9	0	27	38	0	10		
28	38	1	4	28	39	5	9		
29	39	5	8	29	40	10	8		
30	40	10	0	30	42	3	7		
31	42	2	4	31	43	8	6		
32	43	6	8	32	45	1	6		
33	44	11	0	33	46	6	5		
34	46	3	4	34	47	11	4		
35	47	7	8	35	49	4	3		
36	49	0	0	36	50	9	2		
37	50	4	4	37	52	2	1		
38	51	8	8	38	53	7	0		
39	53	1	0	39	54	11	11		
40	54	5	4	40	56	4	10		
41	55	9	8	41	57	9	9		
42	57	2	0	42	59	2	8		
43	58	6	4	43	60	7	7		
44	59	10	8	44	62	0	6		
45	61	3	0	45	63	5	5		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	4	1	0	¼	0	4	2	9
½	0	8	2	0	½	0	8	5	6
¾	1	0	3	0	¾	1	0	8	3

SIDE 14½ IN.				SIDE 14¼ IN.					
FT.	LNG.			FT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	5	6	1	1	6	1		
2	2	11	0	2	3	0	3		
3	4	4	6	3	4	6	4		
4	5	10	1	4	6	0	6		
5	7	3	7	5	7	6	7		
6	8	9	1	6	9	0	9		
7	10	2	7	7	10	6	10		
8	11	8	2	8	12	1	0		
9	13	1	8	9	13	7	2		
10	14	7	2	10	15	1	3		
11	16	0	8	11	16	7	5		
12	17	6	3	12	18	1	6		
13	18	11	9	13	19	7	8		
14	20	5	3	14	21	1	9		
15	21	10	9	15	22	7	11		
16	23	4	4	16	24	2	1		
17	24	9	10	17	25	8	2		
18	26	3	4	18	27	2	4		
19	27	8	10	19	28	8	5		
20	29	2	5	20	30	2	7		
21	30	7	11	21	31	8	8		
22	32	1	5	22	33	2	10		
23	33	6	11	23	34	8	11		
24	35	0	6	24	36	3	1		
25	36	6	0	25	37	9	3		
26	37	11	6	26	39	3	4		
27	39	5	0	27	40	9	6		
28	40	10	7	28	42	3	7		
29	42	4	1	29	43	9	9		
30	43	9	7	30	45	3	10		
31	45	3	1	31	46	10	0		
32	46	8	8	32	48	4	2		
33	48	2	2	33	49	10	3		
34	49	7	8	34	51	4	5		
35	51	1	2	35	52	10	6		
36	52	6	9	36	54	4	8		
37	54	0	3	37	55	10	9		
38	55	5	9	38	57	4	11		
39	56	11	3	39	58	11	0		
40	58	4	10	40	60	5	2		
41	59	10	4	41	61	11	4		
42	61	3	10	42	63	5	5		
43	62	9	4	43	64	11	7		
44	64	2	11	44	66	5	8		
45	65	8	5	45	67	11	10		
½ FT.	FT.	IN.	PA.	S.	½ FT.	FT.	IN.	PA.	S.
¼	0	4	4	6	¼	0	4	6	3
½	0	8	9	0	½	0	9	0	6
¾	1	1	1	6	¾	1	1	6	9

SIDE 15 IN.				SIDE 15 $\frac{1}{4}$ IN.					
PT.	FT. IN. PA.			PT.	FT. IN. PA.				
LNG.				LNG.					
1	1	6	9	1	1	7	4		
2	3	1	6	2	3	2	0		
3	4	8	3	3	4	10	1		
4	6	3	0	4	6	5	6		
5	7	0	9	5	8	0	10		
6	9	4	6	6	9	8	3		
7	10	11	3	7	11	3	7		
8	12	6	0	8	12	11	0		
9	14	0	9	9	14	6	5		
10	15	7	6	10	16	1	9		
11	17	2	3	11	17	9	2		
12	18	0	0	12	19	4	6		
13	20	3	9	13	20	11	11		
14	21	10	6	14	22	7	3		
15	23	5	3	15	24	2	6		
16	25	0	0	16	25	10	1		
17	26	6	0	17	27	5	5		
18	28	1	6	18	29	0	10		
19	29	8	3	19	30	8	2		
20	31	3	0	20	32	3	7		
21	32	9	9	21	33	10	11		
22	34	4	6	22	35	6	4		
23	35	11	3	23	37	1	8		
24	37	6	0	24	38	9	1		
25	39	0	9	25	40	4	6		
26	40	7	6	26	41	11	10		
27	42	2	3	27	43	7	3		
28	43	0	0	28	45	2	7		
29	45	3	9	29	46	10	0		
30	46	10	6	30	48	5	4		
31	48	5	3	31	50	0	9		
32	50	0	0	32	51	8	2		
33	51	6	9	33	53	3	6		
34	53	1	6	34	54	10	11		
35	54	8	3	35	56	6	3		
36	56	3	0	36	58	1	9		
37	57	9	9	37	59	0	0		
38	59	4	6	38	61	4	5		
39	60	11	3	39	62	11	9		
40	62	6	0	40	64	7	2		
41	64	0	9	41	66	2	7		
42	65	7	6	42	67	9	11		
43	67	2	3	43	69	5	4		
44	68	0	0	44	71	0	8		
45	70	3	9	45	72	8	1		
$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.	$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.
$\frac{1}{4}$	0	4	8	3	$\frac{1}{4}$	0	4	10	0
$\frac{1}{2}$	0	9	4	6	$\frac{1}{2}$	0	9	8	0
$\frac{3}{4}$	1	2	0	9	$\frac{3}{4}$	1	2	6	0

FT. LNG.	SIDE 15½ IN.			FT. LNG.	SIDE 15¼ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	8	0	1	1	8	8		
2	3	4	0	2	3	5	4		
3	5	0	0	3	5	2	0		
4	6	8	1	4	6	10	8		
5	8	4	1	5	8	7	4		
6	10	0	1	6	10	4	0		
7	11	8	1	7	12	0	8		
8	13	4	2	8	13	9	4		
9	15	0	2	9	15	6	0		
10	16	8	2	10	17	2	8		
11	18	4	2	11	18	11	4		
12	20	0	3	12	20	8	0		
13	21	8	3	13	22	4	8		
14	23	4	3	14	24	1	4		
15	25	0	3	15	25	10	0		
16	26	8	4	16	27	6	9		
17	28	4	4	17	29	3	5		
18	30	0	4	18	31	0	1		
19	31	8	4	19	32	8	9		
20	32	4	5	20	34	5	5		
21	35	0	5	21	36	2	1		
22	36	8	5	22	37	10	9		
23	38	4	5	23	39	7	5		
24	40	0	6	24	41	4	1		
25	41	8	6	25	43	0	9		
26	43	4	6	26	44	9	5		
27	45	0	6	27	46	6	1		
28	46	8	7	28	48	2	9		
29	48	4	7	29	49	11	5		
30	50	0	7	30	51	8	1		
31	51	8	7	31	53	4	9		
32	53	4	8	32	55	1	6		
33	55	0	8	33	56	10	2		
34	56	8	8	34	58	6	10		
35	58	4	8	35	60	3	6		
36	60	0	9	36	62	0	2		
37	61	8	9	37	63	8	10		
38	63	4	9	38	65	5	6		
39	65	0	9	39	67	2	2		
40	66	8	10	40	68	10	10		
41	68	4	10	41	70	7	6		
42	70	0	10	42	72	4	2		
43	71	8	10	43	74	0	10		
44	73	4	11	44	75	9	6		
45	75	0	11	45	77	6	2		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	5	0	0	¼	0	5	2	0
½	0	10	0	0	½	0	10	4	0
¾	1	3	0	0	¾	1	3	6	0

FT. LNG.	SIDE 16 IN.			FT. LNG.	SIDE 16½ IN.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	9	4	1	1	10	0
2	3	6	8	2	3	8	0
3	5	4	0	3	5	6	0
4	7	1	4	4	7	4	0
5	8	10	8	5	9	2	0
6	10	8	0	6	11	0	0
7	12	5	4	7	12	10	0
8	14	2	8	8	14	8	0
9	16	0	0	9	16	6	0
10	17	9	4	10	18	4	0
11	19	6	8	11	20	2	0
12	21	4	0	12	22	0	0
13	23	1	4	13	23	10	0
14	24	10	8	14	25	8	0
15	26	8	0	15	27	6	0
16	28	5	4	16	29	4	1
17	30	2	8	17	31	2	1
18	32	0	0	18	33	0	1
19	33	9	4	19	34	10	1
20	35	6	8	20	36	8	1
21	37	4	0	21	38	6	1
22	39	1	4	22	40	4	1
23	40	10	8	23	42	2	1
24	42	8	0	24	44	0	1
25	44	5	4	25	45	10	1
26	46	2	8	26	47	8	1
27	48	0	0	27	49	6	1
28	49	9	4	28	51	4	1
29	51	6	8	29	53	2	1
30	53	4	0	30	55	0	1
31	55	1	4	31	56	10	1
32	56	10	8	32	58	8	2
33	58	8	0	33	60	6	2
34	60	5	4	34	62	4	2
35	62	2	8	35	64	2	2
36	64	0	0	36	66	0	2
37	65	9	4	37	67	10	2
38	67	6	8	38	69	8	2
39	69	4	0	39	71	6	2
40	71	1	4	40	73	4	2
41	72	10	8	41	75	2	2
42	74	8	0	42	77	0	2
43	76	5	4	43	78	10	2
44	78	2	8	44	80	8	2
45	80	0	0	45	82	6	2

¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	5	4	0	¼	0	5	6	0
½	0	10	8	0	½	0	11	0	0
¾	1	4	0	0	¾	1	4	6	0



FT. LNG.	SIDE 16½ IN.			FT. LNG.	SIDE 16½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	10	8	1	1	11	4		
2	3	9	4	2	3	10	9		
3	5	8	0	3	5	10	1		
4	7	6	9	4	7	9	6		
5	9	5	5	5	9	8	10		
6	11	4	1	6	11	8	3		
7	13	2	9	7	13	7	7		
8	15	1	6	8	15	7	0		
9	17	0	2	9	17	6	5		
10	18	10	10	10	19	5	9		
11	20	9	6	11	21	5	2		
12	22	8	3	12	23	4	6		
13	24	6	11	13	25	3	11		
14	26	5	7	14	27	3	3		
15	28	4	3	15	29	2	8		
16	30	3	0	16	31	2	1		
17	32	1	8	17	33	1	5		
18	34	0	4	18	35	0	10		
19	35	11	0	19	37	0	2		
20	37	9	9	20	38	11	7		
21	39	8	5	21	40	10	11		
22	41	7	1	22	42	10	4		
23	43	5	9	23	44	9	8		
24	45	4	6	24	46	9	1		
25	47	3	2	25	48	8	6		
26	49	1	10	26	50	7	10		
27	51	0	6	27	52	7	3		
28	52	11	3	28	54	6	7		
29	54	9	11	29	56	6	0		
30	56	8	7	30	58	5	4		
31	58	7	3	31	60	4	9		
32	60	6	0	32	62	4	2		
33	62	4	8	33	64	3	6		
34	64	3	4	34	66	2	11		
35	66	2	0	35	68	2	3		
36	68	0	9	36	70	1	8		
37	69	11	5	37	72	1	0		
38	71	10	1	38	74	0	5		
39	73	8	9	39	75	11	9		
40	75	7	6	40	77	11	2		
41	77	6	2	41	79	10	7		
42	79	4	10	42	81	9	11		
43	81	3	6	43	83	9	4		
44	83	2	3	44	85	8	8		
45	85	0	11	45	87	8	1		
-----				-----					
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	0	5	8	0	¼	0	5	10	0
½	0	11	4	0	½	0	11	8	0
¾	1	5	0	0	¾	1	5	6	0

FT. LNG.	SIDE 17 IN.			FT. LNG.	SIDE 17½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	2	0	1	1	2	0	9		
2	4	0	2	2	4	1	7		
3	6	0	3	3	6	2	4		
4	8	0	4	4	8	3	2		
5	10	0	5	5	10	3	11		
6	12	0	6	6	12	4	9		
7	14	0	7	7	14	5	6		
8	16	0	8	8	16	6	4		
9	18	0	9	9	18	7	2		
10	20	0	10	10	20	7	11		
11	22	0	11	11	22	8	9		
12	24	1	0	12	24	9	6		
13	26	1	1	13	26	10	4		
14	28	1	2	14	28	11	1		
15	30	1	3	15	30	11	11		
16	32	1	4	16	33	0	9		
17	34	1	5	17	35	1	6		
18	36	1	6	18	37	2	4		
19	38	1	7	19	39	3	1		
20	40	1	8	20	41	3	11		
21	42	1	9	21	43	4	8		
22	44	1	10	22	45	5	6		
23	46	1	11	23	47	6	3		
24	48	2	0	24	49	7	1		
25	50	2	1	25	51	7	11		
26	52	2	2	26	53	8	8		
27	54	2	3	27	55	9	6		
28	56	2	4	28	57	10	3		
29	58	2	5	29	59	11	1		
30	60	2	6	30	61	11	10		
31	62	2	7	31	64	0	8		
32	64	2	8	32	66	1	6		
33	66	2	9	33	68	2	3		
34	68	2	10	34	70	3	1		
35	70	2	11	35	72	3	10		
36	72	3	0	36	74	4	8		
37	74	3	1	37	76	5	5		
38	76	3	2	38	78	6	3		
39	78	3	3	39	80	7	0		
40	80	3	4	40	82	7	10		
41	82	3	5	41	84	8	8		
42	84	3	6	42	86	9	5		
43	86	3	7	43	88	10	3		
44	88	3	8	44	90	11	0		
45	90	3	9	45	92	11	10		
¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8
¼	0	6	0	3	¼	0	6	2	3
½	1	0	0	6	½	1	0	4	6
¾	1	6	0	9	¾	1	6	6	9

		SIDE 17½ IN.					SIDE 17¾ IN.			
FT.	LNG.	FT. IN. PA.			FT.	LNG.	FT. IN. PA.			
1		2	1	6	1		2	2	3	
2		4	3	0	2		4	4	6	
3		6	4	6	3		6	6	9	
4		8	6	1	4		8	9	0	
5		10	7	7	5		10	11	3	
6		12	9	1	6		13	1	6	
7		14	10	7	7		15	3	9	
8		17	0	2	8		17	6	0	
9		19	1	8	9		19	8	3	
10		21	3	2	10		21	10	6	
11		23	4	8	11		24	0	9	
12		25	6	3	12		26	3	0	
13		27	7	9	13		28	5	3	
14		29	9	3	14		30	7	6	
15		31	10	9	15		32	9	9	
16		34	0	4	16		35	0	1	
17		36	1	10	17		37	2	4	
18		38	3	4	18		39	4	7	
19		40	4	10	19		41	6	10	
20		42	6	5	20		43	9	1	
21		44	7	11	21		45	11	4	
22		46	9	5	22		48	1	7	
23		48	10	11	23		50	3	10	
24		51	0	6	24		52	6	1	
25		53	2	0	25		54	8	4	
26		55	3	6	26		56	10	7	
27		57	5	0	27		59	0	10	
28		59	6	7	28		61	3	1	
29		61	8	1	29		63	5	4	
30		63	9	7	30		65	7	7	
31		65	11	1	31		67	9	10	
32		68	0	9	32		70	0	2	
33		70	2	2	33		72	2	5	
34		72	3	8	34		74	4	8	
35		74	5	2	35		76	6	11	
36		76	6	9	36		78	9	2	
37		78	8	3	37		80	11	5	
38		80	9	9	38		83	1	8	
39		82	11	3	39		85	3	11	
40		85	0	10	40		87	6	2	
41		87	2	4	41		89	8	5	
42		89	3	10	42		91	10	8	
43		91	5	4	43		94	0	11	
44		93	6	11	44		96	3	2	
45		95	8	5	45		98	5	5	
¼ FT.		FT. IN. PA. S.			¼ FT.		FT. IN. PA. S.			
¼		0	6	4	6	¼	0	6	6	9
½		1	0	9	0	½	1	1	1	6
¾		1	7	1	6	¾	1	7	8	3

SIDE 18 IN.				SIDE 18½ IN.					
FT.	.....			FT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	2	3	0	1	2	3	9		
2	4	6	0	2	4	7	6		
3	6	9	0	3	6	11	3		
4	9	0	0	4	9	3	0		
5	11	3	0	5	11	6	9		
6	13	6	0	6	13	10	6		
7	15	9	0	7	16	2	3		
8	18	0	0	8	18	6	0		
9	20	3	0	9	20	9	9		
10	22	6	0	10	23	1	6		
11	24	9	0	11	25	5	3		
12	27	0	0	12	27	9	0		
13	29	3	0	13	30	0	9		
14	31	6	0	14	32	4	6		
15	33	9	0	15	34	8	3		
16	36	0	0	16	37	0	1		
17	38	3	0	17	39	3	10		
18	40	6	0	18	41	7	7		
19	42	9	0	19	43	11	4		
20	45	0	0	20	46	3	1		
21	47	3	0	21	48	6	10		
22	49	6	0	22	50	10	7		
23	51	9	0	23	53	2	4		
24	54	0	0	24	55	6	1		
25	56	3	0	25	57	9	10		
26	58	6	0	26	60	1	7		
27	60	9	0	27	62	5	4		
28	63	0	0	28	64	9	1		
29	65	3	0	29	67	0	10		
30	67	6	0	30	69	4	7		
31	69	9	0	31	71	8	4		
32	72	0	0	32	74	0	2		
33	74	3	0	33	76	3	11		
34	76	6	0	34	78	7	8		
35	78	9	0	35	80	11	5		
36	81	0	0	36	83	3	2		
37	83	3	0	37	85	6	11		
38	85	6	0	38	87	10	8		
39	87	9	0	39	90	2	5		
40	90	0	0	40	92	6	2		
41	92	3	0	41	94	9	11		
42	94	6	0	42	97	1	8		
43	96	9	0	43	99	5	5		
44	99	0	0	44	101	9	2		
45	101	3	0	45	104	0	11		
¼ FT.	.....			¼ FT.	.....				
¼	FT.	IN.	PA.	S.	¼	FT.	IN.	PA.	S.
¼	0	6	9	0	¼	0	6	11	3
½	1	1	6	0	½	1	1	10	6
¾	1	8	3	0	¾	1	8	9	9

FT. LNG.	SIDE 18½ IN.			FT. LNG.	SIDE 18¼ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	2	4	6	1	2	5	3		
2	4	9	0	2	4	10	7		
3	7	1	6	3	7	3	10		
4	9	6	1	4	9	9	2		
5	11	10	7	5	12	2	5		
6	14	3	1	6	14	7	9		
7	16	7	7	7	17	1	0		
8	19	0	2	8	19	6	4		
9	21	4	8	9	21	11	8		
10	23	9	2	10	24	4	11		
11	26	1	8	11	26	10	3		
12	28	6	3	12	29	3	6		
13	30	10	9	13	31	8	10		
14	33	3	3	14	34	2	1		
15	35	7	9	15	36	7	5		
16	38	0	4	16	39	0	9		
17	40	4	10	17	41	6	0		
18	42	9	4	18	43	11	4		
19	45	1	10	19	46	4	7		
20	47	6	5	20	48	9	11		
21	49	10	11	21	51	3	2		
22	52	3	5	22	53	8	6		
23	54	7	11	23	56	1	9		
24	57	0	6	24	58	7	1		
25	59	5	0	25	61	0	5		
26	61	9	6	26	63	5	8		
27	64	2	0	27	65	11	0		
28	66	6	7	28	68	4	3		
29	68	11	1	29	70	9	7		
30	71	3	7	30	73	2	10		
31	73	8	1	31	75	8	2		
32	76	0	8	32	78	1	6		
33	78	5	2	33	80	6	9		
34	80	9	8	34	83	0	1		
35	83	2	2	35	85	5	4		
36	85	6	9	36	87	10	8		
37	87	11	3	37	90	3	11		
38	90	3	9	38	92	9	3		
39	92	8	3	39	95	2	6		
40	95	0	10	40	97	7	10		
41	97	5	4	41	100	1	2		
42	99	9	10	42	102	6	5		
43	102	2	4	43	104	11	9		
44	104	6	11	44	107	5	0		
45	106	11	5	45	109	10	4		
-----				-----					
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	7	1	6	¼	0	7	3	9
½	1	2	3	0	½	1	2	7	0
¾	1	9	4	0	¾	1	9	11	3

FT. LNG.	SIDE 19 IN.			FT. LNG.	SIDE 19½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	2	6	1	1	2	6	10		
2	5	0	2	2	5	1	9		
3	7	6	3	3	7	8	7		
4	10	0	4	4	10	3	6		
5	12	6	5	5	12	10	4		
6	15	0	6	6	15	5	3		
7	17	6	7	7	18	0	1		
8	20	0	8	8	20	7	0		
9	22	6	9	9	23	1	11		
10	25	0	10	10	25	8	9		
11	27	6	11	11	28	3	8		
12	30	1	0	12	30	10	6		
13	32	7	1	13	33	5	5		
14	35	1	2	14	36	0	3		
15	37	7	3	15	38	7	2		
16	40	1	4	16	41	2	1		
17	42	7	5	17	43	8	11		
18	45	1	6	18	46	3	10		
19	47	7	7	19	48	10	8		
20	50	1	8	20	51	5	7		
21	52	7	9	21	54	0	5		
22	55	1	10	22	56	7	4		
23	57	7	11	23	59	2	2		
24	60	2	0	24	61	9	1		
25	62	8	1	25	64	4	0		
26	65	2	2	26	66	10	10		
27	67	8	3	27	69	5	9		
28	70	2	4	28	72	0	7		
29	72	8	5	29	74	7	6		
30	75	2	6	30	77	2	4		
31	77	8	7	31	79	9	3		
32	80	2	8	32	82	4	2		
33	82	8	9	33	84	11	0		
34	85	2	10	34	87	5	11		
35	87	8	11	35	90	0	9		
36	90	3	0	36	92	7	8		
37	92	9	1	37	95	2	6		
38	95	3	2	38	97	9	5		
39	97	9	3	39	100	4	3		
40	100	3	4	40	102	11	2		
41	102	9	5	41	105	6	1		
42	105	3	6	42	108	0	11		
43	107	9	7	43	110	7	10		
44	110	3	8	44	113	2	8		
45	112	9	9	45	115	9	7		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	7	6	3	¼	0	7	8	6
½	1	3	0	6	½	1	3	5	0
¾	1	10	6	9	¾	1	11	1	6

FT. LNG.	SIDE 19½ IN.			FT. LNG.	SIDE 19¼ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	2	7	8	1	2	8	6		
2	5	3	4	2	5	5	0		
3	7	11	0	3	8	1	6		
4	10	6	9	4	10	10	0		
5	13	2	5	5	13	6	6		
6	15	10	1	6	16	3	0		
7	18	5	9	7	18	11	6		
8	21	1	6	8	21	8	0		
9	23	9	2	9	24	4	6		
10	26	4	10	10	27	1	0		
11	29	0	6	11	29	9	6		
12	31	8	3	12	32	6	0		
13	34	3	11	13	35	2	6		
14	36	11	7	14	37	11	0		
15	39	7	3	15	40	7	6		
16	42	3	0	16	43	4	1		
17	44	10	8	17	46	0	7		
18	47	6	4	18	48	9	1		
19	50	2	0	19	51	5	7		
20	52	9	9	20	54	2	1		
21	55	5	5	21	56	10	7		
22	58	1	1	22	59	7	1		
23	60	8	9	23	62	3	7		
24	63	4	6	24	65	0	1		
25	66	0	2	25	67	8	7		
26	68	7	10	26	70	5	1		
27	71	3	6	27	73	1	7		
28	73	11	3	28	75	10	1		
29	76	6	11	29	78	6	7		
30	79	2	7	30	81	3	1		
31	81	10	3	31	83	11	7		
32	84	6	0	32	86	8	2		
33	87	1	8	33	89	4	8		
34	89	9	4	34	92	1	2		
35	92	5	0	35	94	9	8		
36	95	0	9	36	97	6	2		
37	97	8	5	37	100	2	8		
38	100	4	1	38	102	11	2		
39	102	11	9	39	105	7	8		
40	105	7	6	40	108	4	2		
41	108	3	2	41	111	0	8		
42	110	10	10	42	113	9	2		
43	113	6	6	43	116	5	8		
44	116	2	3	44	119	2	2		
45	118	9	11	45	121	10	8		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	7	11	0	¼	0	8	1	6
½	1	3	10	0	½	1	4	3	0
¾	1	11	9	0	¾	2	0	4	6

FT. LNG.	SIDE 20 IN.			FT. LNG.	SIDE 20½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	2	9	4	1	2	10	2		
2	5	6	8	2	5	8	4		
3	8	4	0	3	8	6	6		
4	11	1	4	4	11	4	8		
5	13	10	8	5	14	2	10		
6	16	8	0	6	17	1	0		
7	19	5	4	7	19	11	2		
8	22	2	8	8	22	9	4		
9	25	0	0	9	25	7	6		
10	27	9	4	10	28	5	8		
11	30	6	8	11	31	3	10		
12	33	4	0	12	34	2	0		
13	36	1	4	13	37	0	2		
14	38	10	8	14	39	10	4		
15	41	8	0	15	42	8	6		
16	44	5	4	16	45	6	9		
17	47	2	8	17	48	4	11		
18	50	0	0	18	51	3	1		
19	52	9	4	19	54	1	3		
20	55	6	8	20	56	11	5		
21	58	4	0	21	59	9	7		
22	61	1	4	22	62	7	9		
23	63	10	8	23	65	5	11		
24	66	8	0	24	68	4	1		
25	69	5	4	25	71	2	3		
26	72	2	8	26	74	0	5		
27	75	0	0	27	76	10	7		
28	77	9	4	28	79	8	9		
29	80	6	8	29	82	6	11		
30	83	4	0	30	85	5	1		
31	86	1	4	31	88	3	3		
32	88	10	8	32	91	1	6		
33	91	8	0	33	93	11	8		
34	94	5	4	34	96	9	10		
35	97	2	8	35	99	8	0		
36	100	0	0	36	102	6	2		
37	102	9	4	37	105	4	4		
38	105	6	8	38	108	2	6		
39	108	4	0	39	111	0	8		
40	111	1	4	40	113	10	10		
41	113	10	8	41	116	9	0		
42	116	8	0	42	119	7	2		
43	119	5	4	43	122	5	4		
44	122	2	8	44	125	3	6		
45	125	0	0	45	128	1	8		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	8	4	0	¼	0	8	6	6
½	1	4	8	0	½	1	5	1	0
¾	2	1	0	0	¾	2	1	7	6



		SIDE 20½ IN.					SIDE 20¾ IN.		
FT.		FT. IN. PA.			FT.		FT. IN. PA.		
LNG.					LNG.				
1		2	11	0	1		2	11	10
2		5	10	0	2		5	11	9
3		8	9	0	3		8	11	7
4		11	8	1	4		11	11	6
5		14	7	1	5		14	11	4
6		17	6	1	6		17	11	3
7		20	5	1	7		20	11	1
8		23	4	2	8		23	11	0
9		26	3	2	9		20	10	11
10		29	2	2	10		29	10	9
11		32	1	2	11		32	10	8
12		35	0	3	12		35	10	0
13		37	11	3	13		38	10	5
14		40	10	3	14		41	10	3
15		43	9	3	15		44	10	2
16		46	8	4	16		47	10	1
17		49	7	4	17		50	9	11
18		52	6	4	18		53	9	10
19		55	5	4	19		56	9	8
20		58	4	5	20		59	9	7
21		61	3	5	21		62	9	5
22		64	2	5	22		65	9	4
23		67	1	5	23		68	9	2
24		70	0	6	24		71	9	1
25		72	11	6	25		74	9	0
26		75	10	6	26		77	8	10
27		78	9	6	27		80	8	9
28		81	8	7	28		83	8	7
29		84	7	7	29		86	8	6
30		87	6	7	30		89	8	4
31		90	5	7	31		92	8	3
32		93	4	8	32		95	8	2
33		96	3	8	33		98	8	0
34		99	2	8	34		101	7	11
35		102	1	8	35		104	7	9
36		105	0	9	36		107	7	8
37		107	11	9	37		110	7	0
38		110	10	9	38		113	7	5
39		113	9	9	39		116	7	3
40		116	8	10	40		119	7	2
41		119	7	10	41		122	7	1
42		122	0	10	42		125	6	11
43		125	5	10	43		128	6	10
44		128	4	11	44		131	6	8
45		131	3	11	45		134	0	7
¼ FT.		FT. IN. PA. S.			¼ FT.		FT. IN. PA. S.		
¼		0	8	9 0	¼		0	8	11 0
½		1	5	6 0	½		1	5	11 0
¾		2	2	3 0	¾		2	2	10 0

FT. LNG.	SIDE 21 IN.			FT. LNG.	SIDE 21 $\frac{1}{4}$ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	3	0	9	1	3	1	7		
2	6	1	6	2	6	3	3		
3	9	2	3	3	9	4	10		
4	12	3	0	4	12	6	6		
5	15	3	9	5	15	8	1		
6	18	4	6	6	18	9	9		
7	21	5	3	7	21	11	4		
8	24	6	0	8	25	1	0		
9	27	6	9	9	28	2	8		
10	30	7	6	10	31	4	3		
11	33	8	3	11	34	5	11		
12	36	9	0	12	37	7	6		
13	39	9	9	13	40	9	2		
14	42	10	6	14	43	10	9		
15	45	11	3	15	47	0	5		
16	49	0	0	16	50	2	1		
17	52	0	9	17	53	3	8		
18	55	1	6	18	56	5	4		
19	58	2	3	19	59	6	11		
20	61	3	0	20	62	8	7		
21	64	3	9	21	65	10	2		
22	67	4	6	22	68	11	10		
23	70	5	3	23	72	1	5		
24	73	6	0	24	75	3	1		
25	76	6	9	25	78	4	9		
26	79	7	6	26	81	6	4		
27	82	8	3	27	84	8	0		
28	85	9	0	28	87	9	7		
29	88	9	9	29	90	11	3		
30	91	10	6	30	94	0	10		
31	94	11	3	31	97	2	6		
32	98	0	0	32	100	4	2		
33	101	0	9	33	103	5	9		
34	104	1	6	34	106	7	5		
35	107	2	3	35	109	9	0		
36	110	3	0	36	112	10	8		
37	113	3	9	37	116	0	3		
38	116	4	6	38	119	1	11		
39	119	5	3	39	122	3	6		
40	122	6	0	40	125	5	2		
41	125	6	9	41	128	6	10		
42	128	7	6	42	131	8	5		
43	131	8	3	43	134	10	1		
44	134	9	0	44	137	11	8		
45	137	9	9	45	141	1	4		
$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.	$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.
$\frac{1}{4}$	0	9	2	3	$\frac{1}{4}$	0	9	4	9
$\frac{1}{2}$	1	6	4	6	$\frac{1}{2}$	1	6	9	6
$\frac{3}{4}$	2	3	6	9	$\frac{3}{4}$	2	4	2	3

SIDE 21½ IN.				SIDE 21¼ IN.					
FT.	LNG.			FT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	3	2	6	1	3	3	5		
2	6	5	0	2	6	6	10		
3	9	7	6	3	9	10	3		
4	12	10	1	4	13	1	8		
5	16	0	7	5	16	5	1		
6	19	3	1	6	19	*8	6		
7	22	5	7	7	22	11	11.		
8	25	8	2	8	26	3	4		
9	28	10	8	9	29	6	9		
10	32	1	2	10	32	10	2		
11	35	3	8	11	36	1	7		
12	38	6	3	12	39	5	0		
13	41	8	9	13	42	8	5		
14	44	11	3	14	45	11	10		
15	48	1	9	15	49	3	8		
16	51	4	4	16	52	6	9		
17	54	6	10	17	55	10	2		
18	57	9	4	18	59	1	7		
19	60	11	10	19	62	5	0		
20	64	2	5	20	65	8	5		
21	67	4	11	21	68	11	10		
22	70	7	5	22	72	3	3		
23	73	9	11	23	75	6	8		
24	77	0	6	24	78	10	1		
25	80	3	0	25	82	1	6		
26	83	5	6	26	85	4	11		
27	86	8	0	27	88	5	4		
28	89	10	7	28	91	11	9		
29	93	1	1	29	95	3	2		
30	96	3	7	30	98	6	7		
31	99	6	1	31	101	10	0		
32	102	8	8	32	105	1	6		
33	105	11	2	33	108	4	11		
34	109	1	8	34	111	5	4		
35	112	4	2	35	114	11	9		
36	115	6	9	36	118	3	2		
37	118	9	3	37	121	6	7		
38	121	11	9	38	124	10	0		
39	125	2	3	39	128	1	5		
40	128	4	10	40	131	4	10		
41	131	7	4	41	134	8	3		
42	134	9	10	42	137	11	8		
43	138	0	4	43	141	3	1		
44	141	2	11	44	144	6	6		
45	144	5	5	45	147	9	11		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	9	7	6	¼	0	9	10	3
½	1	7	3	0	½	1	7	8	6
¾	2	4	10	6	¾	2	5	6	9

FT. LNG.	SIDE 22 IN.			FT. LNG.	SIDE 22½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	3	4	4	1	3	5	3		
2	6	8	8	2	6	10	6		
3	10	1	0	3	10	3	9		
4	13	5	4	4	13	9	0		
5	16	9	8	5	17	2	3		
6	20	2	0	6	20	7	6		
7	23	6	4	7	24	0	9		
8	26	10	8	8	27	6	0		
9	30	3	0	9	30	11	3		
10	33	7	4	10	34	4	6		
11	36	11	8	11	37	9	9		
12	40	4	0	12	41	3	0		
13	43	8	4	13	44	8	3		
14	47	0	8	14	48	1	6		
15	50	5	0	15	51	6	9		
16	53	9	4	16	55	0	1		
17	57	1	8	17	58	5	4		
18	60	6	0	18	61	10	7		
19	63	10	4	19	65	3	10		
20	67	2	8	20	68	9	1		
21	70	7	0	21	72	2	4		
22	73	11	4	22	75	7	7		
23	77	3	8	23	79	0	10		
24	80	8	0	24	82	6	1		
25	84	0	4	25	85	11	4		
26	87	4	8	26	89	4	7		
27	90	9	0	27	92	9	10		
28	94	1	4	28	96	3	1		
29	97	5	8	29	99	8	4		
30	100	10	0	30	103	1	7		
31	104	2	4	31	106	6	10		
32	107	6	8	32	110	0	2		
33	110	11	0	33	113	5	5		
34	114	3	4	34	116	10	8		
35	117	7	8	35	120	3	11		
36	121	0	0	36	123	9	2		
37	124	4	4	37	127	2	5		
38	127	8	8	38	130	7	8		
39	131	1	0	39	134	0	11		
40	134	5	4	40	137	6	2		
41	137	9	8	41	140	11	5		
42	141	2	0	42	144	4	8		
43	144	6	4	43	147	9	11		
44	147	10	8	44	151	3	2		
45	151	3	0	45	154	8	5		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	10	1	0	¼	0	10	3	9
½	1	8	2	0	½	1	8	7	6
¾	2	6	3	0	¾	2	6	11	3

SIDE 22½ IN.				SIDE 22¼ IN.					
FT.	FT. IN. PA.			FT.	FT. IN. PA.				
LNG.				LNG.					
1	3	6	2	1	3	7	1		
2	7	0	4	2	7	2	3		
3	10	6	6	3	10	9	4		
4	14	0	9	4	14	4	6		
5	17	6	11	5	17	11	7		
6	21	1	1	6	21	6	9		
7	24	7	3	7	25	1	10		
8	28	1	6	8	28	9	0		
9	31	7	8	9	32	4	2		
10	35	1	10	10	35	11	3		
11	38	8	0	11	39	6	5		
12	42	2	3	12	43	1	6		
13	45	8	5	13	46	8	8		
14	49	2	7	14	50	3	9		
15	52	8	9	15	53	10	11		
16	56	3	0	16	57	6	1		
17	59	9	2	17	61	1	2		
18	63	3	4	18	64	8	4		
19	66	9	6	19	68	3	5		
20	70	3	9	20	71	10	7		
21	73	9	11	21	75	5	8		
22	77	4	1	22	79	0	10		
23	80	10	3	23	82	7	11		
24	84	4	6	24	86	3	1		
25	87	10	8	25	89	10	3		
26	91	4	10	26	93	5	4		
27	94	11	0	27	97	0	6		
28	98	5	3	28	100	7	7		
29	101	11	5	29	104	2	9		
30	105	5	7	30	107	9	10		
31	108	11	9	31	111	5	0		
32	112	6	0	32	115	0	2		
33	116	0	2	33	118	7	3		
34	119	6	4	34	122	2	5		
35	123	0	6	35	125	9	6		
36	126	6	9	36	129	4	8		
37	130	0	11	37	132	11	9		
38	133	7	1	38	136	6	11		
39	137	1	3	39	140	2	0		
40	140	7	0	40	143	9	2		
41	144	1	8	41	147	4	4		
42	147	7	10	42	150	11	5		
43	151	2	0	43	154	6	7		
44	154	8	3	44	158	1	8		
45	158	2	5	45	161	8	10		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	0	10	6	6	¼	0	10	9	3
½	1	9	1	0	½	1	9	6	0
¾	2	7	7	6	¾	2	8	3	9

		SIDE 23 IN.					SIDE 23½ IN.				
FT.	LNG.	FT.	IN.	PA.	FT.	LNG.	FT.	IN.	PA.		
1		3	8	1	1		3	9	0		
2		7	4	2	2		7	0	1		
3		11	0	3	3		11	3	1		
4		14	8	4	4		15	0	2		
5		18	4	5	5		18	9	2		
6		22	0	6	6		22	6	3		
7		25	8	7	7		26	3	3		
8		29	4	8	8		30	0	4		
9		33	0	9	9		33	9	5		
10		36	8	10	10		37	6	5		
11		40	4	11	11		41	3	6		
12		44	1	0	12		45	0	6		
13		47	9	1	13		48	9	7		
14		51	5	2	14		52	6	7		
15		55	1	3	15		56	3	8		
16		58	9	4	16		60	0	9		
17		62	5	5	17		63	9	9		
18		66	1	6	18		67	6	10		
19		69	9	7	19		71	3	10		
20		73	5	8	20		75	0	11		
21		77	1	9	21		78	9	11		
22		80	9	10	22		82	7	0		
23		84	5	11	23		86	4	0		
24		88	2	0	24		90	1	1		
25		91	10	1	25		93	10	2		
26		95	6	2	26		97	7	2		
27		99	2	3	27		101	4	3		
28		102	10	4	28		105	1	3		
29		106	6	5	29		108	10	4		
30		110	2	6	30		112	7	4		
31		113	10	7	31		116	4	5		
32		117	6	8	32		120	1	6		
33		121	2	9	33		123	10	6		
34		124	10	10	34		127	7	7		
35		128	6	11	35		131	4	7		
36		132	3	0	36		135	1	8		
37		135	11	1	37		138	10	8		
38		139	7	2	38		142	7	9		
39		143	3	3	39		146	4	9		
40		146	11	4	40		150	1	10		
41		150	7	5	41		153	10	11		
42		154	3	6	42		157	7	11		
43		157	11	7	43		161	5	0		
44		161	7	8	44		165	2	0		
45		165	3	9	45		168	11	1		
¼ FT.		FT.	IN.	PA.	S.	¼ FT.		FT.	IN.	PA.	S.
¼		0	11	0	3	¼		0	11	3	0
½		1	10	0	6	½		1	10	6	0
¾		2	9	0	9	¾		2	9	9	0

SIDE 23½ IN.				SIDE 23¼ IN.				
FT.	FT. IN. PA.			FT.	FT. IN. PA.			
LNQ.				LNQ.				
1	3	10	0	1	3	11	0	
2	7	8	0	2	7	10	0	
3	11	0	0	3	11	9	0	
4	15	4	1	4	15	8	0	
5	19	2	1	5	19	7	0	
6	23	0	1	6	23	6	0	
7	26	10	1	7	27	5	0	
8	30	8	2	8	31	4	0	
9	34	6	2	9	35	3	0	
10	38	4	2	10	39	2	0	
11	42	2	2	11	43	1	0	
12	46	0	3	12	47	0	0	
13	49	10	3	13	50	11	0	
14	53	8	3	14	54	10	0	
15	57	6	3	15	58	9	0	
16	61	4	4	16	62	8	1	
17	65	2	4	17	66	7	1	
18	69	0	4	18	70	6	1	
19	72	10	4	19	74	5	1	
20	76	8	5	20	78	4	1	
21	80	6	5	21	82	3	1	
22	84	4	5	22	86	2	1	
23	88	2	5	23	90	1	1	
24	92	0	6	24	94	0	1	
25	95	10	6	25	97	11	1	
26	99	8	6	26	101	10	1	
27	103	6	6	27	105	9	1	
28	107	4	7	28	109	8	1	
29	111	2	7	29	113	7	1	
30	115	0	7	30	117	6	1	
31	118	10	7	31	121	5	1	
32	122	8	8	32	125	4	2	
33	126	6	8	33	129	3	2	
34	130	4	8	34	133	2	2	
35	134	2	8	35	137	1	2	
36	138	0	9	36	141	0	2	
37	141	10	9	37	144	11	2	
38	145	8	9	38	148	10	2	
39	149	6	9	39	152	9	2	
40	153	4	10	40	156	8	2	
41	157	2	10	41	160	7	2	
42	161	0	10	42	164	6	2	
43	164	10	10	43	168	5	2	
44	168	8	11	44	172	4	2	
45	172	6	11	45	176	3	2	
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.			
½	0	11	6	0	0	11	9	0
¾	1	11	0	0	1	11	6	0
1	2	10	6	0	2	11	3	0

SIDE 24 IN.				SIDE 24½ IN.					
PT.	.....			PT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	4	0	0	1	4	1	0		
2	8	0	0	2	8	2	0		
3	12	0	0	3	12	3	0		
4	16	0	0	4	16	4	0		
5	20	0	0	5	20	5	0		
6	24	0	0	6	24	6	0		
7	28	0	0	7	28	7	0		
8	32	0	0	8	32	8	0		
9	36	0	0	9	36	0	0		
10	40	0	0	10	40	10	0		
11	44	0	0	11	44	11	0		
12	48	0	0	12	49	0	0		
13	52	0	0	13	53	1	0		
14	56	0	0	14	57	2	0		
15	60	0	0	15	61	3	0		
16	64	0	0	16	65	4	1		
17	68	0	0	17	69	5	1		
18	72	0	0	18	73	6	1		
19	76	0	0	19	77	7	1		
20	80	0	0	20	81	8	1		
21	84	0	0	21	85	9	1		
22	88	0	0	22	89	10	1		
23	92	0	0	23	93	11	1		
24	96	0	0	24	98	0	1		
25	100	0	0	25	102	1	1		
26	104	0	0	26	106	2	1		
27	108	0	0	27	110	3	1		
28	112	0	0	28	114	4	1		
29	116	0	0	29	118	5	1		
30	120	0	0	30	122	6	1		
31	124	0	0	31	126	7	1		
32	128	0	0	32	130	8	2		
33	132	0	0	33	134	9	2		
34	136	0	0	34	138	10	2		
35	140	0	0	35	142	11	2		
36	144	0	0	36	147	0	2		
37	148	0	0	37	151	1	2		
38	152	0	0	38	155	2	2		
39	156	0	0	39	159	3	2		
40	160	0	0	40	163	4	2		
41	164	0	0	41	167	5	2		
42	168	0	0	42	171	6	2		
43	172	0	0	43	175	7	2		
44	176	0	0	44	179	8	2		
45	180	0	0	45	183	9	2		
.....				.....					
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	0	0	0	¼	1	0	3	0
½	2	0	0	0	½	2	0	6	0
¾	3	0	0	0	¾	3	0	9	0



FT. LNG.	SIDE 24½ IN.			FT. LNG.	SIDE 24¼ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	4	2	0	1	4	3	0		
2	8	4	0	2	8	6	1		
3	12	6	0	3	12	9	1		
4	16	8	1	4	17	0	2		
5	20	10	1	5	21	3	2		
6	25	0	1	6	25	6	3		
7	29	2	1	7	29	9	3		
8	33	4	2	8	34	0	4		
9	37	6	2	9	38	3	5		
10	41	8	2	10	42	6	5		
11	45	10	2	11	46	9	6		
12	50	0	3	12	51	0	6		
13	54	2	3	13	55	3	7		
14	58	4	3	14	59	6	7		
15	62	6	3	15	63	9	8		
16	66	8	4	16	68	0	9		
17	70	10	4	17	72	3	9		
18	75	0	4	18	76	6	10		
19	79	2	4	19	80	9	10		
20	83	4	5	20	85	0	11		
21	87	6	5	21	89	3	11		
22	91	8	5	22	93	7	0		
23	95	10	5	23	97	10	0		
24	100	0	6	24	102	1	1		
25	104	2	6	25	106	4	2		
26	108	4	6	26	110	7	2		
27	112	6	6	27	114	10	3		
28	116	8	7	28	119	1	3		
29	120	10	7	29	123	4	4		
30	125	0	7	30	127	7	4		
31	129	2	7	31	132	0	5		
32	133	4	8	32	136	1	6		
33	137	6	8	33	140	4	6		
34	141	8	8	34	144	7	7		
35	145	10	8	35	148	10	7		
36	150	0	9	36	153	1	8		
37	154	2	9	37	157	4	8		
38	158	4	9	38	161	7	9		
39	162	6	9	39	165	10	9		
40	166	8	10	40	170	1	10		
41	170	10	10	41	174	4	11		
42	175	0	10	42	178	7	11		
43	179	2	10	43	182	11	0		
44	183	4	11	44	187	2	0		
45	187	6	11	45	191	5	1		
-----				-----					
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
1	1	0	6	0	1	1	0	9	0
1	2	1	0	0	1	2	1	6	0
1	3	1	6	0	1	3	2	3	0

FT. LNG.	SIDE 25 IN.			FT. LNG.	SIDE 25½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	4	4	1	1	4	5	1		
2	8	8	2	2	8	10	3		
3	13	0	3	3	13	3	4		
4	17	4	4	4	17	8	6		
5	21	8	5	5	22	1	7		
6	26	0	6	6	26	6	9		
7	30	4	7	7	30	11	10		
8	34	8	8	8	35	5	0		
9	39	0	9	9	39	10	2		
10	43	4	10	10	44	3	3		
11	47	8	11	11	48	8	5		
12	52	1	0	12	53	1	6		
13	56	5	1	13	57	6	8		
14	60	9	2	14	61	11	9		
15	65	1	3	15	66	4	11		
16	69	5	4	16	70	10	1		
17	73	9	5	17	75	3	2		
18	78	1	6	18	79	8	4		
19	82	5	7	19	84	1	5		
20	86	9	8	20	88	6	7		
21	91	1	9	21	92	11	8		
22	95	5	10	22	97	4	10		
23	99	9	11	23	101	9	11		
24	104	2	0	24	106	3	1		
25	108	6	1	25	110	8	3		
26	112	10	2	26	115	1	4		
27	117	2	3	27	119	6	6		
28	121	6	4	28	123	11	7		
29	125	10	5	29	128	4	9		
30	130	2	6	30	132	9	10		
31	134	6	7	31	137	3	0		
32	138	10	8	32	141	8	2		
33	143	2	9	33	146	1	3		
34	147	6	10	34	150	6	5		
35	151	10	11	35	154	11	6		
36	156	3	0	36	159	4	8		
37	160	7	1	37	163	9	9		
38	164	11	2	38	168	2	11		
39	169	3	3	39	172	8	0		
40	173	7	4	40	177	1	2		
41	177	11	5	41	181	6	4		
42	182	3	6	42	185	11	5		
43	186	7	7	43	190	4	7		
44	190	11	8	44	194	9	8		
45	195	3	9	45	199	2	10		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	1	0	3	¼	1	1	3	3
½	2	2	0	6	½	2	2	6	6
¾	3	3	0	9	¾	3	3	9	9

SIDE 25½ IN.				SIDE 25½ IN.			
PT.	FT. IN. PA.			PT.	FT. IN. PA.		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	4	6	2	1	4	7	3
2	9	0	4	2	9	2	6
3	13	6	6	3	13	9	9
4	18	0	9	4	18	5	0
5	22	6	11	5	23	0	3
6	27	1	1	6	27	7	6
7	31	7	3	7	32	2	9
8	36	1	6	8	36	10	0
9	40	7	8	9	41	5	3
10	45	1	10	10	46	0	6
11	49	8	0	11	50	7	9
12	54	2	3	12	55	3	0
13	58	8	5	13	59	10	3
14	63	2	7	14	64	5	6
15	67	8	9	15	69	0	9
16	72	3	0	16	73	8	1
17	76	9	2	17	78	3	4
18	81	3	4	18	82	10	7
19	85	9	6	19	87	5	10
20	90	3	9	20	92	1	1
21	94	9	11	21	96	8	4
22	99	4	1	22	101	3	7
23	103	10	3	23	105	10	10
24	108	4	6	24	110	6	1
25	112	10	8	25	115	1	4
26	117	4	10	26	119	8	7
27	121	11	0	27	124	3	10
28	126	5	2	28	128	11	1
29	130	11	5	29	133	6	4
30	135	5	7	30	138	1	7
31	139	11	9	31	142	8	10
32	144	6	0	32	147	4	2
33	149	0	2	33	151	11	5
34	153	6	4	34	156	6	8
35	158	0	6	35	161	1	11
36	162	6	9	36	165	9	2
37	167	0	11	37	170	4	5
38	171	7	1	38	174	11	8
39	176	1	3	39	179	6	11
40	180	7	6	40	184	2	2
41	185	1	8	41	188	9	5
42	189	7	10	42	193	4	8
43	194	2	0	43	197	11	11
44	198	8	3	44	202	7	2
45	203	2	5	45	207	2	5
¼ FT.				¼ FT.			
¼	1	1	6 6	¼	1	1	9 9
½	2	3	1 0	½	2	3	7 6
¾	3	4	7 6	¾	3	5	5 3

		SIDE 26 IN.					SIDE 26½ IN.				
FT.	LNG.	FT.	IN.	PA.	FT.	LNG.	FT.	IN.	PA.		
1		4	8	4	1		4	9	5		
2		9	4	8	2		9	6	10		
3		14	1	0	3		14	4	3		
4		18	9	4	4		19	1	8		
5		23	5	8	5		23	11	1		
6		28	2	0	6		28	8	6		
7		32	10	4	7		33	5	11		
8		37	6	8	8		38	3	4		
9		42	3	0	9		43	0	9		
10		46	11	4	10		47	10	2		
11		51	7	8	11		52	7	7		
12		56	4	0	12		57	5	0		
13		61	0	4	13		62	2	5		
14		65	8	8	14		66	11	10		
15		70	5	0	15		71	9	3		
16		75	1	4	16		76	6	9		
17		79	9	8	17		81	4	2		
18		84	6	0	18		86	1	7		
19		89	2	4	19		90	11	0		
20		93	10	8	20		95	8	5		
21		98	7	0	21		100	5	10		
22		103	3	4	22		105	3	3		
23		107	11	8	23		110	0	8		
24		112	8	0	24		114	10	1		
25		117	4	4	25		119	7	6		
26		122	0	8	26		124	4	11		
27		126	9	0	27		129	2	4		
28		131	5	4	28		133	11	9		
29		136	1	8	29		138	9	2		
30		140	10	0	30		143	6	7		
31		145	6	4	31		148	4	0		
32		150	2	8	32		153	1	5		
33		154	11	0	33		157	10	11		
34		159	7	4	34		162	8	4		
35		164	3	8	35		167	5	9		
36		169	0	0	36		172	3	2		
37		173	8	4	37		177	0	7		
38		178	4	8	38		181	10	0		
39		183	1	0	39		186	7	5		
40		187	9	4	40		191	4	10		
41		192	5	8	41		196	2	3		
42		197	2	0	42		200	11	8		
43		201	10	4	43		205	9	1		
44		206	6	8	44		210	6	6		
45		211	3	0	45		215	3	11		
¼ FT.		FT.	IN.	PA.	S.	¼ FT.		FT.	IN.	PA.	S.
¼		1	2	1	0	¼		1	2	4	3
½		2	4	2	0	½		2	4	8	6
¾		3	6	3	0	¾		3	7	0	9

SIDE 26½ IN.				SIDE 26¼ IN.					
PT.	FT. IN. PA.			PT.	FT. IN. PA.				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	4	10	6	1	4	11	7		
2	9	9	0	2	9	11	3		
3	14	7	6	3	14	10	10		
4	19	0	1	4	19	10	6		
5	24	4	7	5	24	10	1		
6	29	3	1	6	29	9	0		
7	34	1	7	7	34	9	4		
8	39	0	2	8	39	9	0		
9	44	10	8	9	44	8	8		
10	48	9	2	10	49	8	3		
11	53	7	8	11	54	7	11		
12	58	6	3	12	59	7	6		
13	63	4	9	13	64	7	2		
14	68	3	3	14	69	6	9		
15	73	1	9	15	74	6	5		
16	78	0	4	16	79	6	1		
17	82	10	10	17	84	5	8		
18	87	9	1	18	89	5	4		
19	92	7	10	19	94	4	11		
20	97	6	5	20	99	4	7		
21	102	4	11	21	104	4	2		
22	107	3	5	22	109	3	10		
23	112	1	11	23	114	3	5		
24	117	0	6	24	119	3	1		
25	121	11	0	25	124	2	9		
26	126	9	6	26	129	2	4		
27	131	8	0	27	134	2	0		
28	136	6	7	28	139	1	7		
29	141	5	1	29	144	1	3		
30	146	3	7	30	149	0	10		
31	151	2	1	31	154	0	6		
32	156	0	8	32	159	0	2		
33	160	11	2	33	163	11	9		
34	165	9	8	34	168	11	5		
35	170	8	2	35	173	11	0		
36	175	6	9	36	178	10	8		
37	180	5	3	37	183	10	3		
38	185	3	9	38	188	9	11		
39	190	2	3	39	193	9	6		
40	195	0	10	40	198	9	2		
41	199	11	4	41	203	8	10		
42	204	9	10	42	208	8	5		
43	209	8	4	43	213	8	1		
44	214	6	11	44	218	7	8		
45	219	5	5	45	223	7	4		
-----				-----					
¼ PT.	PT. IN. PA. S.			¼ PT.	PT. IN. PA. S.				
½	1	2	7	6	½	1	2	10	9
¾	2	5	3	0	¾	2	5	0	6
1	3	7	10	6	1	3	8	8	3

FT. LNG.	SIDE 27 IN.			FT. LNG.	SIDE 27½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	5	0	9	1	5	1	10		
2	10	1	6	2	10	3	9		
3	15	2	3	3	15	5	7		
4	20	3	0	4	20	7	6		
5	25	3	9	5	25	9	4		
6	30	4	6	6	30	11	3		
7	35	5	3	7	36	1	1		
8	40	6	0	8	41	3	0		
9	45	6	9	9	46	4	11		
10	50	7	6	10	51	6	9		
11	55	8	3	11	56	8	8		
12	60	9	0	12	61	10	6		
13	65	9	9	13	67	0	5		
14	70	10	6	14	72	2	3		
15	75	11	3	15	77	4	2		
16	81	0	0	16	82	6	1		
17	86	0	9	17	87	7	11		
18	91	1	6	18	92	9	10		
19	96	2	3	19	97	11	8		
20	101	3	0	20	103	1	7		
21	106	3	9	21	108	3	5		
22	111	4	6	22	113	5	4		
23	116	5	3	23	118	7	3		
24	121	6	0	24	123	9	1		
25	126	6	9	25	128	11	0		
26	131	7	6	26	134	0	10		
27	136	8	3	27	139	2	9		
28	141	9	0	28	144	4	7		
29	146	9	9	29	149	6	6		
30	151	10	6	30	154	8	4		
31	156	11	3	31	159	10	3		
32	162	0	0	32	165	0	2		
33	167	0	9	33	170	2	0		
34	172	1	6	34	175	3	11		
35	177	2	3	35	180	5	9		
36	182	3	0	36	185	7	8		
37	187	3	9	37	190	9	6		
38	192	4	6	38	195	11	5		
39	197	5	3	39	201	1	3		
40	202	6	0	40	206	3	2		
41	207	6	9	41	211	5	1		
42	212	7	6	42	216	6	11		
43	217	8	3	43	221	8	10		
44	222	9	0	44	226	10	8		
45	227	9	9	45	232	0	7		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	3	2	3	¼	1	3	5	6
½	2	6	4	6	½	2	6	11	0
¾	3	9	6	9	¾	3	10	4	6

SIDE 27½ IN.				SIDE 27¼ IN.					
FT.	LNG.			FT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	5	3	0	1	5	4	2		
2	10	6	0	2	10	8	4		
3	15	9	0	3	16	0	6		
4	21	0	1	4	21	4	8		
5	26	3	1	5	26	8	10		
6	31	6	1	6	32	1	0		
7	36	9	1	7	37	5	2		
8	42	0	2	8	42	9	4		
9	47	3	2	9	48	1	6		
10	52	6	2	10	53	5	8		
11	57	9	2	11	58	9	10		
12	63	0	3	12	64	2	0		
13	68	3	3	13	69	6	2		
14	73	6	3	14	74	10	4		
15	78	9	3	15	80	2	6		
16	84	0	4	16	85	6	9		
17	89	3	4	17	90	10	11		
18	94	6	4	18	96	3	1		
19	99	9	4	19	101	7	3		
20	105	0	5	20	106	11	5		
21	110	3	5	21	112	3	7		
22	115	6	5	22	117	7	9		
23	120	9	5	23	122	11	11		
24	127	0	6	24	128	4	1		
25	131	3	6	25	133	8	3		
26	136	6	6	26	139	0	5		
27	141	9	6	27	144	4	7		
28	147	0	7	28	149	8	9		
29	152	3	7	29	155	0	11		
30	157	6	7	30	160	5	1		
31	162	9	7	31	165	9	3		
32	168	0	8	32	171	1	6		
33	173	3	8	33	176	5	8		
34	178	6	8	34	181	9	10		
35	183	9	8	35	187	2	0		
36	189	0	9	36	192	6	2		
37	194	3	9	37	197	10	4		
38	199	6	9	38	203	2	6		
39	204	9	9	39	209	6	8		
40	210	0	10	40	213	10	10		
41	215	3	10	41	219	3	0		
42	220	6	10	42	224	7	2		
43	225	9	10	43	229	11	4		
44	231	0	11	44	235	3	6		
45	236	3	11	45	240	7	8		
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
½	1	3	9	0	½	1	4	0	6
¾	2	7	6	0	¾	2	8	1	0
1	3	11	3	0	1	4	0	1	6

FT. LNG.	SIDE 28 IN.			FT. LNG.	SIDE 28½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	5	5	4	1	5	6	6		
2	10	10	8	2	11	1	0		
3	16	4	0	3	16	7	6		
4	21	9	4	4	22	2	0		
5	27	2	8	5	27	8	6		
6	32	8	0	6	33	3	0		
7	38	1	4	7	38	9	6		
8	43	6	8	8	44	4	0		
9	49	0	0	9	49	10	6		
10	54	5	4	10	55	5	0		
11	59	10	8	11	60	11	6		
12	65	4	0	12	66	6	0		
13	70	9	4	13	72	0	6		
14	76	2	8	14	77	7	0		
15	81	8	0	15	83	1	6		
16	87	1	4	16	88	8	1		
17	92	6	8	17	94	2	7		
18	98	0	0	18	99	9	1		
19	103	5	4	19	105	3	7		
20	108	10	8	20	110	10	1		
21	114	4	0	21	116	4	7		
22	119	9	4	22	121	11	1		
23	125	2	8	23	127	5	7		
24	130	8	0	24	133	0	1		
25	136	1	4	25	138	6	7		
26	141	6	8	26	144	1	1		
27	147	0	0	27	149	7	7		
28	152	5	4	28	155	2	1		
29	157	10	8	29	160	8	7		
30	163	4	0	30	166	3	1		
31	168	9	4	31	171	9	7		
32	174	2	8	32	177	4	2		
33	179	8	0	33	182	10	8		
34	185	1	4	34	188	5	2		
35	190	6	8	35	193	11	8		
36	196	0	0	36	199	6	2		
37	201	5	4	37	205	0	8		
38	206	10	8	38	210	7	2		
39	212	4	0	39	216	1	8		
40	217	9	4	40	221	8	2		
41	223	2	8	41	227	2	8		
42	228	8	0	42	232	9	2		
43	234	1	4	43	238	3	8		
44	239	6	8	44	243	10	2		
45	245	0	0	45	249	4	8		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	4	4	0	¼	1	4	7	6
½	2	8	8	0	½	2	9	3	0
¾	4	1	0	0	¾	4	1	10	6



FT. LNG.	SIDE 28½ IN.			FT. LNG.	SIDE 28¾ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	5	7	8	1	5	8	10		
2	11	3	4	2	11	5	9		
3	16	11	0	3	17	2	7		
4	22	6	9	4	22	11	6		
5	28	2	5	5	28	8	4		
6	33	10	1	6	34	5	3		
7	39	5	9	7	40	2	1		
8	45	1	6	8	45	11	0		
9	50	9	2	9	51	7	11		
10	56	4	10	10	57	4	9		
11	62	0	6	11	63	1	8		
12	67	8	3	12	68	10	6		
13	73	3	11	13	74	7	5		
14	78	11	7	14	80	4	3		
15	84	7	3	15	86	1	2		
16	90	3	0	16	91	10	1		
17	95	10	8	17	97	6	11		
18	101	6	4	18	103	3	10		
19	107	2	0	19	109	0	8		
20	112	9	9	20	114	9	7		
21	118	5	5	21	120	6	5		
22	124	1	1	22	126	3	4		
23	129	8	9	23	132	0	2		
24	135	4	6	24	137	9	1		
25	141	0	2	25	143	6	0		
26	146	7	10	26	149	2	10		
27	152	3	6	27	154	11	9		
28	157	11	3	28	160	8	7		
29	163	6	11	29	166	5	6		
30	169	2	7	30	172	2	4		
31	174	10	3	31	177	11	3		
32	180	6	0	32	183	8	2		
33	186	1	8	33	189	5	0		
34	191	9	4	34	195	1	11		
35	197	5	0	35	200	10	9		
36	203	0	9	36	206	7	8		
37	208	8	5	37	212	4	6		
38	214	4	1	38	218	1	5		
39	219	11	9	39	223	10	3		
40	225	7	6	40	229	7	2		
41	231	3	2	41	235	4	1		
42	236	10	10	42	241	0	11		
43	242	6	6	43	246	9	10		
44	248	2	3	44	252	6	9		
45	253	9	11	45	258	3	8		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	4	11	0	¼	1	5	2	6
½	2	9	10	6	½	2	10	5	0
¾	4	2	9	0	¾	4	3	7	6

SIDE 29 IN.				SIDE 29½ IN.			
FT.	.....			FT.	.....		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	5	10	1	1	5	11	3
2	11	8	2	2	11	10	7
3	17	6	3	3	17	9	10
4	23	4	4	4	23	9	2
5	29	2	5	5	29	8	5
6	35	0	6	6	35	7	9
7	40	10	7	7	41	7	0
8	46	8	8	8	47	6	4
9	52	6	9	9	53	5	8
10	58	4	10	10	59	4	11
11	64	2	11	11	65	4	3
12	70	1	0	12	71	3	6
13	75	11	1	13	77	2	10
14	81	9	2	14	83	2	1
15	87	7	3	15	89	1	5
16	93	5	4	16	95	0	9
17	99	3	5	17	101	0	0
18	105	1	6	18	106	11	4
19	110	11	7	19	112	10	7
20	116	9	8	20	118	9	11
21	122	7	9	21	124	9	2
22	128	5	10	22	130	8	6
23	134	3	11	23	136	7	9
24	140	2	0	24	142	7	1
25	146	0	1	25	148	6	5
26	151	10	2	26	154	5	8
27	157	8	3	27	160	5	0
28	163	6	4	28	166	4	3
29	169	4	5	29	172	3	7
30	175	2	6	30	178	2	10
31	181	0	7	31	184	2	2
32	186	10	8	32	190	1	6
33	192	8	9	33	196	0	9
34	198	6	10	34	202	0	1
35	204	4	11	35	207	11	4
36	210	3	0	36	213	10	8
37	216	1	1	37	219	9	11
38	221	11	2	38	225	9	3
39	227	9	3	39	231	8	6
40	233	7	4	40	237	7	10
41	239	5	5	41	243	7	2
42	245	3	6	42	249	6	5
43	251	1	7	43	255	5	9
44	256	11	8	44	261	5	0
45	262	9	9	45	267	4	4

½ FT.	.....			½ FT.	.....				
FT.	IN.	PA.	S.	FT.	IN.	PA.	S.		
½	1	5	6	3	½	1	5	9	9
¾	2	11	0	6	¾	2	11	7	6
1	4	4	6	9	1	4	5	5	3

FT. LNG.	SIDE 29½ IN.			FT. LNG.	SIDE 29½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	6	0	6	1	6	1	9		
2	12	1	0	2	12	3	6		
3	18	1	6	3	18	5	3		
4	24	2	1	4	24	7	0		
5	30	2	7	5	30	8	9		
6	36	3	1	6	36	10	6		
7	42	3	7	7	43	0	3		
8	48	4	2	8	49	2	0		
9	54	4	8	9	55	3	9		
10	60	5	2	10	61	5	6		
11	66	5	8	11	67	7	3		
12	72	6	3	12	73	9	0		
13	78	6	9	13	79	10	9		
14	84	7	3	14	86	0	6		
15	90	7	9	15	92	2	3		
16	96	8	4	16	98	4	1		
17	102	8	10	17	104	5	10		
18	108	9	4	18	110	7	7		
19	114	9	10	19	116	9	4		
20	120	10	5	20	122	11	1		
21	126	10	11	21	129	0	10		
22	132	11	5	22	135	2	7		
23	138	11	11	23	141	4	4		
24	145	0	6	24	147	6	1		
25	151	1	0	25	153	7	10		
26	157	1	6	26	159	9	7		
27	163	2	0	27	165	11	4		
28	169	2	7	28	172	1	1		
29	175	3	1	29	178	2	10		
30	181	3	7	30	184	4	7		
31	187	4	1	31	190	6	4		
32	193	4	8	32	196	8	2		
33	199	5	2	33	202	9	11		
34	205	5	8	34	208	11	8		
35	211	6	2	35	215	1	5		
36	217	6	9	36	221	3	2		
37	223	7	3	37	227	4	11		
38	229	7	9	38	233	6	8		
39	235	8	3	39	239	8	5		
40	241	8	10	40	245	10	2		
41	247	9	4	41	251	11	11		
42	253	9	10	42	258	1	8		
43	259	10	4	43	264	3	5		
44	265	10	11	44	270	5	2		
45	271	11	5	45	276	6	11		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	6	1	6	¼	1	6	5	3
½	3	0	3	0	½	3	0	10	6
¾	4	6	4	6	¾	4	7	3	9

FT. LNG.	SIDE 30 IN.			FT. LNG.	SIDE 30½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	6	3	0	1	6	4	3		
2	12	6	0	2	12	8	6		
3	18	9	0	3	19	0	9		
4	25	0	0	4	25	5	0		
5	31	3	0	5	31	9	3		
6	37	6	0	6	38	1	6		
7	43	9	0	7	44	5	9		
8	50	0	0	8	50	10	0		
9	56	3	0	9	57	2	3		
10	62	6	0	10	63	6	6		
11	68	9	0	11	69	10	9		
12	75	0	0	12	76	3	0		
13	81	3	0	13	82	7	3		
14	87	6	0	14	88	11	6		
15	93	9	0	15	95	3	9		
16	100	0	0	16	101	8	1		
17	106	3	0	17	108	0	4		
18	112	6	0	18	114	4	7		
19	118	9	0	19	120	8	10		
20	125	0	0	20	127	1	1		
21	131	3	0	21	133	5	4		
22	137	6	0	22	139	9	7		
23	143	9	0	23	146	1	10		
24	150	0	0	24	152	6	1		
25	156	3	0	25	158	10	4		
26	162	6	0	26	165	2	7		
27	168	9	0	27	171	6	10		
28	175	0	0	28	177	11	1		
29	181	3	0	29	184	3	4		
30	187	6	0	30	190	7	7		
31	193	9	0	31	196	11	10		
32	200	0	0	32	203	4	2		
33	206	3	0	33	209	8	5		
34	212	6	0	34	216	0	8		
35	218	9	0	35	222	4	11		
36	225	0	0	36	228	9	2		
37	231	3	0	37	235	1	5		
38	237	6	0	38	241	5	8		
39	243	9	0	39	247	9	11		
40	250	0	0	40	254	2	2		
41	256	3	0	41	260	6	5		
42	262	6	0	42	266	10	8		
43	268	9	0	43	273	2	11		
44	275	0	0	44	279	7	2		
45	281	3	0	45	285	11	5		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	6	9	0	¼	1	7	0	9
½	3	1	6	0	½	3	2	1	6
¾	4	8	3	0	¾	4	9	2	3

SIDE 30½ IN.				SIDE 30¼ IN.			
FT.	LNG.			FT.	LNG.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	6	5	6	1	6	6	9
2	12	11	0	2	13	1	7
3	19	4	6	3	19	8	4
4	25	10	1	4	26	3	2
5	32	3	7	5	32	9	11
6	38	9	1	6	39	4	9
7	45	2	7	7	45	11	6
8	51	8	2	8	52	6	4
9	58	1	8	9	59	1	2
10	64	7	2	10	65	7	11
11	71	0	8	11	72	2	9
12	77	6	3	12	78	9	0
13	83	11	9	13	85	4	4
14	90	5	3	14	91	11	1
15	96	10	9	15	98	5	11
16	103	4	4	16	105	0	9
17	109	9	10	17	111	7	6
18	116	3	4	18	118	2	4
19	122	8	10	19	124	9	1
20	129	2	5	20	131	3	11
21	135	7	11	21	137	10	8
22	142	1	5	22	144	5	6
23	148	6	11	23	151	0	3
24	155	0	6	24	157	7	1
25	161	6	0	25	164	1	11
26	167	11	6	26	170	8	8
27	174	5	0	27	177	3	6
28	180	10	7	28	183	10	3
29	187	4	1	29	190	5	1
30	193	9	7	30	196	11	10
31	200	3	1	31	203	6	8
32	206	8	8	32	210	1	6
33	213	2	2	33	216	8	3
34	219	7	8	34	223	3	1
35	226	1	2	35	229	9	10
36	232	6	9	36	236	4	8
37	239	0	3	37	242	11	5
38	245	5	9	38	249	6	3
39	251	11	3	39	256	1	0
40	258	4	10	40	262	7	10
41	264	10	4	41	269	2	8
42	271	3	10	42	275	9	5
43	277	9	4	43	282	4	3
44	284	2	11	44	288	11	0
45	290	8	5	45	295	5	10

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	1	7	4	6	¼	1	7	8	3
½	3	2	0	0	½	3	3	4	6
¾	4	10	1	6	¾	4	11	0	9

FT. LNG.	SIDE 31 IN.			FT. LNG.	SIDE 31½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	6	8	1	1	6	9	4		
2	13	4	2	2	13	6	9		
3	20	0	3	3	20	4	1		
4	26	8	4	4	27	1	6		
5	33	4	5	5	33	10	10		
6	40	0	6	6	40	8	3		
7	46	8	7	7	47	5	7		
8	53	4	8	8	54	3	0		
9	60	0	9	9	61	0	5		
10	66	8	10	10	67	9	9		
11	73	4	11	11	74	7	2		
12	80	1	0	12	81	4	6		
13	86	9	1	13	88	1	11		
14	93	5	2	14	94	11	3		
15	100	1	3	15	101	3	8		
16	106	9	4	16	108	6	1		
17	113	5	5	17	115	3	5		
18	120	1	6	18	122	0	10		
19	126	9	7	19	128	10	2		
20	133	5	8	20	135	7	7		
21	140	1	9	21	142	4	11		
22	146	9	10	22	149	2	4		
23	153	5	11	23	155	11	8		
24	160	2	0	24	162	9	1		
25	166	10	1	25	169	6	6		
26	173	6	2	26	176	3	10		
27	180	2	3	27	183	1	3		
28	186	10	4	28	189	10	7		
29	193	6	5	29	196	8	0		
30	200	2	6	30	203	5	4		
31	206	10	7	31	210	2	9		
32	213	6	8	32	217	0	2		
33	220	2	9	33	223	9	6		
34	226	10	10	34	230	6	11		
35	233	6	11	35	237	4	3		
36	240	3	0	36	244	1	8		
37	246	11	1	37	250	11	0		
38	253	7	2	38	257	8	5		
39	260	3	3	39	264	5	9		
40	266	11	4	40	271	3	2		
41	273	7	5	41	278	0	7		
42	280	3	6	42	284	9	11		
43	286	11	7	43	291	7	4		
44	293	7	8	44	298	4	8		
45	300	3	9	45	305	2	1		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	1	8	0	3	¼	1	8	4	0
½	3	4	0	6	½	3	4	8	0
¾	5	0	0	9	¾	5	1	0	0

		SIDE 31½ IN.					SIDE 31¼ IN.			
PT.	LNQ.	FT.	IN.	PA.	PT.	LNQ.	FT.	IN.	PA.	
1		6	10	8	1		7	0	0	
2		13	9	4	2		14	0	0	
3		20	8	0	3		21	0	0	
4		27	6	9	4		28	0	0	
5		34	5	5	5		35	0	0	
6		41	4	1	6		42	0	0	
7		48	2	9	7		49	0	0	
8		55	1	6	8		56	0	0	
9		62	0	2	9		63	0	0	
10		68	10	10	10		70	0	0	
11		75	9	6	11		77	0	0	
12		82	8	3	12		84	0	0	
13		89	6	11	13		91	0	0	
14		96	5	7	14		98	0	0	
15		103	4	3	15		105	0	0	
16		110	3	0	16		112	0	1	
17		117	1	8	17		119	0	1	
18		124	0	4	18		126	0	1	
19		130	11	0	19		133	0	1	
20		137	9	9	20		140	0	1	
21		144	8	5	21		147	0	1	
22		151	7	1	22		154	0	1	
23		158	5	9	23		161	0	1	
24		165	4	6	24		168	0	1	
25		172	3	2	25		175	0	1	
26		179	1	10	26		182	0	1	
27		186	0	6	27		189	0	1	
28		192	11	3	28		196	0	1	
29		199	9	11	29		203	0	1	
30		206	8	7	30		210	0	1	
31		213	7	3	31		217	0	1	
32		220	6	0	32		224	0	2	
33		227	4	8	33		231	0	2	
34		234	3	4	34		238	0	2	
35		241	2	0	35		245	0	2	
36		248	0	9	36		252	0	2	
37		254	11	5	37		259	0	2	
38		261	10	1	38		266	0	2	
39		268	8	9	39		273	0	2	
40		275	7	6	40		280	0	2	
41		282	6	2	41		287	0	2	
42		289	4	10	42		294	0	2	
43		296	3	6	43		301	0	2	
44		303	2	3	44		308	0	2	
45		310	0	11	45		315	0	2	
¼ PT.		FT.	IN.	PA.	8	¼ PT.	FT.	IN.	PA.	8.
½		1	8	8	0	½	1	9	0	0
¾		3	5	4	0	¾	3	6	0	0
1		5	2	0	0	1	5	3	0	0

PT. LNG.	SIDE 32 IN.			PT. LNG.	SIDE 32½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	7	1	4	1	7	2	8		
2	14	2	8	2	14	5	4		
3	21	4	0	3	21	8	0		
4	28	5	4	4	28	10	8		
5	35	6	8	5	36	1	4		
6	42	8	0	6	43	4	0		
7	49	9	4	7	50	6	8		
8	56	10	8	8	57	9	4		
9	64	0	0	9	65	0	0		
10	71	1	4	10	72	2	8		
11	78	2	8	11	79	5	4		
12	85	4	0	12	86	8	0		
13	92	5	4	13	93	10	8		
14	99	6	8	14	101	1	4		
15	106	8	0	15	108	4	0		
16	113	9	4	16	115	6	9		
17	120	10	8	17	122	9	5		
18	128	0	0	18	130	0	1		
19	135	1	4	19	137	2	9		
20	142	2	8	20	144	5	5		
21	149	4	0	21	151	8	1		
22	156	5	4	22	158	10	9		
23	163	6	8	23	166	1	5		
24	170	8	0	24	173	4	1		
25	177	9	4	25	180	6	9		
26	184	10	8	26	187	9	5		
27	192	0	0	27	195	0	1		
28	199	1	4	28	202	2	9		
29	206	2	8	29	209	5	5		
30	213	4	0	30	216	8	1		
31	220	5	4	31	223	10	9		
32	227	6	8	32	231	1	6		
33	234	8	0	33	238	4	2		
34	241	9	4	34	245	6	10		
35	248	10	8	35	252	9	6		
36	256	0	0	36	260	0	2		
37	263	1	4	37	267	2	10		
38	270	2	8	38	274	5	6		
39	277	4	0	39	281	8	2		
40	284	5	4	40	288	10	10		
41	291	6	8	41	296	1	6		
42	298	8	0	42	303	4	2		
43	305	9	4	43	310	6	10		
44	312	10	8	44	317	9	6		
45	320	0	0	45	325	0	2		
¼ PT.	FT.	IN.	PA.	S.	¼ PT.	FT.	IN.	PA.	S.
¼	1	9	4	0	¼	1	9	8	0
½	3	6	8	0	½	3	7	4	0
¾	5	4	0	0	¾	5	5	0	0



SIDE 32½ IN.				SIDE 32¼ IN.			
FT.	.....			FT.	.....		
LNQ.	FT.	IN.	PA.	LNQ.	FT.	IN.	PA.
1	7	4	0	1	7	5	4
2	14	8	0	2	14	10	9
3	22	0	0	3	22	4	1
4	29	4	1	4	29	9	6
5	36	8	1	5	37	2	10
6	44	0	1	6	44	8	3
7	51	4	1	7	52	1	7
8	58	8	2	8	59	7	0
9	66	0	2	9	67	0	5
10	73	4	2	10	74	5	9
11	80	8	2	11	81	11	2
12	88	0	3	12	89	4	6
13	95	4	3	13	96	9	11
14	102	8	3	14	104	3	3
15	110	0	3	15	111	8	8
16	117	4	4	16	119	2	1
17	124	8	4	17	126	7	5
18	132	0	4	18	134	0	10
19	139	4	4	19	141	6	2
20	146	8	5	20	148	11	7
21	154	0	5	21	156	4	11
22	161	4	5	22	163	10	4
23	168	8	5	23	171	3	8
24	176	0	6	24	178	9	1
25	183	4	6	25	186	2	6
26	190	8	6	26	193	7	10
27	198	0	6	27	201	1	3
28	205	4	7	28	208	6	7
29	212	8	7	29	216	0	0
30	220	0	7	30	223	5	4
31	227	4	7	31	230	10	9
32	234	8	8	32	238	4	2
33	242	0	8	33	245	9	6
34	249	4	8	34	253	2	11
35	256	8	8	35	260	8	3
36	264	0	9	36	268	1	8
37	271	4	9	37	275	7	0
38	278	8	9	38	283	0	5
39	286	0	9	39	290	5	9
40	293	4	10	40	297	11	2
41	300	8	10	41	305	4	7
42	308	0	10	42	312	9	11
43	315	4	10	43	320	3	4
44	322	8	11	44	327	8	8
45	330	0	11	45	335	2	1

¼ FT.	.....			¼ FT.	.....				
	FT.	IN.	PA.	S.	FT.	IN.	PA.	S.	
¼	1	10	0	0	¼	1	10	4	0
½	3	8	0	0	½	3	8	8	0
¾	5	6	0	0	¾	5	7	0	0

SIDE 33 IN.				SIDE 33½ IN.					
FT.	FT. IN. PA.			FT.	FT. IN. PA.				
LNG.				LNG.					
1	7	6	9	1	7	8	1		
2	15	1	6	2	15	4	3		
3	22	8	3	3	23	0	4		
4	30	3	0	4	30	8	6		
5	37	9	9	5	38	4	7		
6	45	4	6	6	46	0	9		
7	52	11	3	7	53	8	10		
8	60	6	0	8	61	5	0		
9	68	0	9	9	69	1	2		
10	75	7	6	10	76	9	3		
11	83	2	3	11	84	5	5		
12	90	9	0	12	92	1	6		
13	98	3	9	13	99	9	8		
14	105	10	6	14	107	5	9		
15	113	5	3	15	115	1	11		
16	121	0	0	16	122	10	1		
17	128	6	9	17	130	6	2		
18	136	1	6	18	138	2	4		
19	143	8	3	19	145	10	5		
20	151	3	0	20	153	6	7		
21	158	9	9	21	161	2	8		
22	166	4	6	22	168	10	10		
23	173	11	3	23	176	6	11		
24	181	6	0	24	184	3	1		
25	189	0	9	25	191	11	3		
26	196	7	6	26	199	7	4		
27	204	2	3	27	207	3	6		
28	211	9	0	28	214	11	7		
29	219	3	9	29	222	7	9		
30	228	10	6	30	230	3	10		
31	234	5	3	31	238	0	0		
32	242	0	0	32	245	8	2		
33	249	6	9	33	253	4	3		
34	257	1	6	34	261	0	5		
35	264	8	3	35	268	8	6		
36	272	3	0	36	276	4	8		
37	279	9	9	37	284	0	9		
38	287	4	6	38	291	8	11		
39	294	11	3	39	299	5	0		
40	302	6	0	40	307	1	2		
41	310	0	9	41	314	9	4		
42	317	7	6	42	322	5	5		
43	325	2	3	43	330	1	7		
44	332	9	0	44	337	9	8		
45	340	3	9	45	345	5	10		
-----				-----					
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	7	10	8	3	¼	1	11	0	3
½	3	9	4	6	½	3	10	0	6
¾	5	8	0	9	¾	5	9	0	9

SIDE 33½ IN.				SIDE 33¼ IN.			
FT.	LNG.			FT.	LNG.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	7	9	6	1	7	10	11
2	15	7	0	2	15	9	10
3	23	4	6	3	23	8	9
4	31	2	1	4	31	7	8
5	38	11	7	5	39	6	7
6	46	9	1	6	47	5	6
7	54	6	7	7	55	4	5
8	62	4	2	8	63	3	4
9	70	1	8	9	71	2	3
10	77	11	2	10	79	1	2
11	85	8	8	11	87	0	1
12	93	6	3	12	94	11	0
13	101	3	9	13	102	9	11
14	109	1	3	14	110	8	10
15	116	10	9	15	118	7	9
16	124	8	4	16	126	6	9
17	132	5	10	17	134	5	8
18	140	3	4	18	142	4	7
19	148	0	10	19	150	3	6
20	155	10	5	20	158	2	5
21	163	7	11	21	166	1	4
22	171	5	5	22	174	0	3
23	179	2	11	23	181	11	2
24	187	0	6	24	189	10	1
25	194	10	0	25	197	9	0
26	202	7	6	26	205	7	11
27	210	5	0	27	213	6	10
28	218	2	7	28	221	5	9
29	226	0	1	29	229	4	8
30	233	9	7	30	237	3	7
31	241	7	1	31	245	2	6
32	249	4	8	32	253	1	6
33	257	2	2	33	261	0	5
34	264	11	8	34	268	11	4
35	272	9	2	35	276	10	3
36	280	6	9	36	284	9	2
37	288	4	3	37	292	8	1
38	296	1	9	38	300	7	0
39	303	11	3	39	308	5	11
40	311	8	10	40	316	4	10
41	319	6	4	41	324	3	9
42	327	3	10	42	332	2	8
43	335	1	4	43	340	1	7
44	342	10	11	44	348	0	6
45	350	8	5	45	355	11	5

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	1	11	4	6	¼	1	11	8	9
½	3	10	9	0	½	3	11	5	6
¾	5	10	1	6	¾	5	11	2	3

FT. LNG.	SIDE 34 IN.			FT. LNG.	SIDE 34½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	8	0	4	1	8	1	9		
2	16	0	8	2	16	3	6		
3	24	1	0	3	24	5	3		
4	32	1	4	4	32	7	0		
5	40	1	8	5	40	8	9		
6	48	2	0	6	48	10	6		
7	56	2	4	7	57	0	3		
8	64	2	8	8	65	2	0		
9	72	3	0	9	73	3	9		
10	80	3	4	10	81	5	6		
11	88	3	8	11	89	7	3		
12	96	4	0	12	97	9	0		
13	104	4	4	13	105	10	9		
14	112	4	8	14	114	0	6		
15	120	5	0	15	122	2	4		
16	128	5	4	16	130	4	1		
17	136	5	8	17	138	5	10		
18	144	6	0	18	146	7	7		
19	152	6	4	19	154	9	4		
20	160	6	8	20	162	11	1		
21	168	7	0	21	171	0	10		
22	176	7	4	22	179	2	7		
23	184	7	8	23	187	4	4		
24	192	8	0	24	195	6	1		
25	200	8	4	25	203	7	10		
26	208	8	8	26	211	9	7		
27	216	9	0	27	219	11	4		
28	224	9	4	28	228	1	1		
29	232	9	8	29	236	2	10		
30	240	10	0	30	244	4	7		
31	248	10	4	31	252	6	4		
32	256	10	8	32	260	8	2		
33	264	11	0	33	268	9	11		
34	272	11	4	34	276	11	8		
35	280	11	8	35	285	1	5		
36	289	0	0	36	293	3	2		
37	297	0	4	37	301	4	11		
38	305	0	8	38	309	6	8		
39	313	1	0	39	317	8	5		
40	321	1	4	40	325	10	2		
41	329	1	8	41	333	11	11		
42	337	2	0	42	342	1	8		
43	345	2	4	43	350	3	5		
44	353	2	8	44	358	5	2		
45	361	3	0	45	366	6	11		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	2	0	1	0	¼	2	0	5	3
½	4	0	2	0	½	4	0	10	6
¾	6	0	3	0	¾	6	1	3	9

SIDE 34½ IN.				SIDE 34¾ IN.					
FT.	PT. IN. PA.			FT.	PT. IN. PA.				
LNG.	PT.	IN.	PA.	LNG.	PT.	IN.	PA.		
1	8	3	2	1	8	4	7		
2	16	6	4	2	16	9	3		
3	24	9	6	3	25	1	10		
4	33	0	9	4	33	6	6		
5	41	3	11	5	41	11	1		
6	49	7	1	6	50	3	9		
7	57	10	3	7	58	8	4		
8	66	1	6	8	67	1	0		
9	74	4	8	9	75	5	8		
10	82	7	10	10	83	10	3		
11	90	11	0	11	92	2	11		
12	99	2	3	12	100	7	6		
13	107	5	5	13	109	0	2		
14	115	8	7	14	117	4	9		
15	123	11	9	15	125	9	5		
16	132	3	0	16	134	2	1		
17	140	6	2	17	142	6	8		
18	148	9	4	18	150	11	4		
19	157	0	6	19	159	3	11		
20	165	3	9	20	167	8	7		
21	173	6	11	21	176	1	2		
22	181	10	1	22	184	5	10		
23	190	1	3	23	192	10	5		
24	198	4	6	24	201	3	1		
25	206	7	8	25	209	7	9		
26	214	10	10	26	218	0	4		
27	223	2	0	27	226	5	0		
28	231	5	3	28	234	9	7		
29	239	8	5	29	243	2	3		
30	247	11	7	30	251	6	10		
31	256	2	9	31	259	11	6		
32	264	6	0	32	268	4	2		
33	272	9	2	33	276	8	9		
34	281	0	4	34	285	1	5		
35	289	3	6	35	293	6	0		
36	297	6	9	36	301	10	8		
37	305	9	11	37	310	3	3		
38	314	1		38	318	7	11		
39	322	4	3	39	327	0	6		
40	330	7	6	40	335	5	2		
41	338	10	8	41	343	9	10		
42	347	1	10	42	352	2	5		
43	355	5	0	43	360	7	1		
44	363	8	3	44	369	11	8		
45	371	11	5	45	377	4	4		
-----				-----					
¼ FT.	PT.	IN.	PA.	8.	¼ FT.	PT.	IN.	PA.	8.
¼	2	0	9	6	¼	2	1	1	9
½	4	1	7	0	½	4	2	3	6
¾	6	2	4	6	¾	6	3	5	3

SIDE 35 IN.				SIDE 35½ IN.					
FT.	LNG.			FT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	8	6	1	1	8	7	6		
2	17	0	2	2	17	3	1		
3	25	6	3	3	25	10	7		
4	34	0	4	4	34	6	2		
5	42	6	5	5	43	1	8		
6	51	0	6	6	51	9	3		
7	59	6	7	7	60	4	9		
8	68	0	8	8	69	0	4		
9	76	6	9	9	77	7	11		
10	85	0	10	10	86	3	5		
11	93	6	11	11	94	11	0		
12	102	1	0	12	103	6	6		
13	110	7	1	13	112	2	1		
14	119	1	2	14	120	9	7		
15	127	7	3	15	129	5	2		
16	136	1	4	16	138	0	9		
17	144	7	5	17	146	8	3		
18	153	1	6	18	155	3	10		
19	161	7	7	19	163	11	4		
20	170	1	8	20	172	6	11		
21	178	7	9	21	181	2	5		
22	187	1	10	22	189	10	0		
23	195	7	11	23	198	5	6		
24	204	2	0	24	207	1	1		
25	212	8	1	25	215	8	8		
26	221	2	2	26	224	4	2		
27	229	8	3	27	232	11	9		
28	238	2	4	28	241	7	3		
29	246	8	5	29	250	2	10		
30	255	2	6	30	258	10	4		
31	263	8	7	31	267	5	11		
32	272	2	8	32	276	1	6		
33	280	8	9	33	284	9	0		
34	289	2	10	34	293	4	7		
35	297	8	11	35	302	0	1		
36	306	3	0	36	310	7	8		
37	314	9	1	37	319	3	2		
38	323	3	2	38	327	10	9		
39	331	9	3	39	336	6	3		
40	340	3	4	40	345	1	10		
41	348	9	5	41	353	9	5		
42	357	3	6	42	362	4	11		
43	365	9	7	43	371	0	6		
44	374	3	8	44	379	8	0		
45	382	9	0	45	388	3	7		
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	2	1	6	3	¼	2	1	10	6
½	4	3	0	6	½	4	3	9	0
¾	6	4	6	9	¾	6	5	7	6

SIDE 35½ IN.				SIDE 35½ IN.					
FT.	.....			FT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	8	9	0	1	8	10	6		
2	17	6	0	2	17	9	0		
3	26	3	0	3	26	7	6		
4	35	0	1	4	35	6	0		
5	43	9	1	5	44	4	6		
6	52	6	1	6	53	3	0		
7	61	3	1	7	62	1	6		
8	70	0	2	8	71	0	0		
9	78	9	2	9	79	10	6		
10	87	6	2	10	88	9	0		
11	96	3	2	11	97	7	6		
12	105	0	3	12	106	6	0		
13	113	9	3	13	115	4	6		
14	122	6	3	14	124	3	0		
15	131	3	3	15	133	1	6		
16	140	0	4	16	142	0	1		
17	148	9	4	17	150	10	7		
18	157	6	4	18	159	9	1		
19	166	3	4	19	168	7	7		
20	175	0	5	20	177	6	1		
21	183	9	5	21	186	4	7		
22	192	6	5	22	195	3	1		
23	201	3	5	23	204	1	7		
24	210	0	6	24	213	0	1		
25	218	9	6	25	221	10	7		
26	227	6	6	26	230	9	1		
27	236	3	6	27	239	7	7		
28	245	0	7	28	248	6	1		
29	253	9	7	29	257	4	7		
30	262	6	7	30	266	3	1		
31	271	3	7	31	275	1	7		
32	280	0	8	32	284	0	2		
33	288	9	8	33	292	10	8		
34	297	6	8	34	301	9	2		
35	306	3	8	35	310	7	8		
36	315	0	9	36	319	6	2		
37	323	9	9	37	328	4	8		
38	332	6	9	38	337	3	2		
39	341	3	9	39	346	1	8		
40	350	0	10	40	355	0	2		
41	358	9	10	41	363	10	8		
42	367	6	10	42	372	9	2		
43	376	3	10	43	381	7	8		
44	385	0	11	44	390	6	2		
45	393	9	11	45	399	4	8		
¼ FT.	.....			¼ FT.	.....				
	FT.	IN.	PA.	S.	FT.	IN.	PA.	S.	
¼	2	2	3	0	¼	2	2	7	6
½	4	4	6	0	½	4	5	3	0
¾	6	6	9	0	¾	6	7	10	6

FT. LNG.	SIDE 36 IN.			FT. LNG.	SIDE 36½ IN.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	9	0	0	1	9	1	6
2	18	0	0	2	18	3	0
3	27	0	0	3	27	4	6
4	36	0	0	4	36	6	0
5	45	0	0	5	45	7	6
6	54	0	0	6	54	9	0
7	63	0	0	7	63	10	6
8	72	0	0	8	73	0	0
9	81	0	0	9	82	1	6
10	90	0	0	10	91	3	0
11	99	0	0	11	100	4	6
12	108	0	0	12	109	6	0
13	117	0	0	13	118	7	6
14	126	0	0	14	127	9	0
15	135	0	0	15	136	10	6
16	144	0	0	16	146	0	1
17	153	0	0	17	155	1	7
18	162	0	0	18	164	3	1
19	171	0	0	19	173	4	7
20	180	0	0	20	182	6	1
21	189	0	0	21	191	7	7
22	198	0	0	22	200	9	1
23	207	0	0	23	209	10	7
24	216	0	0	24	219	0	1
25	225	0	0	25	228	1	7
26	234	0	0	26	237	3	1
27	243	0	0	27	246	4	7
28	252	0	0	28	255	6	1
29	261	0	0	29	264	7	7
30	270	0	0	30	273	9	1
31	279	0	0	31	282	10	7
32	288	0	0	32	292	0	2
33	297	0	0	33	301	1	8
34	306	0	0	34	310	3	2
35	315	0	0	35	319	4	8
36	324	0	0	36	328	6	2
37	333	0	0	37	337	7	8
38	342	0	0	38	346	9	2
39	351	0	0	39	355	10	8
40	360	0	0	40	365	0	2
41	369	0	0	41	374	1	8
42	378	0	0	42	383	3	2
43	387	0	0	43	392	4	8
44	396	0	0	44	401	6	2
45	405	0	0	45	410	7	8
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.		
¼	2	3	0 0	¼	2	3	4 6
½	4	6	0 0	½	4	6	9 0
¾	6	9	0 0	¾	6	10	1 6



SIDE 36½ IN.				SIDE 36¼ IN.					
FT.	.....			FT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	9	3	0	1	9	4	6		
2	18	6	0	2	18	9	1		
3	27	9	0	3	28	1	7		
4	37	0	1	4	37	6	2		
5	46	3	1	5	46	10	8		
6	55	6	1	6	56	3	3		
7	64	9	1	7	65	7	9		
8	74	0	2	8	75	0	4		
9	83	3	2	9	84	4	11		
10	92	6	2	10	93	9	5		
11	101	9	2	11	103	2	0		
12	111	0	3	12	112	6	6		
13	120	3	3	13	121	11	1		
14	129	6	3	14	131	3	7		
15	138	9	3	15	140	8	2		
16	148	0	4	16	150	0	9		
17	157	3	4	17	159	5	3		
18	166	6	4	18	168	9	10		
19	175	9	4	19	178	2	4		
20	185	0	5	20	187	6	11		
21	194	3	5	21	196	11	5		
22	203	6	5	22	206	4	0		
23	212	9	5	23	215	8	6		
24	222	0	6	24	225	1	1		
25	231	3	6	25	234	5	8		
26	240	6	6	26	243	10	2		
27	249	9	6	27	253	2	9		
28	259	0	7	28	262	7	3		
29	268	3	7	29	271	11	10		
30	277	6	7	30	281	4	4		
31	286	9	7	31	290	8	11		
32	296	0	8	32	300	1	6		
33	305	3	8	33	309	6	0		
34	314	6	8	34	318	10	7		
35	323	9	8	35	328	3	1		
36	333	0	9	36	337	7	8		
37	342	3	9	37	347	0	2		
38	351	6	9	38	356	4	9		
39	360	9	9	39	365	9	3		
40	370	0	10	40	375	1	10		
41	379	3	10	41	384	6	5		
42	388	6	10	42	393	10	11		
43	397	9	10	43	403	3	6		
44	407	0	11	44	412	8	0		
45	416	3	11	45	422	0	7		
¼ FT.	.....			¼ FT.	.....				
	FT.	IN.	PA.	S.	FT.	IN.	PA.	S.	
¼	2	3	9	0	¼	2	4	1	6
½	4	7	6	0	½	4	8	3	0
¾	6	11	3	0	¾	7	0	4	6

FT. LNG.	SIDE 37 IN.			FT. LNG.	SIDE 37½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	9	6	1	1	9	7	7		
2	19	0	2	2	19	3	3		
3	28	6	3	3	28	10	10		
4	38	0	4	4	38	6	6		
5	47	6	5	5	48	2	1		
6	57	0	6	6	57	9	9		
7	66	6	7	7	67	5	4		
8	76	0	8	8	77	1	0		
9	85	6	9	9	86	8	8		
10	95	0	10	10	96	4	3		
11	104	6	11	11	105	11	11		
12	114	1	0	12	115	7	6		
13	123	7	1	13	125	3	2		
14	133	1	2	14	134	10	9		
15	142	7	3	15	144	6	5		
16	152	1	4	16	154	2	1		
17	161	7	5	17	163	9	8		
18	171	1	6	18	173	5	4		
19	180	7	7	19	183	0	11		
20	190	1	8	20	192	8	7		
21	199	7	9	21	202	4	2		
22	209	1	10	22	211	11	10		
23	218	7	11	23	221	7	5		
24	228	2	0	24	231	3	1		
25	237	8	1	25	240	10	9		
26	247	2	2	26	250	6	4		
27	256	8	3	27	260	2	0		
28	266	2	4	28	269	9	7		
29	275	8	5	29	279	5	3		
30	285	2	6	30	289	0	10		
31	294	8	7	31	298	8	6		
32	304	2	8	32	308	4	2		
33	313	8	9	33	317	11	9		
34	323	2	10	34	327	7	5		
35	332	8	11	35	337	3	0		
36	342	3	0	36	346	10	8		
37	351	9	1	37	356	6	3		
38	361	3	2	38	366	1	11		
39	370	9	3	39	375	9	6		
40	380	3	4	40	385	5	2		
41	389	9	5	41	395	0	10		
42	399	3	6	42	404	8	5		
43	408	9	7	43	414	4	1		
44	418	3	8	44	423	11	8		
45	427	9	9	45	433	7	4		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	2	4	6	3	¼	2	4	10	9
½	4	9	0	6	½	4	9	9	6
¾	7	1	6	9	¾	7	2	8	3

FT. LNG.	SIDE 37½ IN.			FT. LNG.	SIDE 37¾ IN.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	9	9	2	1	9	10	9
2	19	6	4	2	19	9	6
3	29	3	6	3	29	8	3
4	39	0	9	4	39	7	0
5	49	9	11	5	41	5	9
6	59	7	1	6	59	4	6
7	68	4	3	7	69	3	3
8	79	1	6	8	79	2	0
9	87	10	8	9	89	0	9
10	97	7	10	10	98	11	6
11	107	5	0	11	108	10	3
12	117	2	3	12	118	9	0
13	126	11	5	13	128	7	9
14	136	8	7	14	138	6	6
15	146	5	9	15	148	5	3
16	156	3	0	16	158	4	1
17	166	0	2	17	168	2	10
18	175	9	4	18	178	1	7
19	185	6	6	19	188	0	4
20	195	3	9	20	197	11	1
21	205	0	11	21	207	9	10
22	214	10	1	22	217	8	7
23	224	7	3	23	227	7	4
24	234	4	6	24	237	6	1
25	244	1	8	25	247	4	10
26	253	10	10	26	257	3	7
27	263	8	0	27	267	2	4
28	273	5	3	28	277	1	1
29	283	2	5	29	286	11	10
30	292	11	7	30	296	10	7
31	302	8	9	31	306	9	4
32	312	6	0	32	316	8	2
33	322	3	2	33	326	6	11
34	332	0	4	34	336	5	8
35	341	9	6	35	346	4	5
36	351	6	9	36	356	3	2
37	361	3	11	37	366	1	11
38	371	1	1	38	376	0	8
39	380	10	3	39	385	11	5
40	390	7	6	40	395	10	2
41	400	4	8	41	405	8	11
42	410	1	10	42	415	7	8
43	419	11	0	43	425	6	5
44	429	8	3	44	435	5	2
45	439	5	5	45	445	3	11

¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	2	5	3	6	¼	2	5	8	3
½	4	10	7	0	½	4	11	4	6
¾	7	3	10	6	¾	7	5	0	9

FT. LNG.	SIDE 38 IN.			FT. LNG.	SIDE 38½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	10	0	4	1	10	1	11		
2	20	0	8	2	20	3	10		
3	30	1	0	3	30	5	9		
4	40	1	4	4	40	7	8		
5	50	1	8	5	50	9	7		
6	60	2	0	6	60	11	6		
7	70	2	4	7	71	1	5		
8	80	2	8	8	81	3	4		
9	90	3	0	9	91	5	3		
10	100	3	4	10	101	7	2		
11	110	3	8	11	111	9	1		
12	120	4	0	12	121	11	0		
13	130	4	4	13	132	0	11		
14	140	4	8	14	142	2	10		
15	150	5	0	15	152	4	9		
16	160	5	4	16	162	6	9		
17	170	5	8	17	172	8	8		
18	180	6	0	18	182	10	7		
19	190	6	4	19	193	0	6		
20	200	6	8	20	203	2	5		
21	210	7	0	21	213	4	4		
22	220	7	4	22	223	6	3		
23	230	7	8	23	233	8	2		
24	240	8	0	24	243	10	1		
25	250	8	4	25	254	0	0		
26	260	8	8	26	264	1	11		
27	270	9	0	27	274	3	10		
28	280	9	4	28	284	5	9		
29	290	9	8	29	294	7	8		
30	300	10	0	30	304	9	7		
31	310	10	4	31	314	11	6		
32	320	10	8	32	325	1	6		
33	330	11	0	33	335	3	5		
34	340	11	4	34	345	5	4		
35	350	11	8	35	355	7	3		
36	361	0	0	36	365	9	2		
37	371	0	4	37	375	11	1		
38	381	0	8	38	386	1	0		
39	391	1	0	39	396	2	11		
40	401	1	4	40	406	4	10		
41	411	1	8	41	416	6	9		
42	421	2	0	42	426	8	8		
43	431	2	4	43	436	10	7		
44	441	2	8	44	447	0	6		
45	451	3	0	45	457	2	5		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	2	6	1	0	¼	2	6	5	9
½	5	0	2	0	½	5	0	11	6
¾	7	6	3	0	¾	7	7	5	3

SIDE 38½ IN.				SIDE 38½ IN.					
FT.	.....			FT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	10	3	6	1	10	5	1		
2	20	7	0	2	20	10	3		
3	30	10	6	3	31	3	4		
4	41	2	1	4	41	8	6		
5	51	5	7	5	52	1	7		
6	61	9	1	6	62	6	9		
7	72	0	7	7	72	11	10		
8	82	4	2	8	83	5	0		
9	92	7	8	9	93	10	2		
10	102	11	2	10	104	3	3		
11	113	2	8	11	114	8	5		
12	123	6	3	12	125	1	6		
13	133	9	9	13	135	6	8		
14	144	1	3	14	145	11	9		
15	154	4	9	15	156	4	11		
16	164	8	4	16	166	10	1		
17	174	11	10	17	177	3	2		
18	185	3	4	18	187	8	4		
19	195	6	10	19	198	1	5		
20	205	10	5	20	208	6	7		
21	216	1	11	21	218	11	8		
22	226	5	5	22	229	4	10		
23	236	8	11	23	239	9	11		
24	247	0	6	24	250	3	1		
25	257	4	0	25	260	8	3		
26	267	7	6	26	271	1	4		
27	277	11	0	27	281	6	6		
28	288	2	7	28	291	11	7		
29	298	6	1	29	302	4	9		
30	308	9	7	30	312	9	10		
31	319	1	1	31	323	3	0		
32	329	4	8	32	333	8	2		
33	339	8	2	33	344	1	3		
34	349	11	8	34	354	6	5		
35	360	3	2	35	364	11	6		
36	370	6	9	36	375	4	8		
37	380	10	3	37	385	9	9		
38	391	1	9	38	396	2	11		
39	401	5	3	39	406	8	0		
40	411	8	10	40	417	1	2		
41	422	0	4	41	427	6	4		
42	432	3	10	42	437	11	5		
43	442	7	4	43	448	4	7		
44	452	10	11	44	458	9	8		
45	463	2	5	45	469	2	10		
¼ FT.	.....			¼ FT.	.....				
	FT.	IN.	PA.	S.	FT.	IN.	PA.	S.	
¼	2	6	10	6	¼	2	7	3	3
½	5	1	9	0	½	5	2	6	6
¾	7	8	7	6	¾	7	9	9	9

SIDE 39 IN.		SIDE 39½ IN.	
FT.	FT. IN. PA.	FT.	FT. IN. PA.
1	10 6 9	1	10 8 4
2	21 1 6	2	21 4 9
3	31 8 3	3	32 1 1
4	42 3 0	4	42 9 6
5	52 9 9	5	53 5 10
6	63 4 6	6	64 2 3
7	73 11 3	7	74 10 7
8	84 6 0	8	85 7 0
9	95 0 9	9	96 3 5
10	105 7 6	10	106 11 9
11	116 2 3	11	117 8 2
12	126 9 0	12	128 4 6
13	137 3 9	13	139 0 11
14	147 10 6	14	149 9 3
15	158 5 3	15	160 5 8
16	169 0 0	16	171 2 1
17	179 6 9	17	181 10 5
18	190 1 6	18	192 6 10
19	200 8 3	19	203 3 2
20	211 3 0	20	213 11 7
21	221 9 9	21	224 7 11
22	232 4 6	22	235 4 4
23	242 11 3	23	246 0 8
24	253 6 0	24	256 9 1
25	264 0 9	25	267 5 6
26	274 7 6	26	278 1 10
27	285 2 3	27	289 10 3
28	295 9 0	28	299 6 7
29	306 3 9	29	310 3 0
30	316 10 6	30	320 11 4
31	327 5 3	31	331 7 9
32	338 0 0	32	342 4 2
33	348 6 9	33	353 0 6
34	359 1 6	34	363 8 11
35	369 8 3	35	374 5 3
36	380 3 0	36	385 1 8
37	390 9 9	37	395 10 0
38	401 4 6	38	406 6 5
39	411 11 3	39	417 2 9
40	422 6 0	40	427 11 2
41	433 0 9	41	438 7 7
42	443 7 6	42	449 3 11
43	454 2 3	43	460 0 4
44	464 9 0	44	470 8 8
45	475 3 9	45	481 5 1
¼ FT.	FT. IN. PA. S.	¼ FT.	FT. IN. PA. S.
¼	2 7 8 3	¼	2 8 1 0
½	5 3 4 6	½	5 4 2 0
¾	7 11 0 9	¾	8 0 3 0

SIDE 39½ IN.				SIDE 39¼ IN.					
PT.	.....			PT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	10	10	0	1	10	11	8		
2	21	8	0	2	21	11	4		
3	32	6	0	3	32	11	0		
4	43	4	1	4	43	10	8		
5	54	2	1	5	54	10	4		
6	65	0	1	6	65	10	0		
7	75	10	1	7	76	9	8		
8	86	8	2	8	87	9	4		
9	97	6	2	9	98	9	0		
10	108	4	2	10	109	8	8		
11	119	2	2	11	120	8	4		
12	130	0	3	12	131	8	0		
13	140	10	3	13	142	7	8		
14	151	8	3	14	153	7	4		
15	162	6	3	15	164	7	0		
16	173	4	4	16	175	6	9		
17	184	2	4	17	186	6	5		
18	195	0	4	18	197	6	1		
19	205	10	4	19	208	5	9		
20	216	8	5	20	219	5	5		
21	227	6	5	21	230	5	1		
22	238	4	5	22	241	4	9		
23	249	2	5	23	252	4	5		
24	260	0	6	24	263	4	1		
25	270	10	6	25	274	3	9		
26	281	8	6	26	285	3	5		
27	292	6	6	27	296	3	1		
28	303	4	7	28	307	2	9		
29	314	2	7	29	318	2	5		
30	325	0	7	30	329	2	1		
31	335	10	7	31	340	1	9		
32	346	8	8	32	351	1	6		
33	357	6	8	33	362	1	2		
34	368	4	8	34	373	0	10		
35	379	2	8	35	384	0	6		
36	390	0	9	36	395	0	2		
37	400	10	9	37	405	11	10		
38	411	8	9	38	416	11	6		
39	422	6	9	39	427	11	2		
40	433	4	10	40	438	10	10		
41	444	2	10	41	449	10	6		
42	455	0	10	42	460	10	2		
43	465	10	10	43	471	9	10		
44	476	8	11	44	482	9	6		
45	487	6	11	45	493	9	2		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	2	8	6	0	¼	2	8	11	0
½	5	5	0	0	½	5	5	10	0
¾	8	1	6	0	¾	8	2	9	0

		SIDE 40 IN.					SIDE 40½ IN.				
FT.	LNQ.	FT.	IN.	PA.	FT.	LNQ.	FT.	IN.	PA.		
1		11	1	4	1		11	3	0		
2		22	2	8	2		22	6	0		
3		33	4	0	3		33	9	0		
4		44	5	4	4		45	0	0		
5		55	6	8	5		56	3	0		
6		66	8	0	6		67	6	0		
7		77	9	4	7		78	9	0		
8		88	10	8	8		90	0	0		
9		100	0	0	9		101	3	0		
10		111	1	4	10		112	6	0		
11		122	2	8	11		123	9	0		
12		133	4	0	12		135	0	0		
13		144	5	4	13		146	3	0		
14		155	6	8	14		157	6	0		
15		166	8	0	15		168	9	0		
16		177	9	4	16		180	0	1		
17		188	10	8	17		191	3	1		
18		200	0	0	18		202	6	1		
19		211	1	4	19		213	9	1		
20		222	2	8	20		225	0	1		
21		233	4	0	21		236	3	1		
22		244	5	4	22		247	6	1		
23		255	6	8	23		258	9	1		
24		266	8	0	24		270	0	1		
25		277	9	4	25		281	3	1		
26		288	10	8	26		292	6	1		
27		300	0	0	27		303	9	1		
28		311	1	4	28		315	0	1		
29		322	2	8	29		326	3	1		
30		333	4	0	30		337	6	1		
31		344	5	4	31		348	9	1		
32		355	6	8	32		360	0	2		
33		366	8	0	33		371	3	2		
34		377	9	4	34		382	6	2		
35		388	10	8	35		393	9	2		
36		400	0	0	36		405	0	2		
37		411	1	4	37		416	3	2		
38		422	2	8	38		427	6	2		
39		433	4	0	39		438	9	2		
40		444	5	4	40		450	0	2		
41		455	6	8	41		461	3	2		
42		466	8	0	42		472	6	2		
43		477	9	4	43		483	9	2		
44		488	10	8	44		495	0	2		
45		500	0	0	45		506	3	2		
¼ FT.		FT.	IN.	PA.	S.	¼ FT.		FT.	IN.	PA.	S.
¼		2	9	4	0	¼		2	9	9	0
½		5	8	8	0	½		5	7	6	0
¾		8	4	0	0	¾		8	5	3	0



SIDE 40½ IN.				SIDE 40¼ IN.					
FT.	.....			FT.	.....				
LNQ.	FT.	IN.	PA.	LNQ.	FT.	IN.	PA.		
1	11	4	8	1	11	6	4		
2	22	9	4	2	23	0	9		
3	34	2	0	3	34	7	1		
4	45	6	9	4	46	1	6		
5	56	11	5	5	57	7	10		
6	68	4	1	6	69	2	3		
7	79	8	9	7	80	8	7		
8	91	1	6	8	92	3	0		
9	102	6	2	9	103	9	5		
10	113	10	10	10	115	3	9		
11	125	3	6	11	126	10	2		
12	136	8	3	12	138	4	6		
13	148	0	11	13	149	10	11		
14	159	5	7	14	161	5	3		
15	170	10	3	15	172	11	8		
16	182	3	0	16	184	6	1		
17	193	7	8	17	196	0	5		
18	205	0	4	18	207	6	10		
19	216	5	0	19	219	1	2		
20	227	9	9	20	230	7	7		
21	239	2	5	21	242	1	11		
22	250	7	1	22	253	8	4		
23	261	11	9	23	265	2	8		
24	273	4	6	24	276	9	1		
25	284	9	2	25	288	3	6		
26	296	1	10	26	299	9	10		
27	307	6	6	27	311	4	3		
28	318	11	3	28	322	10	7		
29	330	3	11	29	334	5	0		
30	341	8	7	30	345	11	4		
31	353	1	3	31	357	5	9		
32	364	6	0	32	367	0	2		
33	375	10	8	33	380	6	6		
34	387	3	4	34	392	0	11		
35	398	8	0	35	403	7	3		
36	410	0	9	36	415	1	8		
37	421	5	5	37	426	8	0		
38	432	10	1	38	438	2	5		
39	444	2	9	39	449	8	9		
40	455	7	6	40	461	3	2		
41	467	0	2	41	472	9	7		
42	478	4	10	42	484	3	11		
43	489	9	6	43	495	10	4		
44	501	2	3	44	507	4	8		
45	512	6	11	45	518	11	1		
¼ FT.	.....			¼ FT.	.....				
¼	2	10	2	0	¼	2	10	7	0
½	5	8	4	0	½	5	9	2	0
¾	8	6	6	0	¾	8	7	9	0

FT. LNG.	SIDE 41 IN.			FT. LNG.	SIDE 41½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	11	8	1	1	11	9	9		
2	23	4	2	2	23	7	7		
3	35	0	3	3	35	5	4		
4	46	8	4	4	47	3	2		
5	58	4	5	5	59	0	11		
6	70	0	6	6	70	10	9		
7	81	8	7	7	82	8	6		
8	93	4	8	8	94	6	4		
9	105	0	9	9	106	4	2		
10	116	8	10	10	118	1	11		
11	128	4	11	11	129	11	9		
12	140	1	0	12	141	9	6		
13	151	9	1	13	153	7	4		
14	163	5	2	14	165	5	1		
15	175	1	3	15	177	2	11		
16	186	9	4	16	189	0	9		
17	198	5	5	17	200	10	6		
18	210	1	6	18	212	8	4		
19	221	9	7	19	224	6	1		
20	233	5	8	20	236	3	11		
21	245	1	9	21	248	1	8		
22	256	9	10	22	259	11	6		
23	268	5	11	23	271	9	3		
24	280	2	0	24	283	7	1		
25	291	10	1	25	295	4	11		
26	303	6	2	26	307	2	8		
27	315	2	3	27	319	0	6		
28	326	10	4	28	330	10	3		
29	338	6	5	29	342	8	1		
30	350	2	6	30	354	5	10		
31	361	10	7	31	366	3	8		
32	373	6	8	32	378	1	6		
33	385	2	9	33	389	11	3		
34	396	10	10	34	401	9	1		
35	408	6	11	35	413	6	10		
36	420	3	0	36	425	4	8		
37	431	11	1	37	437	2	5		
38	443	7	2	38	449	0	3		
39	455	3	3	39	460	10	0		
40	466	11	4	40	472	7	10		
41	478	7	5	41	484	5	8		
42	490	3	6	42	496	3	5		
43	501	11	7	43	508	1	3		
44	513	7	8	44	519	11	0		
45	525	3	9	45	531	8	10		
½ FT.	FT.	IN.	PA.	S.	½ FT.	FT.	IN.	PA.	S.
¼	2	11	0	3	¼	2	11	5	3
⅓	5	10	0	6	⅓	5	10	10	6
⅔	8	9	0	9	⅔	8	10	3	9

SIDE 41½ IN.				SIDE 41½ IN.					
FT.	.....			FT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	11	11	6	1	12	1	3		
2	23	11	0	2	24	2	6		
3	35	10	6	3	36	3	9		
4	47	10	1	4	48	5	0		
5	59	9	7	5	60	6	3		
6	71	9	1	6	72	7	6		
7	83	8	7	7	84	8	9		
8	95	8	2	8	96	10	0		
9	107	7	8	9	108	11	3		
10	119	7	2	10	121	0	6		
11	131	6	8	11	133	1	9		
12	143	6	3	12	145	3	0		
13	155	5	9	13	157	4	3		
14	167	5	3	14	160	5	6		
15	179	4	9	15	181	6	9		
16	191	4	4	16	193	8	1		
17	203	3	10	17	205	9	4		
18	215	3	4	18	217	10	7		
19	227	2	10	19	229	11	10		
20	239	2	5	20	242	1	1		
21	251	1	11	21	254	2	4		
22	263	1	5	22	266	3	7		
23	275	0	11	23	278	4	10		
24	287	0	6	24	290	6	1		
25	299	0	0	25	302	7	4		
26	310	11	6	26	314	8	7		
27	322	11	0	27	326	9	10		
28	334	10	7	28	338	11	1		
29	346	10	1	29	351	0	4		
30	358	9	7	30	363	1	7		
31	370	9	1	31	375	2	10		
32	382	8	8	32	387	4	2		
33	394	8	2	33	399	5	5		
34	406	7	8	34	411	6	8		
35	418	7	2	35	423	7	11		
36	430	6	9	36	435	9	2		
37	442	6	3	37	447	10	5		
38	454	5	9	38	459	11	8		
39	466	5	3	39	472	0	11		
40	478	4	10	40	484	2	2		
41	490	4	4	41	496	3	5		
42	502	3	10	42	508	4	8		
43	514	3	4	43	520	5	11		
44	526	2	11	44	532	7	2		
45	538	2	5	45	544	8	5		
¼ FT.	.....			¼ FT.	.....				
	FT.	IN.	PA.	S.	FT.	IN.	PA.	S.	
¼	2	11	10	6	¼	3	0	3	9
½	5	11	9	0	½	6	0	7	6
¾	8	11	7	6	¾	9	0	11	3

SIDE 46 IN.				SIDE 48½ IN.					
FT.	~~~~~			FT.	~~~~~				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	12	3	0	1	12	4	8		
2	24	6	0	2	24	9	4		
3	36	9	0	3	37	2	0		
4	49	0	0	4	49	6	8		
5	61	3	0	5	61	11	4		
6	73	6	0	6	74	4	0		
7	85	9	0	7	86	8	8		
8	98	0	0	8	99	1	4		
9	110	3	0	9	111	6	0		
10	122	6	0	10	123	10	8		
11	134	9	0	11	136	3	4		
12	147	0	0	12	148	9	0		
13	159	3	0	13	161	0	8		
14	171	6	0	14	173	5	4		
15	183	9	0	15	185	10	0		
16	196	0	0	16	198	2	9		
17	208	3	0	17	210	7	5		
18	220	6	0	18	223	0	1		
19	232	9	0	19	235	4	9		
20	245	0	0	20	247	9	5		
21	257	3	0	21	260	2	1		
22	269	6	0	22	272	6	9		
23	281	9	0	23	284	11	5		
24	294	0	0	24	297	4	1		
25	306	3	0	25	309	8	9		
26	318	6	0	26	322	1	5		
27	330	9	0	27	334	6	1		
28	343	0	0	28	346	10	9		
29	355	3	0	29	359	3	5		
30	367	6	0	30	371	8	1		
31	379	9	0	31	384	0	9		
32	392	0	0	32	396	5	8		
33	404	3	0	33	408	10	2		
34	416	6	0	34	421	2	10		
35	428	9	0	35	433	7	6		
36	441	0	0	36	446	0	2		
37	453	3	0	37	458	4	10		
38	465	6	0	38	470	9	6		
39	477	9	0	39	483	2	2		
40	490	0	0	40	495	6	10		
41	502	3	0	41	507	11	6		
42	514	6	0	42	520	4	2		
43	526	9	0	43	532	8	10		
44	539	0	0	44	545	1	6		
45	551	3	0	45	557	6	2		
½ FT.	FT.	IN.	PA.	S.	½ FT.	FT.	IN.	PA.	S.
½	3	0	9	0	½	3	1	2	0
½	6	1	6	0	½	6	2	4	0
½	9	2	3	0	½	9	3	6	0

		SIDE 42½ IN.					SIDE 42¼ IN.		
FT.	LNG.	FT.	IN.	PA.	FT.	LNG.	FT.	IN.	PA.
1		12	6	6	1		12	8	3
2		25	1	0	2		25	4	7
3		37	7	6	3		38	0	10
4		50	2	1	4		50	9	2
5		62	8	7	5		63	5	5
6		75	3	1	6		76	1	9
7		87	9	7	7		88	10	0
8		100	4	2	8		101	6	4
9		112	10	8	9		114	2	8
10		125	5	2	10		126	10	11
11		137	11	8	11		139	7	3
12		150	6	3	12		152	3	6
13		163	0	9	13		164	11	10
14		175	7	3	14		177	8	1
15		188	1	9	15		190	4	5
16		200	8	4	16		203	0	9
17		213	2	10	17		215	9	0
18		225	9	4	18		228	5	4
19		238	3	10	19		241	1	7
20		250	10	5	20		253	9	11
21		263	4	11	21		266	6	2
22		275	11	5	22		279	2	6
23		288	5	11	23		291	10	9
24		301	0	6	24		304	7	1
25		313	7	0	25		317	3	5
26		326	1	6	26		329	11	8
27		338	8	0	27		342	8	0
28		351	2	7	28		355	4	3
29		363	9	1	29		368	0	7
30		376	3	7	30		380	8	10
31		388	10	1	31		393	5	2
32		401	4	8	32		406	1	6
33		413	11	2	33		418	9	9
34		426	5	8	34		431	6	1
35		439	0	2	35		444	2	4
36		451	6	9	36		456	10	8
37		464	1	3	37		469	6	11
38		476	7	9	38		482	3	3
39		489	2	3	39		494	11	6
40		501	8	10	40		507	7	10
41		514	3	4	41		520	4	2
42		526	9	10	42		533	0	5
43		539	4	4	43		545	8	9
44		551	10	11	44		558	2	0
45		564	5	5	45		571	1	4
¼ FT.		FT. IN. PA. S.			¼ FT.		FT. IN. PA. S.		
¼		3 1 7 6			¼		3 2 0 9		
½		6 3 3 0			½		6 4 1 6		
¾		9 4 10 6			¾		9 6 2 3		

		SIDE 43 IN.					SIDE 43½ IN.				
FT.	LNG.	FT.	IN.	PA.	FT.	LNG.	FT.	IN.	PA.		
1		12	10	1	1		12	11	10		
2		25	8	2	2		25	11	9		
3		38	6	3	3		35	11	7		
4		51	4	4	4		51	11	6		
5		64	2	5	5		64	11	4		
6		77	0	6	6		77	11	3		
7		89	10	7	7		90	11	1		
8		102	8	8	8		103	11	0		
9		115	6	9	9		116	10	11		
10		128	4	10	10		129	10	9		
11		141	2	11	11		142	10	8		
12		154	1	0	12		155	10	0		
13		166	11	1	13		168	10	5		
14		179	9	2	14		181	10	3		
15		192	7	3	15		194	10	2		
16		205	5	4	16		207	10	1		
17		218	3	5	17		220	9	11		
18		231	1	6	18		233	9	10		
19		243	11	7	19		246	9	8		
20		256	9	8	20		259	9	7		
21		267	7	9	21		272	9	5		
22		282	5	10	22		285	9	4		
23		295	3	11	23		298	9	2		
24		308	2	0	24		311	9	1		
25		321	0	1	25		324	9	0		
26		333	10	2	26		337	8	10		
27		346	8	3	27		350	8	9		
28		359	6	4	28		363	8	7		
29		374	4	5	29		376	8	6		
30		385	2	6	30		389	8	4		
31		398	0	7	31		402	8	3		
32		410	10	8	32		415	8	2		
33		423	8	9	33		428	8	0		
34		436	6	10	34		441	7	11		
35		449	4	11	35		454	7	9		
36		462	3	0	36		467	7	8		
37		475	1	1	37		480	7	6		
38		487	11	2	38		493	7	5		
39		500	9	3	39		506	7	3		
40		513	7	4	40		519	7	2		
41		526	5	5	41		532	7	1		
42		539	3	6	42		545	6	11		
43		552	1	7	43		558	6	10		
44		564	11	8	44		571	6	8		
45		577	9	9	45		584	6	7		
¼ FT.		FT.	IN.	PA.	S.	¼ FT.		FT.	IN.	PA.	S.
¼		3	2	6	3	¼		3	2	11	6
½		6	5	0	6	½		6	5	11	0
¾		9	7	6	9	¾		9	8	10	6

SIDE 43½ IN.				SIDE 43¾ IN.			
FT.	LNG.			FT.	LNG.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	13	1	8	1	13	3	6
2	26	3	4	2	26	7	0
3	30	5	0	3	39	10	6
4	52	6	9	4	53	2	0
5	65	8	5	5	66	5	6
6	78	10	1	6	79	9	0
7	91	11	9	7	93	0	6
8	105	1	6	8	106	4	0
9	118	3	2	9	110	7	6
10	131	4	10	10	132	11	0
11	144	6	6	11	146	2	6
12	157	8	3	12	159	6	0
13	170	0	11	13	172	9	6
14	183	11	7	14	186	1	0
15	197	1	3	15	199	4	6
16	210	3	0	16	212	8	1
17	223	4	8	17	225	11	7
18	236	6	4	18	239	3	1
19	240	8	0	19	252	6	7
20	262	9	9	20	265	10	1
21	275	11	5	21	279	1	7
22	289	1	1	22	292	5	1
23	302	2	9	23	305	8	7
24	315	4	6	24	310	0	1
25	328	6	2	25	332	3	7
26	341	7	10	26	345	7	1
27	354	9	6	27	358	10	7
28	367	11	3	28	372	2	1
29	381	0	11	29	385	5	7
30	394	2	7	30	398	9	1
31	407	4	3	31	412	0	7
32	420	3	0	32	425	4	2
33	433	7	5	33	438	7	8
34	446	9	4	34	451	11	2
35	459	11	0	35	465	2	8
36	473	0	9	36	478	6	2
37	486	2	5	37	491	9	8
38	499	4	1	38	505	1	2
39	512	5	9	39	518	4	8
40	525	7	6	40	531	8	2
41	538	9	2	41	544	11	8
42	551	10	10	42	558	3	2
43	565	0	6	43	571	6	8
44	578	2	3	44	584	10	2
45	591	3	11	45	598	1	8

¼ FT.	FT. IN. PA. S.		
¼	3	3	5 0
½	6	6	10 0
¾	9	10	3 0

¼ FT.	FT. IN. PA. S.		
¼	3	3	10 6
½	6	7	9 0
¾	0	11	7 6

SIDE 44 IN.				SIDE 44½ IN.					
PT.	FT. IN. PA.			PT.	FT. IN. PA.				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	13	5	4	1	13	7	2		
2	26	10	8	2	27	2	4		
3	40	4	0	3	40	9	6		
4	53	9	4	4	54	4	8		
5	67	2	8	5	67	11	10		
6	80	8	0	6	81	7	0		
7	94	1	4	7	95	2	2		
8	107	6	8	8	108	9	4		
9	121	0	0	9	122	4	6		
10	134	5	4	10	135	11	8		
11	147	10	8	11	149	6	10		
12	161	4	0	12	163	2	0		
13	174	9	4	13	176	9	2		
14	188	2	8	14	190	4	4		
15	201	8	0	15	203	11	6		
16	215	1	4	16	217	6	9		
17	228	6	8	17	231	1	11		
18	242	0	0	18	244	9	1		
19	255	5	4	19	258	4	3		
20	268	10	8	20	271	11	5		
21	282	4	0	21	285	6	7		
22	295	9	4	22	299	1	9		
23	309	2	8	23	312	8	11		
24	322	8	0	24	326	4	1		
25	336	1	4	25	339	11	3		
26	349	6	8	26	353	6	5		
27	363	0	0	27	367	1	7		
28	376	5	4	28	380	8	9		
29	389	10	8	29	394	3	11		
30	403	4	0	30	407	11	1		
31	416	9	4	31	421	6	3		
32	430	2	8	32	435	1	6		
33	443	8	0	33	448	8	8		
34	457	1	4	34	462	3	10		
35	470	6	8	35	475	11	0		
36	484	0	0	36	489	6	2		
37	497	5	4	37	503	1	4		
38	510	10	8	38	516	8	6		
39	524	4	0	39	530	3	8		
40	537	9	4	40	543	10	10		
41	551	2	8	41	557	6	0		
42	564	8	0	42	571	1	2		
43	578	1	4	43	584	8	4		
44	591	6	8	44	598	3	6		
45	605	0	0	45	611	10	8		
¼ FT.	PT.	IN.	PA.	S.	¼ FT.	PT.	IN.	PA.	S.
¼	3	4	4	0	¼	3	4	9	6
½	6	8	8	0	½	6	9	7	0
¾	10	1	0	0	¾	10	2	4	6



SIDE 44½ IN.				SIDE 44¾ IN.			
FT.	LNG.			FT.	LNG.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	13	9	0	1	13	10	10
2	27	6	0	2	27	9	9
3	41	3	0	3	41	8	7
4	55	0	1	4	55	7	6
5	68	9	1	5	69	6	4
6	82	6	1	6	83	5	3
7	96	3	1	7	97	4	1
8	110	0	2	8	111	3	0
9	123	9	2	9	125	1	11
10	137	6	2	10	139	0	9
11	151	3	2	11	152	11	8
12	165	0	3	12	166	10	6
13	178	9	3	13	180	9	5
14	192	6	3	14	194	8	3
15	206	3	3	15	208	7	2
16	220	0	4	16	222	6	1
17	233	9	4	17	236	4	11
18	247	6	4	18	250	3	10
19	261	3	4	19	264	2	8
20	275	0	5	20	278	1	7
21	288	9	5	21	292	0	5
22	302	6	5	22	305	11	4
23	316	3	5	23	319	10	2
24	330	0	6	24	333	9	1
25	343	9	6	25	347	8	0
26	357	6	6	26	361	6	10
27	371	3	6	27	375	5	9
28	385	0	7	28	389	4	7
29	398	9	7	29	403	3	6
30	412	6	7	30	417	2	4
31	426	3	7	31	431	1	3
32	440	0	8	32	445	0	2
33	453	9	8	33	458	11	0
34	467	6	8	34	472	9	11
35	481	3	8	35	486	8	9
36	495	0	9	36	500	7	8
37	508	9	9	37	514	6	6
38	522	6	9	38	528	5	5
39	536	3	9	39	542	4	3
40	550	0	10	40	556	3	2
41	563	9	10	41	570	2	1
42	577	6	10	42	584	0	11
43	591	3	10	43	597	11	10
44	605	0	11	44	611	10	8
45	618	9	11	45	625	9	7

¼ FT.	FT. IN. PA. S.			
¼	3	5	3	0
½	6	10	6	0
¾	10	3	9	0

¼ FT.	FT. IN. PA. S.			
¼	3	5	8	6
½	6	11	5	0
¾	10	5	1	6

FT. LNG.	SIDE 45 IN.			FT. LNG.	SIDE 45½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	14	0	9	1	14	4	7		
2	28	1	6	2	28	5	3		
3	42	2	3	3	42	7	10		
4	56	3	0	4	56	10	6		
5	70	3	9	5	71	1	1		
6	84	4	6	6	85	3	9		
7	98	5	3	7	99	6	4		
8	112	6	0	8	113	9	0		
9	126	6	9	9	127	11	8		
10	140	7	6	10	142	2	3		
11	154	8	3	11	156	4	11		
12	168	9	0	12	170	7	6		
13	182	9	9	13	184	10	2		
14	196	10	6	14	199	0	9		
15	210	11	3	15	213	3	5		
16	225	0	0	16	227	6	1		
17	239	0	9	17	241	8	8		
18	253	1	6	18	255	11	4		
19	267	2	3	19	270	1	11		
20	281	3	0	20	284	4	7		
21	295	3	9	21	298	7	2		
22	309	4	6	22	312	9	10		
23	323	5	3	23	327	0	5		
24	337	6	0	24	341	3	1		
25	351	6	9	25	355	5	9		
26	365	7	6	26	369	8	4		
27	379	8	3	27	383	11	0		
28	393	9	0	28	398	1	7		
29	407	9	9	29	412	4	3		
30	421	10	6	30	426	6	10		
31	435	11	3	31	440	9	6		
32	450	0	0	32	455	0	2		
33	464	0	9	33	469	2	9		
34	478	1	6	34	483	5	5		
35	492	2	3	35	497	8	0		
36	506	3	0	36	511	10	8		
37	520	3	9	37	526	1	3		
38	534	4	6	38	540	3	11		
39	548	5	3	39	554	6	6		
40	562	6	0	40	568	9	2		
41	576	6	9	41	582	11	10		
42	590	7	6	42	597	2	5		
43	604	8	3	43	611	5	1		
44	618	9	0	44	625	7	8		
45	632	9	9	45	639	10	4		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	3	6	2	3	¼	3	6	7	9
½	7	0	4	6	½	7	1	3	6
¾	10	6	6	9	¾	10	7	11	3

SIDE 45½ IN.				SIDE 45¼ IN.					
FT.	LNG.			FT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	14	4	6	1	14	6	5		
2	28	9	0	2	29	0	10		
3	43	1	6	3	43	7	3		
4	57	6	1	4	58	1	8		
5	71	10	7	5	73	8	1		
6	86	3	1	6	87	2	6		
7	100	7	7	7	101	8	11		
8	115	0	2	8	116	3	4		
9	129	4	8	9	130	9	9		
10	143	9	2	10	145	4	2		
11	158	1	8	11	159	10	7		
12	172	6	3	12	174	5	0		
13	186	10	9	13	188	11	5		
14	201	3	3	14	203	5	10		
15	215	7	9	15	218	0	3		
16	230	0	4	16	232	6	9		
17	244	4	10	17	247	1	2		
18	258	9	4	18	261	7	7		
19	273	1	10	19	276	2	0		
20	287	6	5	20	290	8	5		
21	301	10	11	21	305	2	10		
22	316	3	5	22	319	9	3		
23	330	7	11	23	334	3	8		
24	345	0	6	24	346	10	1		
25	359	5	0	25	363	4	6		
26	373	9	6	26	377	10	11		
27	388	2	0	27	392	5	4		
28	402	6	7	28	406	11	9		
29	416	11	1	29	421	6	2		
30	431	3	7	30	436	0	7		
31	445	8	1	31	450	7	0		
32	460	0	8	32	465	1	6		
33	474	5	2	33	479	7	11		
34	488	9	8	34	494	2	4		
35	503	2	2	35	508	8	9		
36	517	6	9	36	523	3	2		
37	531	11	3	37	537	9	7		
38	546	3	9	38	552	4	0		
39	560	8	3	39	566	10	5		
40	575	0	10	40	581	4	10		
41	589	5	4	41	595	11	3		
42	603	9	10	42	610	5	8		
43	618	2	4	43	625	0	1		
44	632	6	11	44	639	6	6		
45	646	11	5	45	654	0	11		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	3	7	1	6	¼	3	7	7	3
½	7	2	3	0	½	7	3	2	6
¾	10	9	4	6	¾	10	10	9	9

FT. LNG.	SIDE 46 IN.			FT. LNG.	SIDE 46½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	14	8	4	1	14	10	3		
2	29	4	8	2	29	8	6		
3	44	1	0	3	44	6	9		
4	58	9	4	4	59	5	0		
5	73	5	8	5	74	3	3		
6	88	2	0	6	89	1	6		
7	102	10	4	7	103	11	9		
8	117	6	8	8	118	10	0		
9	132	3	0	9	133	8	3		
10	146	11	4	10	148	6	6		
11	161	7	8	11	163	4	9		
12	176	4	0	12	178	3	0		
13	191	0	4	13	193	1	3		
14	205	8	8	14	207	11	6		
15	220	5	0	15	222	9	9		
16	235	1	4	16	237	8	1		
17	249	9	8	17	252	6	4		
18	264	6	0	18	267	4	7		
19	279	2	4	19	282	2	10		
20	293	10	8	20	297	1	1		
21	308	7	0	21	311	11	4		
22	323	3	4	22	326	9	7		
23	337	11	8	23	341	7	10		
24	352	8	0	24	356	6	1		
25	367	4	4	25	371	4	4		
26	382	0	8	26	386	2	7		
27	396	9	0	27	401	0	10		
28	411	5	4	28	415	11	1		
29	426	1	8	29	430	9	4		
30	440	10	0	30	445	7	7		
31	455	6	4	31	460	5	10		
32	470	2	8	32	475	4	2		
33	484	11	0	33	490	2	5		
34	499	7	4	34	505	0	8		
35	514	3	8	35	519	10	11		
36	529	0	0	36	534	9	2		
37	543	8	4	37	549	7	5		
38	558	4	8	38	564	5	8		
39	573	1	0	39	579	3	11		
40	587	9	4	40	594	2	2		
41	602	5	8	41	609	0	5		
42	617	2	0	42	623	10	8		
43	631	10	4	43	638	8	11		
44	646	6	8	44	653	7	2		
45	661	3	0	45	668	5	5		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	3	8	1	0	¼	3	8	6	9
½	7	4	2	0	½	7	5	1	6
¾	11	0	3	0	¾	11	1	8	3

SIDE 46½ IN.				SIDE 46¼ IN.					
FT.	.....			FT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	15	0	2	1	15	2	1		
2	30	0	4	2	30	4	3		
3	45	0	6	3	45	6	4		
4	60	0	9	4	60	8	6		
5	75	0	11	5	75	10	7		
6	90	1	1	6	91	0	9		
7	105	1	3	7	106	2	10		
8	120	1	6	8	121	5	0		
9	135	1	8	9	136	7	2		
10	150	1	10	10	151	9	3		
11	165	2	0	11	166	11	5		
12	180	2	3	12	182	1	6		
13	195	2	5	13	197	3	8		
14	210	2	7	14	212	5	9		
15	225	2	9	15	227	7	11		
16	240	3	0	16	242	10	1		
17	255	3	2	17	258	0	2		
18	270	3	4	18	273	2	4		
19	285	3	6	19	288	4	5		
20	300	3	9	20	303	6	7		
21	315	3	11	21	318	8	8		
22	330	4	1	22	333	10	10		
23	345	4	3	23	349	0	11		
24	360	4	6	24	364	3	1		
25	375	4	8	25	379	5	3		
26	390	4	10	26	394	7	4		
27	405	5	0	27	409	9	6		
28	420	5	3	28	424	11	7		
29	435	5	5	29	440	1	9		
30	450	5	7	30	455	3	10		
31	465	5	9	31	470	6	0		
32	480	6	0	32	485	8	2		
33	495	6	2	33	500	10	3		
34	510	6	4	34	516	0	5		
35	525	6	6	35	531	2	6		
36	540	6	9	36	546	4	8		
37	555	6	11	37	561	6	9		
38	570	7	1	38	576	8	11		
39	585	7	3	39	591	11	0		
40	600	7	6	40	607	1	2		
41	615	7	8	41	622	3	4		
42	630	7	10	42	637	5	5		
43	645	8	0	43	652	7	7		
44	660	8	3	44	667	9	8		
45	675	8	5	45	682	11	10		
.....				.....					
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	3	9	0	6	¼	3	9	6	3
½	7	6	1	0	½	7	7	0	6
¾	11	3	1	6	¾	11	4	6	9

SIDE 47 IN.				SIDE 47½ IN.					
FT.	LNG.			FT.	LNG.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	15	4	1	1	15	6	0		
2	30	8	2	2	31	0	1		
3	46	0	3	3	46	6	1		
4	61	4	4	4	62	0	2		
5	76	8	5	5	77	6	2		
6	92	0	6	6	93	0	3		
7	107	4	7	7	108	6	3		
8	122	8	8	8	124	0	4		
9	138	0	9	9	139	6	5		
10	153	4	10	10	155	0	5		
11	168	8	11	11	170	6	6		
12	184	1	0	12	186	0	6		
13	199	5	1	13	201	6	7		
14	214	9	2	14	217	0	7		
15	230	1	3	15	232	6	8		
16	245	5	4	16	248	0	9		
17	260	9	5	17	263	6	9		
18	276	1	6	18	279	0	10		
19	291	5	7	19	294	6	10		
20	306	9	8	20	310	0	11		
21	322	1	9	21	325	6	11		
22	337	5	10	22	341	1	0		
23	352	9	11	23	356	7	0		
24	368	2	0	24	372	1	1		
25	383	6	1	25	387	7	2		
26	398	10	2	26	403	1	2		
27	414	2	3	27	418	7	3		
28	429	6	4	28	434	1	3		
29	444	10	5	29	449	7	4		
30	460	2	6	30	465	1	4		
31	475	6	7	31	480	7	5		
32	490	10	8	32	496	1	6		
33	506	2	9	33	511	7	6		
34	521	6	10	34	527	1	7		
35	536	10	11	35	542	7	7		
36	552	3	0	36	558	1	8		
37	567	7	1	37	573	7	8		
38	582	11	2	38	589	1	9		
39	598	3	3	39	604	7	9		
40	613	7	4	40	620	1	10		
41	628	11	5	41	635	7	11		
42	644	3	6	42	651	1	11		
43	659	7	7	43	666	7	0		
44	674	11	8	44	682	2	0		
45	690	3	9	45	697	8	1		
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	3	10	0	3	¼	3	10	6	0
½	7	8	0	6	½	7	9	0	0
¾	11	6	0	9	¾	11	7	6	0

		SIDE 47½ IN.					SIDE 47¼ IN.				
FT.	LNQ.	FT.	IN.	PA.	FT.	LNQ.	FT.	IN.	PA.		
1		15	8	0	1		15	10	0		
2		31	4	0	2		31	9	0		
3		47	0	0	3		47	6	0		
4		62	8	1	4		63	4	0		
5		78	4	1	5		79	2	0		
6		94	0	1	6		95	0	0		
7		109	8	1	7		110	10	0		
8		125	4	2	8		126	8	0		
9		141	0	2	9		142	6	0		
10		156	8	2	10		158	4	0		
11		172	4	2	11		174	2	0		
12		188	0	3	12		190	0	0		
13		203	8	3	13		205	10	0		
14		219	4	3	14		221	8	0		
15		235	0	3	15		237	6	0		
16		250	8	4	16		253	4	1		
17		266	4	4	17		269	2	1		
18		282	0	4	18		285	0	1		
19		297	8	4	19		300	10	1		
20		313	4	5	20		316	8	1		
21		329	0	5	21		332	6	1		
22		344	8	5	22		348	4	1		
23		360	4	5	23		364	2	1		
24		376	0	6	24		380	0	1		
25		391	8	6	25		395	10	1		
26		407	4	6	26		411	8	1		
27		423	0	6	27		427	6	1		
28		438	8	7	28		443	4	1		
29		454	4	7	29		459	2	1		
30		470	0	7	30		475	0	1		
31		485	8	7	31		490	10	1		
32		501	4	8	32		506	8	2		
33		517	0	8	33		522	6	2		
34		532	8	8	34		538	4	2		
35		548	4	8	35		554	2	2		
36		564	0	9	36		570	0	2		
37		579	8	9	37		585	10	2		
38		595	4	9	38		601	8	2		
39		611	0	9	39		617	6	2		
40		626	8	10	40		633	4	2		
41		642	4	10	41		649	2	2		
42		658	0	10	42		665	0	2		
43		673	8	10	43		680	10	2		
44		689	4	11	44		696	8	2		
45		705	0	11	45		712	6	2		
¼ FT.		FT.	IN.	PA.	S.	¼ FT.		FT.	IN.	PA.	S.
¼		3	11	0	0	¼		3	11	6	0
½		7	10	0	0	½		7	11	0	0
¾		11	9	0	0	¾		11	10	6	0

SIDE 48 IN.				SIDE 48½ IN.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	16	0	0	1	16	2	0
2	32	0	0	2	32	4	0
3	48	0	0	3	48	6	0
4	64	0	0	4	64	8	0
5	80	0	0	5	80	10	0
6	96	0	0	6	97	0	0
7	112	0	0	7	113	2	0
8	128	0	0	8	129	4	0
9	144	0	0	9	145	6	0
10	160	0	0	10	161	8	0
11	176	0	0	11	177	10	0
12	192	0	0	12	194	0	0
13	208	0	0	13	210	2	0
14	224	0	0	14	226	4	0
15	240	0	0	15	242	6	0
16	256	0	0	16	258	8	1
17	272	0	0	17	274	10	1
18	288	0	0	18	291	0	1
19	304	0	0	19	307	2	1
20	320	0	0	20	323	4	1
21	336	0	0	21	339	6	1
22	352	0	0	22	355	8	1
23	368	0	0	23	371	10	1
24	384	0	0	24	388	0	1
25	400	0	0	25	404	2	1
26	416	0	0	26	420	4	1
27	432	0	0	27	436	6	1
28	448	0	0	28	452	8	1
29	464	0	0	29	468	10	1
30	480	0	0	30	485	0	1
31	496	0	0	31	501	2	1
32	512	0	0	32	517	4	2
33	528	0	0	33	533	6	2
34	544	0	0	34	549	8	2
35	560	0	0	35	565	10	2
36	576	0	0	36	582	0	2
37	592	0	0	37	598	2	2
38	608	0	0	38	614	4	2
39	624	0	0	39	630	6	2
40	640	0	0	40	646	8	2
41	656	0	0	41	662	10	2
42	672	0	0	42	679	0	2
43	688	0	0	43	695	2	2
44	704	0	0	44	711	4	2
45	720	0	0	45	727	6	2
-----				-----			
¼ FT.	FT.	IN.	PA.	¼ FT.	FT.	IN.	PA.
¼	4	0	0	¼	4	0	6
½	8	0	0	½	8	1	0
¾	12	0	0	¾	12	1	6



SIDE 48½ IN.				SIDE 48¾ IN.					
FT.	FT.	IN.	PA.	FT.	IN.	PA.			
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	16	4	0	1	16	6	0		
2	32	8	0	2	33	0	1		
3	49	0	0	3	49	6	1		
4	65	4	1	4	66	0	2		
5	81	8	1	5	82	6	2		
6	98	0	1	6	99	0	3		
7	114	4	1	7	115	6	3		
8	130	8	2	8	132	0	4		
9	147	0	2	9	148	6	5		
10	163	4	2	10	165	0	5		
11	179	8	2	11	181	6	6		
12	196	0	3	12	198	0	6		
13	212	4	3	13	214	6	7		
14	228	8	3	14	231	0	7		
15	245	0	3	15	247	6	8		
16	261	4	4	16	264	0	9		
17	277	8	4	17	280	6	9		
18	294	0	4	18	297	0	10		
19	310	4	4	19	313	6	10		
20	326	8	5	20	330	0	11		
21	343	0	5	21	346	6	11		
22	359	4	5	22	363	1	0		
23	375	8	5	23	379	7	0		
24	392	0	6	24	396	1	1		
25	408	4	6	25	412	7	2		
26	424	8	6	26	429	1	2		
27	441	0	6	27	445	7	3		
28	457	4	7	28	462	1	3		
29	473	8	7	29	478	7	4		
30	490	0	7	30	495	1	4		
31	506	4	7	31	511	7	5		
32	522	8	8	32	528	1	6		
33	539	0	8	33	544	7	6		
34	555	4	8	34	561	1	7		
35	571	8	8	35	577	7	7		
36	588	0	9	36	594	1	8		
37	604	4	9	37	610	7	8		
38	620	8	9	38	627	1	9		
39	637	0	9	39	643	7	9		
40	653	4	10	40	660	1	10		
41	669	8	10	41	676	7	11		
42	686	0	10	42	693	1	11		
43	702	4	10	43	709	8	0		
44	718	8	11	44	726	2	0		
45	735	0	11	45	742	8	1		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	4	1	0	0	¼	4	1	6	0
½	8	2	0	0	½	8	3	0	0
¾	12	3	0	0	¾	12	4	6	0

FT. LNG.	SIDE 49 IN.			FT. LNG.	SIDE 49½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	16	8	1	1	16	10	1		
2	33	4	2	2	33	8	3		
3	50	0	3	3	50	6	4		
4	66	8	4	4	67	4	6		
5	83	4	5	5	84	2	7		
6	100	0	6	6	101	0	9		
7	116	8	7	7	117	10	10		
8	133	4	8	8	134	9	0		
9	150	0	9	9	151	7	2		
10	166	8	10	10	168	5	3		
11	183	4	11	11	185	3	5		
12	200	1	0	12	202	1	6		
13	216	9	1	13	218	11	8		
14	233	5	2	14	235	9	9		
15	250	1	3	15	252	7	11		
16	266	9	4	16	269	6	1		
17	283	5	5	17	286	4	2		
18	300	1	6	18	303	2	4		
19	316	9	7	19	320	0	5		
20	333	5	8	20	336	10	7		
21	350	1	9	21	353	8	8		
22	366	9	10	22	370	6	10		
23	383	5	11	23	387	4	11		
24	400	2	0	24	404	3	1		
25	416	10	1	25	421	1	3		
26	433	6	2	26	437	11	4		
27	450	2	3	27	454	9	6		
28	466	10	4	28	471	7	7		
29	483	6	5	29	488	5	9		
30	500	2	6	30	505	3	10		
31	516	10	7	31	522	2	0		
32	533	6	8	32	539	0	2		
33	550	2	9	33	555	10	3		
34	566	10	10	34	572	8	5		
35	583	6	11	35	589	6	6		
36	600	3	0	36	606	4	8		
37	616	11	1	37	623	2	9		
38	633	7	2	38	640	0	11		
39	650	3	3	39	656	11	0		
40	666	11	4	40	673	9	2		
41	683	7	5	41	690	7	4		
42	700	3	6	42	707	5	5		
43	716	11	7	43	724	3	7		
44	733	7	8	44	741	1	8		
45	750	3	9	45	757	11	10		
¼ FT	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	4	2	0	3	¼	4	2	6	3
½	8	4	0	6	½	8	5	0	6
¾	12	6	0	9	¾	12	7	6	9

SIDE 49½ IN.				SIDE 49¼ IN.			
FT.	FT. IN. PA.			FT.	FT. IN. PA.		
LNG.				LNG.			
1	17	0	2	1	17	2	3
2	34	0	4	2	34	4	6
3	51	0	6	3	51	6	9
4	68	0	9	4	68	9	0
5	85	0	11	5	85	11	3
6	102	1	1	6	103	1	6
7	119	1	3	7	120	3	9
8	136	1	6	8	137	6	0
9	153	1	8	9	154	8	3
10	170	1	10	10	171	10	6
11	187	2	0	11	189	0	9
12	204	2	3	12	206	3	0
13	221	2	5	13	223	5	3
14	238	2	7	14	240	7	6
15	255	2	9	15	257	9	9
16	272	3	0	16	275	0	1
17	289	3	2	17	292	2	4
18	306	3	4	18	309	4	7
19	323	3	6	19	326	6	10
20	340	3	9	20	343	9	1
21	357	3	11	21	360	11	4
22	374	4	1	22	378	1	7
23	391	4	3	23	395	3	10
24	408	4	6	24	412	6	1
25	425	4	8	25	429	8	4
26	442	4	10	26	446	10	7
27	459	5	0	27	464	0	10
28	476	5	3	28	481	3	1
29	493	5	5	29	498	5	4
30	510	5	7	30	515	7	7
31	527	5	9	31	532	9	10
32	544	6	0	32	550	0	2
33	561	6	2	33	567	2	5
34	578	6	4	34	584	4	8
35	595	6	6	35	601	6	11
36	612	6	9	36	618	9	2
37	629	6	11	37	635	11	5
38	646	7	1	38	653	1	8
39	663	7	3	39	670	3	11
40	680	7	6	40	687	6	2
41	697	7	8	41	704	8	5
42	714	7	10	42	721	10	8
43	731	8	0	43	739	0	11
44	748	8	3	44	756	3	2
45	765	8	5	45	773	5	5

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	4	3	0	6	¼	4	3	6	9
½	8	6	1	0	½	8	7	1	6
¾	12	9	1	6	¾	12	10	8	3

FT. LNG.	SIDE 50 IN.			FT. LNG.	SIDE 50½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	17	4	4	1	17	6	5		
2	34	8	8	2	35	0	10		
3	52	1	0	3	52	7	3		
4	69	5	4	4	70	1	8		
5	86	9	8	5	87	8	1		
6	104	2	0	6	105	2	6		
7	121	6	4	7	122	8	11		
8	138	10	8	8	140	3	4		
9	156	3	0	9	157	9	9		
10	173	7	4	10	175	4	2		
11	190	11	8	11	192	10	7		
12	208	4	0	12	210	5	0		
13	225	8	4	13	227	11	5		
14	243	0	8	14	245	5	10		
15	260	5	0	15	263	0	3		
16	277	9	4	16	280	6	9		
17	295	1	8	17	298	1	2		
18	312	6	0	18	315	7	7		
19	329	10	4	19	333	2	0		
20	347	2	8	20	350	8	5		
21	364	7	0	21	368	2	10		
22	381	11	4	22	385	9	3		
23	399	3	8	23	403	3	8		
24	416	8	0	24	420	10	1		
25	434	0	4	25	438	4	6		
26	451	4	8	26	455	10	11		
27	468	9	0	27	473	5	4		
28	486	1	4	28	490	11	9		
29	503	5	8	29	508	6	2		
30	520	10	0	30	526	0	7		
31	538	2	4	31	543	7	0		
32	555	6	8	32	561	1	6		
33	572	11	0	33	578	7	11		
34	590	3	4	34	596	2	4		
35	607	7	8	35	613	8	9		
36	625	0	0	36	631	3	2		
37	642	4	4	37	648	9	7		
38	659	8	8	38	666	4	0		
39	677	1	0	39	683	10	5		
40	694	5	4	40	701	4	10		
41	711	9	8	41	718	11	3		
42	729	2	0	42	736	5	8		
43	746	6	4	43	754	0	1		
44	763	10	8	44	771	6	6		
45	781	3	0	45	789	0	11		
¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	4	4	1	0	¼	4	4	7	3
½	8	8	2	0	½	8	9	2	6
¾	13	0	3	0	¾	13	1	9	6

SIDE 50½ IN.				SIDE 50¾ IN.			
FT.	LNG.			FT.	LNG.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	17	8	6	1	17	10	7
2	35	5	0	2	35	9	3
3	53	1	6	3	53	7	10
4	70	10	1	4	71	6	6
5	88	6	7	5	89	5	1
6	106	3	1	6	107	3	9
7	123	11	7	7	125	2	4
8	141	8	2	8	143	1	0
9	159	4	8	9	160	11	8
10	177	1	2	10	178	10	3
11	194	9	8	11	196	8	11
12	212	6	3	12	214	7	6
13	230	2	9	13	232	6	2
14	247	11	3	14	250	4	9
15	265	7	9	15	268	3	5
16	283	4	4	16	286	2	1
17	301	0	10	17	304	0	8
18	318	9	4	18	321	11	4
19	336	5	10	19	339	9	11
20	354	2	5	20	357	8	7
21	371	10	11	21	375	7	2
22	389	7	5	22	393	5	10
23	407	3	11	23	411	4	5
24	425	0	6	24	429	3	1
25	442	9	0	25	447	1	9
26	460	5	6	26	465	0	4
27	478	2	0	27	482	11	0
28	495	10	7	28	500	9	7
29	513	7	1	29	518	8	3
30	531	3	7	30	536	6	10
31	549	0	1	31	554	5	6
32	566	8	8	32	572	4	2
33	584	5	2	33	590	2	9
34	602	1	8	34	608	1	5
35	619	10	2	35	626	0	0
36	637	6	9	36	643	10	8
37	655	3	3	37	661	9	3
38	672	11	9	38	679	7	11
39	690	8	3	39	697	6	6
40	708	4	10	40	715	5	2
41	726	1	4	41	733	3	10
42	743	9	10	42	751	2	5
43	761	6	4	43	769	1	1
44	779	2	11	44	786	11	8
45	796	11	5	45	804	10	4

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	4	5	1	6	¼	4	5	7	9
½	8	10	3	0	½	8	11	3	6
¾	13	3	4	6	¾	13	4	11	3



FT. LNG.	SIDE 51 IN.			FT. LNG.	SIDE 51½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	18	0	9	1	18	2	10		
2	36	1	6	2	36	5	9		
3	54	2	3	3	54	8	7		
4	72	3	0	4	72	11	6		
5	90	3	9	5	91	2	4		
6	108	4	6	6	109	5	3		
7	126	5	3	7	127	8	1		
8	144	6	0	8	145	11	0		
9	162	6	9	9	164	1	11		
10	180	7	6	10	182	4	9		
11	198	8	3	11	200	7	8		
12	216	9	0	12	218	10	6		
13	234	9	9	13	237	1	5		
14	252	10	6	14	255	4	3		
15	270	11	3	15	273	7	2		
16	289	0	0	16	291	10	1		
17	307	0	9	17	310	0	11		
18	325	1	6	18	328	3	10		
19	343	2	3	19	346	6	8		
20	361	3	0	20	364	9	7		
21	379	3	9	21	383	0	5		
22	397	4	6	22	401	3	4		
23	415	5	3	23	419	6	2		
24	433	6	0	24	437	9	1		
25	451	6	9	25	456	0	0		
26	469	7	6	26	474	2	10		
27	487	8	3	27	492	5	9		
28	505	9	0	28	510	8	7		
29	523	9	9	29	528	11	6		
30	541	10	6	30	547	2	4		
31	559	11	3	31	565	5	3		
32	578	0	0	32	583	8	2		
33	596	0	9	33	601	11	0		
34	614	1	6	34	620	1	11		
35	632	2	3	35	638	4	9		
36	650	3	0	36	656	7	8		
37	668	3	9	37	674	10	6		
38	686	4	6	38	693	1	5		
39	704	5	3	39	711	4	3		
40	722	6	0	40	729	7	2		
41	740	6	9	41	747	10	0		
42	758	7	6	42	766	0	11		
43	776	8	3	43	784	3	10		
44	794	9	0	44	802	6	8		
45	812	9	9	45	820	9	7		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
¼	4	6	2	3	¼	4	6	8	6
½	9	0	4	6	½	9	1	5	0
¾	13	6	6	9	¾	13	8	1	6

FT. LNG.	SIDE $51\frac{1}{2}$ IN.			FT. LNG.	SIDE $51\frac{3}{4}$ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	13	5	0	1	16	7	1		
2	36	10	0	2	37	2	2		
3	55	3	0	3	55	9	3		
4	73	8	1	4	74	4	4		
5	92	1	1	5	92	11	5		
6	110	3	1	6	111	6	6		
7	128	11	1	7	130	1	7		
8	147	4	2	8	148	8	8		
9	165	9	2	9	167	3	9		
10	184	2	2	10	185	10	10		
11	202	7	2	11	204	5	11		
12	221	0	3	12	223	1	0		
13	239	5	3	13	241	8	1		
14	257	10	3	14	260	3	2		
15	276	3	3	15	278	10	3		
16	294	8	4	16	297	5	5		
17	313	1	4	17	316	0	6		
18	331	6	4	18	334	7	7		
19	349	11	4	19	353	2	8		
20	368	4	5	20	371	9	9		
21	386	9	5	21	390	4	10		
22	405	2	5	22	408	11	11		
23	423	7	5	23	427	7	0		
24	442	0	6	24	446	2	1		
25	460	5	6	25	464	9	2		
26	478	10	6	26	483	4	3		
27	497	3	6	27	501	11	4		
28	515	8	7	28	520	6	5		
29	534	1	7	29	539	1	6		
30	552	6	7	30	557	8	7		
31	570	11	7	31	576	3	8		
32	589	4	8	32	594	10	10		
33	607	9	8	33	613	5	11		
34	626	2	8	34	632	1	0		
35	644	7	8	35	650	8	1		
36	663	0	9	36	669	3	2		
37	681	5	9	37	687	10	3		
38	699	10	9	38	706	5	4		
39	718	3	9	39	725	0	5		
40	736	8	10	40	743	7	6		
41	755	1	10	41	762	2	7		
42	773	6	10	42	780	9	8		
43	791	11	10	43	799	4	9		
44	810	4	11	44	817	11	10		
45	828	9	11	45	836	6	11		
$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.	$\frac{1}{4}$ FT.	FT.	IN.	PA.	S.
$\frac{1}{4}$	4	7	3	0	$\frac{1}{4}$	4	7	9	3
$\frac{1}{2}$	9	2	6	0	$\frac{1}{2}$	9	3	6	6
$\frac{3}{4}$	13	9	9	0	$\frac{3}{4}$	13	11	3	9

SIDE 52 IN.				SIDE 52½ IN.			
FT.	.....			FT.	.....		
LNQ.	FT.	IN.	PA.	LNQ.	FT.	IN.	PA.
1	18	9	4	1	18	11	6
2	37	6	8	2	37	11	0
3	56	4	0	3	56	10	6
4	75	1	4	4	75	10	0
5	93	10	8	5	94	9	6
6	112	8	0	6	113	9	0
7	131	5	4	7	132	8	6
8	150	2	8	8	151	8	0
9	169	0	0	9	170	7	6
10	187	9	4	10	189	7	0
11	206	6	8	11	208	6	6
12	225	4	0	12	227	6	0
13	244	1	4	13	246	5	6
14	262	10	8	14	265	5	0
15	281	8	0	15	284	4	6
16	300	5	4	16	303	4	1
17	319	2	8	17	322	3	7
18	338	0	0	18	341	3	1
19	356	9	4	19	360	2	7
20	375	6	8	20	379	2	1
21	394	4	0	21	398	1	7
22	413	1	4	22	417	1	1
23	431	10	8	23	436	0	7
24	450	8	0	24	455	0	1
25	469	5	4	25	473	11	7
26	488	2	8	26	492	11	1
27	507	0	0	27	511	10	7
28	525	9	4	28	530	10	1
29	544	6	8	29	549	9	7
30	563	4	0	30	568	9	1
31	582	1	4	31	587	8	7
32	600	10	8	32	606	8	2
33	619	8	0	33	625	7	8
34	638	5	4	34	644	7	2
35	657	2	8	35	663	6	8
36	676	0	0	36	682	6	2
37	694	9	4	37	701	5	8
38	713	6	8	38	720	5	2
39	732	4	0	39	739	4	8
40	751	1	4	40	758	4	2
41	769	10	8	41	777	3	8
42	788	8	0	42	796	3	2
43	807	5	4	43	815	2	8
44	826	2	8	44	834	2	2
45	845	0	0	45	853	1	8
¼ FT.	.....			¼ FT.	.....		
¼ FT.	FT.	IN.	PA.	¼ FT.	FT.	IN.	PA.
¼	4	8	4	¼	4	8	10
½	9	4	8	½	9	5	9
¾	14	1	0	¾	14	2	7



SIDE 52½ IN.				SIDE 52¼ IN.			
FT.	LNG.			FT.	LNG.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	19	1	8	1	19	3	10
2	38	3	4	2	38	7	9
3	57	5	0	3	57	11	7
4	76	6	9	4	77	3	6
5	95	8	5	5	96	7	4
6	114	10	1	6	115	11	3
7	133	11	9	7	135	3	1
8	153	1	6	8	154	7	0
9	172	3	2	9	173	10	11
10	191	4	10	10	193	2	9
11	210	6	6	11	212	6	8
12	229	8	3	12	231	10	6
13	248	9	11	13	251	2	5
14	267	11	7	14	270	6	3
15	287	1	3	15	289	10	2
16	306	3	0	16	309	2	1
17	325	4	8	17	328	5	11
18	344	6	4	18	347	9	10
19	363	8	0	19	367	1	8
20	382	9	9	20	386	5	7
21	401	11	5	21	405	9	5
22	421	1	1	22	425	1	4
23	440	2	9	23	444	5	2
24	459	4	6	24	463	9	1
25	478	6	2	25	483	1	0
26	497	7	10	26	502	4	10
27	516	9	6	27	521	8	9
28	535	11	3	28	541	0	7
29	555	0	11	29	560	4	6
30	574	2	7	30	579	8	4
31	593	4	3	31	599	0	3
32	612	6	0	32	618	4	2
33	631	7	8	33	637	8	0
34	650	9	4	34	656	11	11
35	669	11	0	35	676	3	9
36	689	0	9	36	695	7	8
37	708	2	5	37	714	11	6
38	727	4	1	38	734	3	5
39	746	5	9	39	753	7	3
40	765	7	6	40	772	11	2
41	784	9	2	41	792	3	1
42	803	10	10	42	811	6	11
43	823	0	6	43	830	10	10
44	842	2	3	44	850	2	8
45	861	3	11	45	869	6	7

¼ FT.	FT. IN. PA. S.			¼ FT.	FT. IN. PA. S.				
¼	4	9	5	0	¼	4	9	11	6
½	9	6	10	0	½	9	7	11	0
¾	14	4	3	0	¾	14	5	10	6

FT. LNG.	SIDE 53 IN.			FT. LNG.	SIDE 53½ IN.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	19	6	1	1	19	8	3		
2	39	0	2	2	39	4	7		
3	58	6	3	3	59	0	10		
4	78	0	4	4	78	9	2		
5	97	6	5	5	98	5	5		
6	117	0	6	6	118	1	9		
7	136	6	7	7	137	10	0		
8	156	0	8	8	157	6	4		
9	175	6	9	9	177	2	8		
10	195	0	10	10	196	10	11		
11	214	6	11	11	216	7	3		
12	234	1	0	12	236	3	6		
13	253	7	1	13	255	11	10		
14	273	1	2	14	275	8	1		
15	292	7	3	15	295	4	5		
16	312	1	4	16	315	0	9		
17	331	7	5	17	334	9	0		
18	351	1	6	18	354	5	4		
19	370	7	7	19	374	1	7		
20	390	1	8	20	393	9	11		
21	409	7	9	21	413	6	2		
22	429	1	10	22	433	2	6		
23	448	7	11	23	452	10	9		
24	468	2	0	24	472	7	1		
25	487	8	1	25	492	3	5		
26	507	2	2	26	511	11	8		
27	526	8	3	27	531	8	0		
28	546	2	4	28	551	4	3		
29	565	8	5	29	571	0	7		
30	585	2	6	30	590	8	10		
31	604	8	7	31	610	5	2		
32	624	2	8	32	630	1	6		
33	643	8	9	33	649	9	9		
34	663	2	10	34	669	6	1		
35	682	8	11	35	689	2	4		
36	702	3	0	36	708	10	8		
37	721	9	1	37	728	6	11		
38	741	3	2	38	748	3	3		
39	760	9	3	39	767	11	6		
40	780	3	4	40	787	7	10		
41	799	9	5	41	807	4	2		
42	819	3	6	42	827	0	5		
43	838	9	7	43	846	8	9		
44	858	3	8	44	866	5	0		
45	877	9	9	45	886	1	4		
¼ FT.	FT.	IN.	PA.	8	¼ FT.	FT.	IN.	PA.	8.
¼	4	10	6	3	¼	4	11	0	9
½	9	9	0	6	½	9	10	1	6
¾	14	7	6	9	¾	14	9	2	3

SIDE 53½ IN.				SIDE 53¼ IN.					
FT.	FT.	IN.	PA.	FT.	FT.	IN.	PA.		
LNG.				LNG.					
1	19	10	6	1	20	0	9		
2	39	9	0	2	40	1	6		
3	59	7	6	3	60	2	3		
4	79	6	1	4	80	3	0		
5	99	4	7	5	100	3	9		
6	119	3	1	6	120	4	6		
7	139	1	7	7	140	5	3		
8	159	0	2	8	160	6	0		
9	178	10	8	9	180	6	9		
10	198	9	2	10	200	7	6		
11	218	7	8	11	220	8	3		
12	238	6	3	12	240	9	0		
13	258	4	9	13	260	9	9		
14	278	3	3	14	280	10	6		
15	298	1	9	15	300	11	3		
16	318	0	4	16	320	0	1		
17	337	10	10	17	340	0	10		
18	357	9	4	18	360	1	7		
19	377	7	10	19	380	2	4		
20	397	6	5	20	400	3	1		
21	417	4	11	21	420	3	10		
22	437	3	5	22	440	4	7		
23	457	1	11	23	460	5	4		
24	477	0	6	24	480	6	1		
25	496	11	0	25	500	6	19		
26	516	9	6	26	520	7	7		
27	536	8	0	27	540	8	4		
28	556	6	7	28	560	9	1		
29	576	5	1	29	580	9	10		
30	596	3	7	30	600	10	7		
31	616	2	1	31	620	11	4		
32	636	0	8	32	640	0	2		
33	655	11	2	33	660	0	11		
34	675	9	8	34	680	1	8		
35	695	8	2	35	700	2	5		
36	715	6	9	36	720	3	2		
37	735	5	3	37	740	3	11		
38	755	3	9	38	760	4	8		
39	775	2	3	39	780	5	5		
40	795	0	10	40	800	6	2		
41	814	11	4	41	820	6	11		
42	834	9	10	42	840	7	8		
43	854	8	4	43	860	8	5		
44	874	6	11	44	880	9	2		
45	894	5	5	45	900	9	11		
¼ FT.	FT.	IN.	PA.	S.	¼ FT.	FT.	IN.	PA.	S.
	4	11	7	6		5	0	2	3
	9	11	3	0		10	0	4	6
	14	10	10	6		15	0	6	9

FT. LNG.	SIDE 54 IN.			
	FT.	IN.	PA.	
1	20	3	0	
2	40	6	0	
3	60	9	0	
4	81	0	0	
5	101	3	0	
6	121	6	0	
7	141	9	0	
8	162	0	0	
9	182	3	0	
10	202	6	0	
11	222	9	0	
12	243	0	0	
13	263	3	0	
14	283	6	0	
15	303	9	0	
16	324	0	0	
17	344	3	0	
18	364	6	0	
19	384	9	0	
20	405	0	0	
21	425	3	0	
22	445	6	0	
23	465	9	0	
24	486	0	0	
25	506	3	0	
26	526	6	0	
27	546	9	0	
28	567	0	0	
29	587	3	0	
30	607	6	0	
31	627	9	0	
32	648	0	0	
33	668	3	0	
34	688	6	0	
35	708	9	0	
36	729	0	0	
37	749	3	0	
38	769	6	0	
39	789	9	0	
40	810	0	0	
41	830	3	0	
42	850	6	0	
43	870	9	0	
44	891	0	0	
45	911	3	0	
$\frac{1}{4}$ FT.	FT.	IN.	PA.	8
$\frac{1}{4}$	5	0	9	0
$\frac{1}{2}$	10	1	6	0
$\frac{3}{4}$	15	2	3	0

NEW  
**TABLES,**

Shewing the value of

**TIMBER, STONE, &c.**

CUT TO ANY SIZE OR SCANTLING,

*At the several prices from 1s. 6d. to 5s. 6d.  
per foot Cube.*

And which, by addition or subtraction only, will shew the value at any greater or less prices.

N. B. In the tables at 1s. 6d. 2s. and 2s. 6d. the value is given in pence and eighths of a penny; but in the tables at 3s. to 5s. 6d. the value is given in pence and farthings.

2 In. Sq.			3½ In. Sq.			4 In. Sq.			4½ In. Sq.			5 In. Sq.					
BV	d.	½	BV	d.	½	BV	d.	½	BV	d.	½	BV	d.	½			
2½	0	5	3½	1	4	4	2	0	7	3	4	5	3	1			
3	0	6	4	1	6	4½	2	2	7½	3	6	5½	3	3			
3½	0	7	4½	1	7	5	2	4	8	3	0	6	3	6			
4	1	0	5	1	7	5½	2	3	8½	4	0	6½	4	0			
4½	1	1	5½	2	0	6	2	5	9	4	4	7	4	3			
5	1	2	6	2	2	6½	2	3	9½	4	6	7½	4	5			
5½	1	3	6½	2	3	7	2	5	10	5	0	8	5	0			
6	1	4	7	2	5	7½	2	6	10½	5	2	8½	5	2			
6½	1	5	7½	2	6	8	3	0	11	5	4	9	5	5			
7	1	6	8	3	0	8½	3	1	11½	5	6	9½	5	7			
7½	1	7	8½	3	1	9	3	3	12	6	0	10	6	2			
8	2	0	9	3	3	9½	3	4	4½ In. Sq.						10½	6	4
8½	2	1	10	3	6	10	3	6							11	6	7
9	2	2	10½	3	7	10½	3	7	11½	6	1	12	6	6			
9½	2	3	11	4	1	11	4	1	5 In. Sq.						12	7	4
10	2	4	11½	4	2	11½	4	2							5	3	1
10½	2	5	12	4	4	12	4	4	5½	3	3	3 In. Sq.					
11	2	6	3 In. Sq.			3 In. Sq.			6	3	6						
11½	2	7							BV	d.	½	6½	4	0	7	4	3
12	3	0	3½	1	4	7	4	3	7½	4	5	8	5	0			
2½ In. Sq.			4	1	6	8	3	4	8	5	0	8½	5	2			
			4½	1	7	8½	3	5	9	5	5	9	5	5			
5	1	4	5	2	3	9½	3	7	9½	5	7	10	6	2			
5½	1	5	6	2	5	10	4	1	10	6	2	10½	6	4			
6	1	7	6½	2	7	10½	4	3	10½	6	4	11	6	7			
6½	2	0	7	3	0	11	4	4	11	6	7	11½	7	1			
7	2	1	7½	3	2	11½	4	6	11½	7	1	12	7	4			
7½	2	2	8	3	4	12	5	0	12	7	4						
8	2	4	8½	3	5	4 In. Sq.											
8½	2	5	9	3	7				4	2	0						
9	2	6	9½	4	1	4½	2	2									
9½	2	7	10	4	3	5	2	4									
10	3	1	10½	4	4	5½	2	6									
10½	3	2	11	4	6	6	3	0									
11	3	3	11½	5	0	6½	3	2									
11½	3	4	12	5	2	7	4	0									
12	3	6	4 In. Sq.			7½	4	3									
3 In. Sq.						BV	d.	½	8	5	0						
			3	1	1	4	2	0	8½	5	2						
			4½	2	2	9	5	5	9	5	5						
			5	2	4	9½	5	7	9½	5	7						
			5½	2	6	10	6	2	10	6	2						
			6	3	0	10½	6	4	10½	6	4						
			6½	3	2	11	6	7	11	6	7						
						11½	7	1	11½	7	1						
						12	7	4	12	7	4						

5½ In. Sq.

BY	d.	½
5½	3	0
6	4	1
6½	4	3
7	4	6
7½	5	1
8	5	4
8½	5	6
9	6	1
9½	6	4
10	6	7
10½	7	1
11	7	4
11½	7	7
12	8	2

6 In. Sq.

BY	d.	½
6	4	4
6½	4	7
7	5	2
7½	5	5
8	6	0
8½	6	3
9	6	6
9½	7	1
10	7	4
10½	7	7
11	8	2
11½	8	5
12	9	0

6½ In. Sq.

BY	d.	½
6½	5	2
7	5	5
7½	6	0
8	6	4
8½	6	7
9	7	2
9½	7	5
10	8	1
10½	8	4
11	8	7
11½	9	2
12	9	6

7 In. Sq.

BY	d.	½
7	6	1
7½	6	4
8	7	0
8½	7	3
9	7	7
9½	8	2
10	8	6
10½	9	1
11	9	5
11½	10	0
12	10	4

7½ In. Sq.

BY	d.	½
7½	7	0
8	7	4
8½	7	7
9	8	3
9½	8	7
10	9	3
10½	9	6
11	10	2
11½	10	6
12	11	2

8 In. Sq.

BY	d.	½
8	8	0
8½	8	4
9	9	0
9½	9	4
10	10	0
10½	10	4
11	11	0
11½	11	4
12	12	0

8½ In. Sq.

BY	d.	½
8½	9	0
9	9	4
9½	10	0
10	10	5
10½	11	1
11	11	5
11½	12	1
12	12	6

9 In. Sq.

BY	d.	½
9	10	1
9½	10	5
10	11	2
10½	11	6
11	12	3
11½	12	7
12	13	4

9½ In. Sq.

BY	d.	½
9½	11	2
10	11	7
10½	12	3
11	13	0
11½	13	5
12	14	2

10 In. Sq.

BY	d.	½
10	12	4
10½	13	1
11	13	6
11½	14	3
12	15	0

10½ In. Sq.

BY	d.	½
10½	13	6
11	14	3
11½	15	0
12	15	6

11 In. Sq.

BY	d.	½
11	15	1
11½	15	6
12	16	4

11½ In. Sq.

BY	d.	½
11½	16	4
12	17	2

2 In. Sq.			3½ In. Sq.			4 In. Sq.			4½ In. Sq.		
BV	d. ½		BV	d. ½		BV	d. ½		BV	d. ½	
2½	0	6	4	2	0	7	4	5	4½	3	3
3	1	0	4½	2	2	7½	5	0	5	3	6
3½	1	1	5	2	4	8	5	2	5½	4	1
4	1	2	5½	2	6	8½	5	5	6	4	4
4½	1	4	6	3	0	9	6	0	6½	4	7
5	1	5	6½	3	2	9½	6	2	7	5	2
5½	1	7	7	3	4	10	7	0	7½	5	5
6	2	0	7½	3	6	10½	7	2	8	6	0
6½	2	1	8	4	0	11	7	4	8½	6	3
7	2	2	8½	4	2	11½	8	0	9	6	6
7½	2	4	9	4	4	12	8	2	9½	7	1
8	2	5	9½	4	6				10	7	4
8½	2	6	10	5	0				10½	7	7
9	3	0	10½	5	2				11	8	2
9½	3	1	11	5	4				11½	8	5
10	3	2	11½	5	6				12	9	0
10½	3	4	12	6	0						
11	3	5									
11½	3	6									
12	4	0									
3 In. Sq.			3 In. Sq.			3 In. Sq.			3 In. Sq.		
BV	d. ½		BV	d. ½		BV	d. ½		BV	d. ½	
3	1	4	3½	2	0	5	4	1	5	4	4
			4	2	2	5½	4	4	6	5	0
			4½	2	5	6	5	0	6½	5	3
			5	2	7	6½	5	3	7	5	6
			5½	3	2	7	6	0	7½	6	2
			6	3	4	7½	6	2	8	6	5
			6½	3	6	8	6	5	8½	7	0
			7	4	0	8½	7	0	9	7	4
			7½	4	3	9	7	2	9½	7	7
			8	4	5	9½	7	5	10	8	2
			8½	4	7	10	8	0	10½	8	6
			9	5	2	10½	8	2	11	9	1
			9½	5	4	11	8	5	11½	9	4
			10	5	6	11½	9	0	12	10	0
			10½	6	0	12	9	2			
			11	6	2						
			11½	6	5						
			12	7	0						
4 In. Sq.			4 In. Sq.			4 In. Sq.			4 In. Sq.		
BV	d. ½		BV	d. ½		BV	d. ½		BV	d. ½	
4	2	5	4	2	5	6	5	0	6	5	0
4½	3	0	4½	3	0	6½	5	3	6½	5	3
5	3	2	5	3	2	7	6	0	7	6	0
5½	3	5	5½	3	5	7½	6	2	7½	6	2
6	4	0	6	4	0	8	6	5	8	6	5
6½	4	2	6½	4	2	8½	7	0	8½	7	0
						9	7	4	9	7	4
						9½	7	7	9½	7	7
						10	8	2	10	8	2
						10½	8	6	10½	8	6
						11	9	1	11	9	1
						11½	9	4	11½	9	4
						12	10	0	12	10	0



5½ In. Sq.

BV	d.	½
5½	5	0
6	5	4
6½	5	7
7	6	2
7½	6	7
8	7	2
8½	7	6
9	8	2
9½	8	5
10	9	1
10½	9	5
11	10	0
11½	10	4
12	11	0

6 In. Sq.

BV	d.	½
6	6	0
6½	6	4
7	7	0
7½	7	4
8	8	0
8½	8	4
9	9	0
9½	9	4
10	10	0
10½	10	4
11	11	0
11½	11	4
12	12	0

6½ In. Sq.

BV	d.	½
6½	7	0
7	7	4
7½	8	0
8	8	5
8½	9	1
9	9	6
9½	10	2
10	10	6
10½	11	3
11	11	7
11½	12	3
12	13	0

7 In. Sq.

BV	d.	½
7	8	1
7½	8	6
8	9	2
8½	9	7
9	10	4
9½	11	0
10	11	5
10½	12	2
11	12	6
11½	13	3
12	14	0

7½ In. Sq.

BV	d.	½
7½	9	3
8	10	0
8½	10	4
9	11	2
9½	11	7
10	12	4
10½	13	1
11	13	6
11½	14	3
12	15	0

8 In. Sq.

BV	d.	½
8	10	5
8½	11	2
9	12	0
9½	12	5
10	13	2
10½	14	0
11	14	5
11½	15	2
12	16	0

8½ In. Sq.

BV	d.	½
8½	12	0
9	12	6
9½	13	3
10	14	1
10½	14	7
11	15	4
11½	16	2
12	17	0

9 In. Sq.

BV	d.	½
9	13	4
9½	14	2
10	15	0
10½	15	6
11	16	4
11½	17	2
12	18	0

9½ In. Sq.

BV	d.	½
9½	15	0
10	15	6
10½	16	4
11	17	3
11½	18	2
12	19	0

10 In. Sq.

BV	d.	½
10	16	5
10½	17	4
11	18	2
11½	19	1
12	20	0

10½ In. Sq.

BV	d.	½
10½	18	3
11	19	2
11½	20	1
12	21	0

11 In. Sq.

BV	d.	½
11	20	0
11½	21	0
12	22	0

11½ In. Sq.

BV	d.	½
11½	22	0
12	23	0

2 In. Sq.			3½	2	1	7	5	6
BV	d.		4	2	4	7½	6	2
	1	0	4½	2	6	8	6	4
2½	1	0	5	3	1	8½	7	0
3	1	1	5½	3	3	9	7	2
3½	1	3	6	3	6	9½	7	6
4	1	5	6½	4	0	10	8	1
4½	1	6	7	4	2	10½	8	4
5	2	0	7½	4	4	11	9	0
5½	2	2	8	5	0	11½	9	4
6	2	4	8½	5	2	12	10	0
6½	2	6	9	5	4			
7	2	7	9½	5	7			
7½	3	0	10	6	2	4½ In. Sq.		
8	3	2	10½	6	4	BV	d.	
8½	3	4	11	6	7	4½	4	2
9	3	6	11½	7	0	5	4	4
9½	3	7	12	7	4	5½	5	0
10	4	0	3½ In. Sq.			6	5	4
10½	4	2	BV	d.		6½	6	0
11	4	4	3½	2	4	7	6	3
11½	4	6	4	2	7	7½	6	6
12	5	0	4½	3	1	8	7	2
			5	3	4	8½	7	6
			5½	4	0	9	8	2
			6	4	2	9½	8	5
			6½	4	5	10	9	0
			7	5	0	10½	9	4
			7½	5	4	11	9	7
			8	5	6	11½	10	2
			8½	6	0	12	11	1
			9	6	3			
			9½	6	7	5 In. Sq.		
			10	7	2	BV	d.	
			10½	7	4	5	5	0
			11	7	7	5½	5	5
			11½	8	3	6	6	2
			12	8	6	6½	6	5
			4 In. Sq.			7	7	2
			BV	d.		7½	7	5
			4	3	2	8	8	1
			4½	3	7	8½	8	5
			5	4	1	9	9	2
			5½	4	4	9½	9	5
			6	5	0	10	10	2
			6½	5	2	10½	10	5
			3 In. Sq.			11	11	1
			BV	d.		11½	11	5
			3	1	7	12	12	4

5½ In. Sq.			7 In. Sq.			9 In. Sq.		
BV	d.	½	BV	d.	½	BV	d.	½
5½	6	2	7	10	1	9	16	7
6	6	7	7½	10	7	9½	17	6
6½	7	2	8	11	4	10	18	6
7	7	7	8½	12	1	10½	19	2
7½	8	3	9	13	1	11	20	5
8	9	0	9½	13	6	11½	21	4
8½	9	3	10	14	4	12	22	4
9	10	0	10½	15	3	-----		
9½	10	4	11	16	0	9½ In. Sq.		
10	11	2	11½	16	6	BV	d.	½
10½	11	5	12	17	4	9½	18	6
11	12	1	-----			10	19	5
11½	12	6	7½ In. Sq.			10½	20	5
12	13	6	BV	d.	½	11	21	5
-----			7½	11	6	11½	22	6
6 In. Sq.			8	12	5	12	23	6
BV	d.	½	8½	13	1	-----		
6	7	4	9	14	0	10 In. Sq.		
6½	8	0	9½	14	6	BV	d.	½
7	8	4	10	15	5	10	20	6
7½	9	0	10½	16	3	10½	21	7
8	10	0	11	17	1	11	22	7
8½	10	5	11½	17	7	11½	23	7
9	11	2	12	18	6	12	25	0
9½	11	7	-----			-----		
10	12	4	8 In. Sq.			10½ In. Sq.		
10½	13	1	BV	d.	½	BV	d.	½
11	13	6	8	13	2	10½	22	7
11½	14	2	8½	14	0	11	24	0
12	15	0	9	15	0	11½	25	1
-----			9½	15	6	12	26	2
6½ In. Sq.			10	16	4	-----		
BV	d.	½	10½	17	4	11 In. Sq.		
6½	8	6	11	18	2	BV	d.	½
7	9	2	11½	19	0	11	25	0
7½	10	0	12	20	0	11½	26	2
8	10	7	-----			12	27	4
8½	11	3	8½ In. Sq.			-----		
9	12	0	BV	d.	½	11½ In. Sq.		
9½	12	6	8½	15	0	BV	d.	½
10	13	2	9	15	7	11	27	6
10½	13	7	9½	16	5	12	28	6
11	14	2	10	17	5	-----		
11½	15	0	10½	18	4	11 In. Sq.		
12	16	2	11	19	2	BV	d.	½
-----			11½	20	2	11½	27	6
6 In. Sq.			12	21	2	12	28	6

2 In. Sq.		
BV	s.	d.
2½	0	1¼
3	0	1½
3½	0	1¾
4	0	2
4½	0	2¼
5	0	2½
5½	0	2¾
6	0	3
6½	0	3¼
7	0	3½
7½	0	3¾
8	0	4
8½	0	4¼
9	0	4½
9½	0	4¾
10	0	5
10½	0	5¼
11	0	5½
11½	0	5¾
12	0	6

2½ In. Sq.		
BV	s.	d.
2½	0	1½
3	0	1¾
3½	0	2
4	0	2¼
4½	0	2½
5	0	3
5½	0	3¼
6	0	3½
6½	0	4
7	0	4¼
7½	0	4½
8	0	5
8½	0	5¼
9	0	5½
9½	0	5¾
10	0	6
10½	0	6¼
11	0	6½
11½	0	7
12	0	7½

3 In. Sq.		
BV	s.	d.
3	0	2¼

3½	0	2½
4	0	3
4½	0	3¼
5	0	3½
5½	0	4
6	0	4½
6½	0	4¾
7	0	5
7½	0	5¼
8	0	5½
8½	0	5¾
9	0	6
9½	0	6¼
10	0	6½
10½	0	6¾
11	0	7
11½	0	7¼
12	0	7½

3½ In. Sq.		
BV	s.	d.
3½	0	3
4	0	3½
4½	0	3¾
5	0	4
5½	0	4¼
6	0	4½
6½	0	4¾
7	0	5
7½	0	5¼
8	0	5½
8½	0	5¾
9	0	6
9½	0	6¼
10	0	6½
10½	0	6¾
11	0	7
11½	0	7¼
12	0	7½

4 In. Sq.		
BV	s.	d.
4	0	4
4½	0	4½
5	0	5
5½	0	5½
6	0	6
6½	0	6½

7	0	7
7½	0	7½
8	0	8
8½	0	8½
9	0	9
9½	0	9½
10	0	10
10½	0	10½
11	0	11
11½	0	11½
12	1	0

4½ In. Sq.		
BV	s.	d.
4½	0	5
5	0	5½
5½	0	6
6	0	6¼
6½	0	6¾
7	0	7
7½	0	7¼
8	0	7½
8½	0	7¾
9	0	8
9½	0	8¼
10	0	8½
10½	0	8¾
11	1	0¼
11½	1	0½
12	1	1¼

5 In. Sq.		
BV	s.	d.
5	0	6¼
5½	0	6½
6	0	7
6½	0	7½
7	0	8
7½	0	8½
8	0	9
8½	0	9½
9	0	10
9½	0	10½
10	1	0¼
10½	1	0½
11	1	1¼
11½	1	1½
12	1	2¼

5½ In. Sq.			7 In. Sq.			9 In. Sq.		
BY	s.	d.	BY	s.	d.	BY	s.	d.
5½	0	7½	7	1	0¼	9	1	8½
6	0	8¼	7½	1	1¼	9½	1	9¼
6½	0	8½	8	1	2	10	1	10¼
7	0	9½	8½	1	3	10½	1	11½
7½	0	10¼	9	1	3¾	11	2	0¼
8	0	11	9½	1	4¼	11½	2	2
8½	0	11½	10	1	5½	12	2	3
9	1	0¼	10½	1	6½	-----		
9½	1	1	11	1	7¼	9½ In. Sq.		
10	1	1½	11½	1	8¼	BY	s.	d.
10½	1	2¼	12	1	9¼	9½	1	10¼
11	1	3	-----			10	1	11¼
11½	1	3¾	7½ In. Sq.			10½	2	0¼
12	1	4½	BY	s.	d.	11	2	2
-----			7½	1	2	11½	2	3¼
6 In. Sq.			8	1	3	12	2	4½
BY	s.	d.	8½	1	3¾	-----		
6	0	9	9	1	4¼	10 In. Sq.		
6½	0	9½	9½	1	5¼	BY	s.	d.
7	0	10½	10	1	6¼	10	2	1
7½	0	11¼	10½	1	7½	10½	2	2¼
8	1	0	11	1	8½	11	2	3½
8½	1	0¼	11½	1	9½	11½	2	5¼
9	1	1½	12	1	10½	12	2	6
9½	1	2¼	-----			-----		
10	1	3	8 In. Sq.			10½ In. Sq.		
10½	1	3¾	BY	s.	d.	BY	s.	d.
11	1	4¼	8	1	4	10½	2	3½
11½	1	5¼	8½	1	5	11	2	4½
12	1	6	9	1	6	11½	2	6
-----			9½	1	7	12	2	7½
6½ In. Sq.			10	1	8	-----		
BY	s.	d.	10½	1	9	11 In. Sq.		
6½	0	10¼	11	1	10	BY	s.	d.
7	0	11¼	11½	1	11	11	2	6¼
7½	1	0	12	2	0	11½	2	7¼
8	1	1	-----			12	2	9
8½	1	1½	8½ In. Sq.			-----		
9	1	2¼	BY	s.	d.	11½ In. Sq.		
9½	1	3¼	8½	1	6	BY	s.	d.
10	1	4¼	9	1	7	11½	2	9
10½	1	5	9½	1	8	-----		
11	1	5½	10	1	9¼	11 In. Sq.		
11½	1	6¼	10½	1	10¼	BY	s.	d.
12	1	7¼	11	1	11¼	11½	2	9
-----			11½	2	0¼	12	2	10¼
6¾ In. Sq.			12	2	1¼	-----		
BY	s.	d.	-----			-----		
6¾	0	10½	8 In. Sq.			-----		
7	0	11¼	BY	s.	d.	-----		
7½	1	0	8	1	6	-----		
8	1	1	9	1	7	-----		
8½	1	1½	9½	1	8	-----		
9	1	2¼	10	1	9¼	-----		
9½	1	3¼	10½	1	10¼	-----		
10	1	4¼	11	1	11¼	-----		
10½	1	5	11½	2	0¼	-----		
11	1	5½	12	2	1¼	-----		
11½	1	6¼	-----			-----		
12	1	7¼	-----			-----		

**2 In. Sq.**

BY	s.	d.
2½	0	1¼
3	0	1¾
3½	0	2¼
4	0	2½
4½	0	2¾
5	0	3
5½	0	3¼
6	0	3½
6½	0	4
7	0	4¼
7½	0	4¾
8	0	4½
8½	0	5
9	0	5¼
9½	0	5½
10	0	6
10½	0	6¼
11	0	6½
11½	0	6¾
12	0	7

**2½ In. Sq.**

BY	s.	d.
2½	0	2
3	0	2¼
3½	0	2½
4	0	3
4½	0	3¼
5	0	3½
5½	0	4
6	0	4¼
6½	0	4½
7	0	5
7½	0	5¼
8	0	6
8½	0	6¼
9	0	6½
9½	0	7
10	0	7¼
10½	0	7½
11	0	8
11½	0	8¼
12	0	8½

**3 In. Sq.**

BY	s.	d.
3	0	2¼

3½	0	3¼
4	0	3½
4½	0	4
5	0	4½
5½	0	5
6	0	5¼
6½	0	5½
7	0	6
7½	0	6¼
8	0	7
8½	0	7½
9	0	8
9½	0	8½
10	0	9
10½	0	9¼
11	0	9½
11½	0	10
12	0	10½

**3½ In. Sq.**

BY	s.	d.
3½	0	3¼
4	0	4¼
4½	0	4½
5	0	5
5½	0	5¾
6	0	6¼
6½	0	6½
7	0	7¼
7½	0	8
8	0	8¼
8½	0	8¾
9	0	9½
9½	0	10
10	0	10¼
10½	0	11
11	0	11½
11½	1	0
12	1	0¼

**4 In. Sq.**

BY	s.	d.
4	0	4¾
4½	0	5½
5	0	6
5½	0	6½
6	0	7
6½	0	7¼

7	0	8¼
7½	0	9
8	0	9½
8½	0	10
9	0	10½
9½	0	11¼
10	0	11½
10½	1	0½
11	1	1
11½	1	1½
12	1	2

**4½ In. Sq.**

BY	s.	d.
4½	0	6¼
5	0	7
5½	0	7½
6	0	8
6½	0	8¾
7	0	9
7½	0	10
8	0	10¼
8½	0	11¼
9	1	0
9½	1	1
10	1	1½
10½	1	2
11	1	2½
11½	1	3¼
12	1	3½

**5 In. Sq.**

BY	s.	d.
5	0	7¼
5½	0	8¼
6	0	8½
6½	0	9¼
7	0	10½
7½	0	11½
8	1	0
8½	1	0¼
9	1	1¼
9½	1	2½
10	1	3½
10½	1	3¾
11	1	4
11½	1	5¼
12	1	5½

5½ In. Sq.

BY	s.	d.
5½	0	0
6	0	9¼
6½	0	10¾
7	0	11½
7½	1	0½
8	1	1
8½	1	2
9	1	2¾
9½	1	3¾
10	1	4½
10½	1	5¼
11	1	5¾
11½	1	6½
12	1	7¼

6 In. Sq.

BY	s.	d.
6	0	10¼
6½	0	11½
7	1	0¼
7½	1	1¼
8	1	2
8½	1	3
9	1	3¾
9½	1	4¾
10	1	5½
10½	1	6½
11	1	7¼
11½	1	8¼
12	1	9

6½ In. Sq.

BY	s.	d.
6½	1	0½
7	1	1½
7½	1	2½
8	1	3¼
8½	1	4¼
9	1	5¼
9½	1	6¼
10	1	7
10½	1	7½
11	1	9
11½	1	10
12	1	10¾

7 In. Sq.

BY	s.	d.
7	1	2½
7½	1	3½
8	1	4½
8½	1	5½
9	1	6½
9½	1	7½
10	1	8½
10½	1	9½
11	1	10½
11½	1	11½
12	2	0½

7½ In. Sq.

BY	s.	d.
7½	1	4¼
8	1	5¾
8½	1	6¾
9	1	7¾
9½	1	9
10	1	10
10½	1	11¼
11	2	0¼
11½	2	1¼
12	2	2¼

8 In. Sq.

BY	s.	d.
8	1	7
8½	1	8
9	1	9
9½	1	10¼
10	1	11½
10½	2	0¾
11	2	1¾
11½	2	3
12	2	4

8½ In. Sq.

BY	s.	d.
8½	1	9
9	1	10¼
9½	1	11½
10	2	1
10½	2	2¼
11	2	3¼
11½	2	4¼
12	2	5¼

9 In. Sq.

BY	s.	d.
9	1	11¼
9½	2	1
10	2	2¼
10½	2	3¼
11	2	5
11½	2	6¼
12	2	7¼

9½ In. Sq.

BY	s.	d.
9½	2	3
10	2	4¼
10½	2	5¼
11	2	6¼
11½	2	8
12	2	9¼

10 In. Sq.

BY	s.	d.
10	2	5
10½	2	6¼
11	2	8
11½	2	9¼
12	2	11

10½ In. Sq.

BY	s.	d.
10½	2	8¼
11	2	9¾
11½	2	11¾
12	3	0¾

11 In. Sq.

BY	s.	d.
11	2	11¼
11½	3	0¼
12	3	2¼

11½ In. Sq.

BY	s.	d.
11½	3	2¼
12	3	4¼

2 In. Sq.			3½	0	3½	7	0	9½
BV	s.	d.	4	0	4	7½	0	10½
2½	0	1¼	4½	0	4½	8	0	10¾
3	0	2	5	0	5	8½	0	11½
3½	0	2½	5½	0	5½	9	1	0
4	0	2¾	6	0	6	9½	1	0¾
4½	0	3	6½	0	6½	10	1	1½
5	0	3½	7	0	7	10½	1	2¼
5½	0	3¾	7½	0	7½	11	1	2¾
6	0	4	8	0	8	11½	1	3½
6½	0	4½	8½	0	8½	12	1	4
7	0	4¾	9	0	9			
7½	0	5	9½	0	9½			
8	0	5½	10	0	10			
8½	0	5¾	10½	0	10½			
9	0	6	11	0	11			
9½	0	6½	11½	0	11½			
10	0	6¾	12	1	0			
10½	0	7						
11	0	7¼						
11½	0	7½						
12	0	8						
2½ In. Sq.			3½ In. Sq.			4½ In. Sq.		
BV	s.	d.	BV	s.	d.	BV	s.	d.
2½	0	2¼	3½	0	4½	4½	0	7
3	0	2½	4	0	4¾	5	0	7¾
3½	0	3	4½	0	5½	5½	0	8½
4	0	3½	5	0	6	6	0	9
4½	0	3¾	5½	0	6½	6½	0	10
5	0	4	6	0	7	7	0	10½
5½	0	4½	6½	0	7½	7½	0	11
6	0	5	7	0	8¼	8	0	11½
6½	0	5½	7½	0	9	8½	1	1
7	0	6	8	0	9½	9	1	1½
7½	0	6¼	8½	0	10	9½	1	2¼
8	0	6½	9	0	10½	10	1	3¼
8½	0	7¼	9½	0	11¼	10½	1	4
9	0	7½	10	0	11½	11	1	4½
9½	0	8	10½	1	12	11½	1	5¼
10	0	8½	11	1	1	12	1	6
10½	0	8¾	11½	1	1½			
11	0	9¼	12	1	2			
11½	0	9½						
12	0	10						
3 In. Sq.			4 In. Sq.			5 In. Sq.		
BV	s.	d.	BV	s.	d.	BV	s.	d.
3	0	3	4	0	5½	5	0	8¼
			4½	0	6¼	5½	0	9½
			5	0	6¾	6	0	10
			5½	0	7½	6½		11
			6	0	8	7	1	0
			6½	0	8¾	7½	1	0¾
						8	1	1¼
						8½	1	2¼
						9	1	3
						9½	1	4
						10	1	4½
						10½	1	5½
						11	1	6¼
						11½	1	7
						12	1	8



5½ In. Sq.

BV	s.	d.
5½	0	10
6	0	11
6½	1	0
7	1	1
7½	1	2
8	1	2½
8½	1	3¼
9	1	4½
9½	1	5¼
10	1	6½
10½	1	7¼
11	1	8¼
11½	1	9
12	1	10

7 In. Sq.

BV	s.	d.
7	1	4½
7½	1	5¼
8	1	7
8½	1	8¼
9	1	9¼
9½	1	10½
10	1	11½
10½	2	0¼
11	2	1¼
11½	2	3
12	2	4

9 In. Sq.

BV	s.	d.
9	2	2¼
9½	2	4½
10	2	6
10½	2	7½
11	2	9
11½	2	10½
12	3	0

9½ In. Sq.

BV	s.	d.
9½	2	7¼
10	2	8¼
10½	2	9½
11	2	11
11½	3	0¼
12	3	2

6 In. Sq.

BV	s.	d.
6	1	0
6½	1	1
7	1	2
7½	1	3
8	1	4
8½	1	5
9	1	6
9½	1	7
10	1	8
10½	1	9
11	1	10
11½	1	11
12	2	0

7½ In. Sq.

BV	s.	d.
7½	1	7½
8	1	8½
8½	1	9½
9	1	10½
9½	2	0
10	2	1¼
10½	2	2½
11	2	3½
11½	2	5
12	2	6

10 In. Sq.

BV	s.	d.
10	2	11
10½	3	0
11	3	0½
11½	3	2½
12	3	4

6½ In. Sq.

BV	s.	d.
6½	1	1½
7	1	3¼
7½	1	4½
8	1	5½
8½	1	6¾
9	1	7¾
9½	1	8¾
10	1	9¾
10½	1	11
11	2	0
11½	2	1
12	2	2

8 In. Sq.

BV	s.	d.
8	1	9½
8½	1	10¼
9	2	0
9½	2	1½
10	2	2¼
10½	2	4
11	2	5¼
11½	2	6¼
12	2	8

10½ In. Sq.

BV	s.	d.
10½	3	0½
11	3	2½
11½	3	4½
12	3	6

8½ In. Sq.

BV	s.	d.
8½	2	1½
9	2	2¼
9½	2	3
10	2	4½
10½	2	5¾
11	2	7½
11½	2	8¼
12	2	10

11 In. Sq.

BV	s.	d.
11	3	4¼
11½	3	6¼
12	3	8

11½ In. Sq.

BV	s.	d.
11½	3	8
12	3	10

2 In. Sq.			3½	0	4	7	0	10½
BV	s.	d.	4	0	4½	7½	0	11¼
2½	0	2	4½	0	5¼	8	1	0
3	0	2¼	5	0	5½	8½	1	0½
3½	0	2½	5½	0	6¼	9	1	1½
4	0	3	6	0	6½	9½	1	2¼
4½	0	3½	6½	0	7½	10	1	3
5	0	4	7	0	8	10½	1	3½
5½	0	4¼	7½	0	8½	11	1	4
6	0	4½	8	0	9	11½	1	5
6½	0	5	8½	0	9½	12	1	6
7	0	5¼	9	0	10¼	-----		
7½	0	5½	9½	0	10½	4½ In. Sq.		
8	0	6	10	0	11¼	BV	s.	d.
8½	0	6¼	10½	1	0	4½	0	8
9	0	6½	11	1	0½	5	0	8½
9½	0	7	11½	1	1	5½	0	9½
10	0	7¼	12	1	1½	6	0	10¼
10½	0	7½	-----			6½	0	11¼
11	0	8	3½ In. Sq.			7	1	0
11½	0	8¼	BV	s.	d.	7½	1	1½
12	0	9	3½	0	4¾	8	1	2¼
-----			4	0	5¼	8½	1	2½
2½ In. Sq.			4½	0	5½	9	1	3¼
BV	s.	d.	5	0	6¼	9½	1	4½
2½	0	2½	5½	0	7¼	10	1	5½
3	0	3	6	0	8	10½	1	6
3½	0	3½	6½	0	8½	11	1	7
4	0	3¾	7	0	9¼	11½	1	7½
4½	0	4½	7½	0	10	12	1	8¼
5	0	5	8	0	10½	-----		
5½	0	5¼	8½	0	11¼	5 In. Sq.		
6	0	5½	9	1	0	BV	s.	d.
6½	0	6¼	9½	1	0½	5	0	10
7	0	7	10	1	1¼	5½	0	10½
7½	0	7¼	10½	1	1½	6	0	11¼
8	0	7½	11	1	2¼	6½	1	0½
8½	0	8¼	11½	1	3	7	1	1½
9	0	8½	12	1	3¼	7½	1	3
9½	0	9	-----			8	1	4¼
10	0	9½	4 In. Sq.			8½	1	4½
10½	0	10	BV	s.	d.	9	1	5
11	0	10½	4	0	6	9½	1	6¼
11½	0	11	4½	0	6¾	10	1	7¼
12	0	11½	5	0	7½	10½	1	8¼
-----			5½	0	8¼	11	1	8½
3 In. Sq.			6	0	9	11½	1	9¼
BV	s.	d.	6½	0	9½	12	1	10¼
3	0	3½	-----					

5½ In. Sq.

BY	s.	d.
5½	1	0
6	1	0½
6½	1	1
7	1	2¼
7½	1	4
8	1	5¼
8½	1	6
9	1	6¾
9½	1	8
10	1	9¼
10½	1	10
11	1	10¾
11½	2	0
12	2	0¾

6 In. Sq.

BY	s.	d.
6	1	1½
6½	1	2¼
7	1	3¼
7½	1	5
8	1	6
8½	1	7¾
9	1	8¾
9½	1	9½
10	1	10½
10½	1	11¼
11	2	0¾
11½	2	2
12	2	3

6½ In. Sq.

BY	s.	d.
6½	1	4
7	1	5¼
7½	1	6½
8	1	7¾
8½	1	9
9	1	10
9½	1	11¼
10	2	0½
10½	2	1¼
11	2	3
11½	2	4¼
12	2	5¼

7 In. Sq.

BY	s.	d.
7	1	6½
7½	1	8
8	1	9½
8½	1	10½
9	1	11¼
9½	2	1¼
10	2	2½
10½	2	3¼
11	2	5
11½	2	6¼
12	2	7½

7½ In. Sq.

BY	s.	d.
7½	1	9½
8	1	10¾
8½	2	0
9	2	1½
9½	2	3
10	2	4¼
10½	2	5¼
11	2	7
11½	2	8¼
12	2	9¼

8 In. Sq.

BY	s.	d.
8	2	0
8½	2	1½
9	2	3
9½	2	4½
10	2	6
10½	2	7½
11	2	9
11½	2	10½
12	3	0

8½ In. Sq.

BY	s.	d.
8½	2	3¼
9	2	4½
9½	2	6¼
10	2	8
10½	2	9¼
11	2	11¼
11½	3	0¼
12	3	2¼

9 In. Sq.

BY	s.	d.
9	2	6
9½	2	8
10	2	10
10½	2	11¼
11	3	1¼
11½	3	3
12	3	4½

9½ In. Sq.

BY	s.	d.
9½	2	10
10	2	11¼
10½	3	1¼
11	3	3½
11½	3	5
12	3	6¼

10 In. Sq.

BY	s.	d.
10	3	3¼
10½	3	4¼
11	3	5
11½	3	7
12	3	9

10½ In. Sq.

BY	s.	d.
10½	3	7¼
11	3	8½
11½	3	9¼
12	3	11¼

11 In. Sq.

BY	s.	d.
11	3	9¼
11½	3	11¼
12	4	1¼

11½ In. Sq.

BY	s.	d.
11½	4	1¼
12	4	3¼

2 In. Sq.			3½	0	4½	7	0	11½
BV	s.	d.	4	0	5	7½	1	0
2½	0	2¼	4½	0	5½	8	1	1½
3	0	2½	5	0	6¼	8½	1	2¼
3½	0	3	5½	0	7	9	1	3
4	0	3½	6	0	7½	9½	1	4
4½	0	3¾	6½	0	8¼	10	1	4½
5	0	4¼	7	0	8½	10½	1	5½
5½	0	4¾	7½	0	9¼	11	1	6¼
6	0	5	8	0	10	11½	1	7¼
6½	0	5½	8½	0	10½	12	1	8
7	0	6	9	0	11¼			
7½	0	6¼	9½	1	0			
8	0	6½	10	1	0½	4½ In. Sq.		
8½	0	7¼	10½	1	1¼	BV	s.	d.
9	0	7½	11	1	1½	4½	0	9
9½	0	8	11½	1	2½	5	0	9½
10	0	8½	12	1	3	5½	0	10½
10½	0	9				6	0	11½
11	0	9¼	3½ In. Sq.			6½	1	0½
11½	0	9½	BV	s.	d.	7	1	1½
12	0	10	3½	0	5	7½	1	2¼
			4	0	6	8	1	3¼
			4½	0	7	8½	1	4¼
			5	0	7½	9	1	5
			5½	0	8¼	9½	1	6
			6	0	8½	10	1	7
			6½	0	9¼	10½	1	7½
			7	0	10½	11	1	8½
			7½	0	11¼	11½	1	9
			8	1	0¼	12	1	10½
			8½	1	1			
			9	1	1¼	5 In. Sq.		
			9½	1	2	BV	s.	d.
			10	1	2¼	5	0	11
			10½	1	3½	5½	0	11½
			11	1	4	6	1	0½
			11½	1	5	6½	1	1¼
			12	1	5½	7	1	3
						7½	1	4
			4 In. Sq.			8	1	5
			BV	s.	d.	8½	1	6
			4	0	6¼	9	1	6¼
			4½	0	7¼	9½	1	7¼
			5	0	8½	10	1	9
			5½	0	9¼	10½	1	9½
			6	0	10	11	1	10½
			6½	0	11	11½	2	0
						12	2	1
			3 In. Sq.					
			BV	s.	d.			
			3	0	3¼			

5½ In. Sq.

BY	s.	d.
5½	1	0½
6	1	1¾
6½	1	3
7	1	4¼
7½	1	5½
8	1	6½
8½	1	7½
9	1	8¾
9½	1	10
10	1	11
10½	2	0
11	2	1¼
11½	2	2½
12	2	3½

6 In. Sq.

BY	s.	d.
6	1	3
6½	1	4¼
7	1	5½
7½	1	6¾
8	1	8
8½	1	9¼
9	1	10½
9½	1	11¾
10	2	1
10½	2	2¼
11	2	3½
11½	2	4¾
12	2	6

6½ In. Sq.

BY	s.	d.
6½	1	5½
7	1	7
7½	1	8½
8	1	9¾
8½	1	11¼
9	2	0½
9½	2	2
10	2	3¼
10½	2	4¾
11	2	5¾
11½	2	7¼
12	2	8¾

7 In. Sq.

BY	s.	d.
7	1	8½
7½	1	10
8	1	11½
8½	2	1
9	2	2¼
9½	2	3¾
10	2	5¼
10½	2	6¾
11	2	8
11½	2	9½
12	2	11

7½ In. Sq.

BY	s.	d.
7½	2	0
8	2	1½
8½	2	3¼
9	2	4½
9½	2	5¾
10	2	7¼
10½	2	8¾
11	2	10¼
11½	3	0
12	3	2

8 In. Sq.

BY	s.	d.
8	2	3
8½	2	4½
9	2	6
9½	2	7½
10	2	9
10½	2	11
11	3	0½
11½	3	2¼
12	3	4

8½ In. Sq.

BY	s.	d.
8½	2	5½
9	2	7½
9½	2	9½
10	2	11¼
10½	3	1¼
11	3	3¼
11½	3	5
12	3	7

9 In. Sq.

BY	s.	d.
9	2	9
9½	2	11¼
10	3	1½
10½	3	3¾
11	3	5¾
11½	3	7¾
12	3	9

9½ In. Sq.

BY	s.	d.
9½	3	2¼
10	3	4¾
10½	3	6¾
11	3	7¾
11½	3	9¾
12	3	11½

10 In. Sq.

BY	s.	d.
10	3	8
10½	3	9½
11	3	10½
11½	4	0½
12	4	2

10½ In. Sq.

BY	s.	d.
10½	3	9½
11	4	0¼
11½	4	2½
12	4	4½

11 In. Sq.

BY	s.	d.
11	4	2½
11½	4	4¼
12	4	7

11½ In. Sq.

BY	s.	d.
11½	4	7
12	4	9½

**2 In. Sq.**

BV	s.	d.
2½	0	2½
3	0	2¾
3½	0	3¼
4	0	3½
4½	0	4¼
5	0	4¾
5½	0	5
6	0	5½
6½	0	6
7	0	6½
7½	0	7
8	0	7½
8½	0	8
9	0	8½
9½	0	8¾
10	0	9
10½	0	9¾
11	0	10
11½	0	10½
12	0	11

**2½ In. Sq.**

BV	s.	d.
2½	0	2½
3	0	3½
3½	0	4
4	0	4½
4½	0	5½
5	0	6
5½	0	6½
6	0	7
6½	0	7½
7	0	8¼
7½	0	8½
8	0	9¼
8½	0	10
9	0	10½
9½	0	11¼
10	0	11½
10½	1	0¼
11	1	0½
11½	1	1¼
12	1	1½

**3 In. Sq.**

BV	s.	d.
3	0	4¼

3½	0	4¼
4	0	5½
4½	0	6¼
5	0	7
5½	0	7¾
6	0	8¼
6½	0	9
7	0	9¾
7½	0	10½
8	0	11
8½	0	11½
9	1	0¼
9½	1	1¼
10	1	1¾
10½	1	2¼
11	1	3¼
11½	1	4
12	1	4½

**3½ In. Sq.**

BV	s.	d.
3½	0	6
4	0	6½
4½	0	7¼
5	0	8¼
5½	0	9
6	0	9¾
6½	0	10½
7	0	11½
7½	1	0¼
8	1	1
8½	1	1¼
9	1	2½
9½	1	3¼
10	1	4¼
10½	1	5¼
11	1	5¾
11½	1	6¾
12	1	7¼

**4 In. Sq.**

BV	s.	d.
4	0	7½
4½	0	8½
5	0	9¼
5½	0	10¼
6	0	11
6½	1	0

7	1	1
7½	1	2
8	1	3
8½	1	3¾
9	1	4¼
9½	1	5¼
10	1	6¼
10½	1	7¼
11	1	8¼
11½	1	9¼
12	1	10

**4½ In. Sq.**

BV	s.	d.
4½	0	9¼
5	0	10¼
5½	0	11¼
6	1	0¼
6½	1	1¼
7	1	2¼
7½	1	3¼
8	1	4¼
8½	1	5¼
9	1	6¼
9½	1	7¼
10	1	8¼
10½	1	10
11	1	10¼
11½	2	0
12	2	0¼

**5 In. Sq.**

BV	s.	d.
5	1	0¼
5½	1	1
6	1	1¼
6½	1	3¼
7	1	4¼
7½	1	5¼
8	1	6¼
8½	1	7¼
9	1	8¼
9½	1	9¼
10	1	11
10½	2	0¼
11	2	1¼
11½	2	2¼
12	2	3¼

5½ In. Sq.

BV	s.	d.
5½	1	2
6	1	3½
6½	1	4½
7	1	6
7½	1	7½
8	1	8½
8½	1	9½
9	1	10½
9½	2	0
10	2	1½
10½	2	2½
11	2	3½
11½	2	5½
12	2	6½

6 In. Sq.

BV	s.	d.
6	1	4½
6½	1	6
7	1	7½
7½	1	8½
8	1	10
8½	1	11½
9	2	0½
9½	2	2¼
10	2	3½
10½	2	5
11	2	6½
11½	2	7½
12	2	9

6½ In. Sq.

BV	s.	d.
6½	1	8
7	1	9½
7½	1	10½
8	2	0
8½	2	1½
9	2	3
9½	2	4½
10	2	6
10½	2	7½
11	2	8½
11½	2	10½
12	2	11½

7 In. Sq.

BV	s.	d.
7	1	10½
7½	1	11½
8	2	1½
8½	2	3½
9	2	5
9½	2	6½
10	2	8½
10½	2	9½
11	2	11½
11½	3	1
12	3	2½

7½ In. Sq.

BV	s.	d.
7½	2	2½
8	2	4
8½	2	5½
9	2	7
9½	2	8½
10	2	10
10½	3	0¼
11	3	1¾
11½	3	3¾
12	3	5¾

8 In. Sq.

BV	s.	d.
8	2	6
8½	2	7½
9	2	9
9½	2	11
10	3	0½
10½	3	2½
11	3	4½
11½	3	6½
12	3	8

8½ In. Sq.

BV	s.	d.
8½	2	9
9	2	11
9½	3	1¼
10	3	3¼
10½	3	5
11	3	7
11½	3	8½
12	3	10½

9 In. Sq.

BV	s.	d.
9	3	0½
9½	3	3¼
10	3	5½
10½	3	7½
11	3	9½
11½	3	11
12	4	1½

9½ In. Sq.

BV	s.	d.
9½	3	7½
10	3	9
10½	3	10½
11	4	0
11½	4	2
12	4	4¼

10 In. Sq.

BV	s.	d.
10	4	0¼
10½	4	1½
11	4	2½
11½	4	4½
12	4	7

10½ In. Sq.

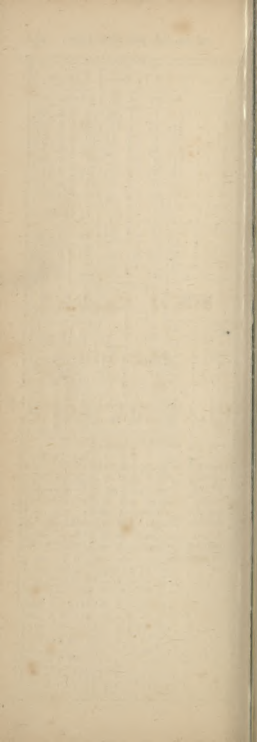
BV	s.	d.
10½	4	2¼
11	4	5
11½	4	7½
12	4	10

11 In. Sq.

BV	s.	d.
11	4	7½
11½	4	10
12	5	0¼

11½ In. Sq.

BV	s.	d.
11½	5	1
12	5	3¼





A  
**NEW TABLE**  
OF  
**Superficial**  
OR  
**FLAT MEASURE,**  
*READY CAST UP ;*

Whereby the Superficial Content, and consequently the Value, of any Quantity of Board, Glass, &c. may be found, at sight, from 1 inch to 24 inches the breadth, and from  $\frac{1}{4}$  of an inch to 24 feet the length; and therefore, by addition only, may serve to any greater breadth or length, if there should ever be occasion.

FT. LNG.	1 IN. BROAD.			FT. LNG.	1 1/4 IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	1	0	1	0	1	3
2	0	2	0	2	0	2	6
3	0	3	0	3	0	3	9
4	0	4	0	4	0	5	0
5	0	5	0	5	0	6	3
6	0	6	0	6	0	7	6
7	0	7	0	7	0	8	9
8	0	8	0	8	0	10	0
9	0	9	0	9	0	11	3
10	0	10	0	10	1	0	6
11	0	11	0	11	1	1	9
12	1	0	0	12	1	3	0
13	1	1	0	13	1	4	3
14	1	2	0	14	1	5	6
15	1	3	0	15	1	6	9
16	1	4	0	16	1	8	0
17	1	5	0	17	1	9	3
18	1	6	0	18	1	10	6
19	1	7	0	19	1	11	9
20	1	8	0	20	2	1	0
21	1	9	0	21	2	2	3
22	1	10	0	22	2	3	6
23	1	11	0	23	2	4	9
24	2	0	0	24	2	6	0

IN. LNG.	FT. IN. PA. S.			
1	0	0	1	0
2	0	0	2	0
3	0	0	3	0
4	0	0	4	0
5	0	0	5	0
6	0	0	6	0
7	0	0	7	0
8	0	0	8	0
9	0	0	9	0
10	0	0	10	0
11	0	0	11	0

IN. LNG.	FT. IN. PA. S.			
1	0	0	1	3
2	0	0	2	6
3	0	0	3	9
4	0	0	5	0
5	0	0	6	3
6	0	0	7	6
7	0	0	8	9
8	0	0	10	0
9	0	0	11	3
10	0	1	0	9
11	0	1	1	9

QRS. INCH LNG.	IN. PA. S. T.			
1/4	0	0	3	0
1/2	0	0	6	0
3/4	0	0	9	0

QRS. INCH LNG.	IN. PA. S. T.			
1/4	0	0	3	9
1/2	0	0	7	6
3/4	0	0	11	3

		1½ IN. BROAD.					1½ IN. BROAD.				
FT.		-----			FT.		-----				
LNG.		FT.	IN.	PA.	LNG.		FT.	IN.	PA.		
1		0	1	6	1		0	1	9		
2		0	3	0	2		0	3	6		
3		0	4	6	3		0	5	3		
4		0	6	0	4		0	7	0		
5		0	7	6	5		0	8	9		
6		0	9	0	6		0	10	6		
7		0	10	6	7		1	0	3		
8		1	0	0	8		1	2	0		
9		1	1	6	9		1	3	9		
10		1	3	0	10		1	5	6		
11		1	4	6	11		1	7	3		
12		1	6	0	12		1	9	0		
13		1	7	6	13		1	10	9		
14		1	9	0	14		2	0	6		
15		1	10	6	15		2	2	3		
16		2	0	0	16		2	4	0		
17		2	1	6	17		2	5	9		
18		2	3	0	18		2	7	6		
19		2	4	6	19		2	9	3		
20		2	6	0	20		2	11	0		
21		2	7	6	21		3	0	9		
22		2	9	0	22		3	2	6		
23		2	10	6	23		3	4	3		
24		3	0	0	24		3	6	0		
-----											
IN.		-----			IN.		-----				
LNG.		FT.	IN.	PA.	S.	LNG.		FT.	IN.	PA.	S.
1		0	0	1	6	1		0	0	1	9
2		0	0	3	0	2		0	0	3	6
3		0	0	4	6	3		0	0	5	3
4		0	0	6	0	4		0	0	7	0
5		0	0	7	6	5		0	0	8	9
6		0	0	9	0	6		0	0	10	6
7		0	0	10	6	7		0	1	0	3
8		0	1	0	0	8		0	1	2	0
9		0	1	1	6	9		0	1	3	9
10		0	1	3	0	10		0	1	5	6
11		0	1	4	6	11		0	1	7	3
-----											
QRS.		-----			QRS.		-----				
INCH		IN.	PA.	S.	T.	INCH		IN.	PA.	S.	T.
¼		0	0	4	6	¼		0	0	5	3
½		0	0	9	0	½		0	0	10	6
¾		0	1	1	6	¾		0	1	3	9

FT. LNG.	2 IN. BROAD.			FT. LNG.	2½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	2	0	1	0	2	3
2	0	4	0	2	0	4	6
3	0	6	0	3	0	6	9
4	0	8	0	4	0	9	0
5	0	10	0	5	0	11	3
6	1	0	0	6	1	1	6
7	1	2	0	7	1	3	9
8	1	4	0	8	1	6	0
9	1	6	0	9	1	8	3
10	1	8	0	10	1	10	6
11	1	10	0	11	2	0	9
12	2	0	0	12	2	3	0
13	2	2	0	13	2	5	3
14	2	4	0	14	2	7	6
15	2	6	0	15	2	9	9
16	2	8	0	16	3	0	0
17	2	10	0	17	3	2	3
18	3	0	0	18	3	4	6
19	3	2	0	19	3	6	9
20	3	4	0	20	3	9	0
21	3	6	0	21	3	11	3
22	3	8	0	22	4	1	6
23	3	10	0	23	4	3	9
24	4	0	0	24	4	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
	FT.	IN.	PA.	S.		FT.	IN.	PA.	S.
1	0	0	2	0	1	0	0	2	3
2	0	0	4	0	2	0	0	4	6
3	0	0	6	0	3	0	0	6	9
4	0	0	8	0	4	0	0	9	0
5	0	0	10	0	5	0	0	11	3
6	0	1	0	0	6	0	1	1	6
7	0	1	2	0	7	0	1	3	9
8	0	1	4	0	8	0	1	6	0
9	0	1	6	0	9	0	1	8	3
10	0	1	8	0	10	0	1	10	6
11	0	1	10	0	11	0	2	0	9

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
	IN.	PA.	S.	T.		IN.	PA.	S.	T.
¼	0	0	6	0	¼	0	0	6	9
½	0	1	0	0	½	0	1	1	6
¾	0	1	6	0	¾	0	1	8	3

FT. LNG.	2½ IN. BROAD.			FT. LNG.	2½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	2	6	1	0	2	0
2	0	5	0	2	0	5	6
3	0	7	6	3	0	8	3
4	0	10	0	4	0	11	0
5	1	0	6	5	1	1	9
6	1	3	0	6	1	4	6
7	1	5	6	7	1	7	3
8	1	8	0	8	1	10	0
9	1	10	6	9	2	0	9
10	2	1	0	10	2	3	6
11	2	3	6	11	2	6	3
12	2	6	0	12	2	9	0
13	2	8	6	13	2	11	9
14	2	11	0	14	3	2	6
15	3	1	6	15	3	5	3
16	3	4	0	16	3	8	0
17	3	6	6	17	3	10	9
18	3	9	0	18	4	1	6
19	3	11	6	19	4	4	3
20	4	2	0	20	4	7	0
21	4	4	6	21	4	9	0
22	4	7	0	22	5	0	6
23	4	9	6	23	5	3	3
24	5	0	0	24	5	6	0

IN LNG.	FT.	IN.	PA.	S.	IN. LNG.	FT.	IN.	PA.	S.
1	0	0	2	6	1	0	0	2	9
2	0	0	5	0	2	0	0	5	6
3	0	0	7	6	3	0	0	8	3
4	0	0	10	0	4	0	0	11	0
5	0	1	0	6	5	9	1	1	9
6	0	1	3	0	6	0	1	4	6
7	0	1	5	6	7	0	1	7	3
8	0	1	8	0	8	0	1	10	0
9	0	1	10	6	9	0	2	0	9
10	0	2	1	0	10	0	2	3	6
11	0	2	3	6	11	0	2	6	3

QRS. INCH LNG.	IN.	PA.	S.	T.	QRS. INCH LNG.	IN.	PA.	S.	T.
¼	0	0	7	6	¼	0	0	8	3
½	0	1	3	0	½	0	1	4	6
¾	0	1	10	6	¾	0	2	0	9

		3 IN. BROAD.					3 1/4 IN. BROAD.				
FT.	LNG.	-----			FT.	LNG.	-----				
		FT.	IN.	PA.			FT.	IN.	PA.		
1		0	3	0	1		0	3	3		
2		0	6	0	2		0	6	6		
3		0	9	0	3		0	9	9		
4		1	0	0	4		1	1	0		
5		1	3	0	5		1	4	3		
6		1	6	0	6		1	7	6		
7		1	9	0	7		1	10	9		
8		2	0	0	8		2	2	0		
9		2	3	0	9		2	5	3		
10		2	6	0	10		2	8	6		
11		2	9	0	11		2	11	9		
12		3	0	0	12		3	3	0		
13		3	3	0	13		3	6	3		
14		3	6	0	14		3	9	6		
15		3	9	0	15		4	0	9		
16		4	0	0	16		4	4	0		
17		4	3	0	17		4	7	3		
18		4	6	0	18		4	10	6		
19		4	9	0	19		5	1	9		
20		5	0	0	20		5	5	0		
21		5	3	0	21		5	8	3		
22		5	6	0	22		5	11	6		
23		5	9	0	23		6	2	9		
24		6	0	0	24		6	6	0		
-----											
IN.	LNG.	FT. IN. PA. S.			IN.	LNG.	FT. IN. PA. S.				
		FT.	IN.	PA.	S.			FT.	IN.	PA.	S.
1		0	0	3	0	1		0	0	3	3
2		0	0	6	0	2		0	0	6	6
3		0	0	9	0	3		0	0	9	9
4		0	1	0	0	4		0	1	1	0
5		0	1	3	0	5		0	1	4	3
6		0	1	6	0	6		0	1	7	6
7		0	1	9	0	7		0	1	10	9
8		0	2	0	0	8		0	2	2	0
9		0	2	3	0	9		0	2	5	3
10		0	2	6	0	10		0	2	8	6
11		0	2	9	0	11		0	2	11	9
-----											
QRS.	INCH LNG.	IN. PA. S. T.				QRS.	INCH LNG.	IN. PA. S. T.			
		IN.	PA.	S.	T.			IN.	PA.	S.	T.
1/4		0	0	9	0	1/4		0	0	9	9
1/2		0	1	6	0	1/2		0	1	7	6
3/4		0	2	3	0	3/4		0	2	5	3

3½ IN. BROAD.				3½ IN. BROAD.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	0	3	6	1	0	3	9
2	0	7	0	2	0	7	6
3	0	10	6	3	0	11	3
4	1	2	0	4	1	3	0
5	1	5	6	5	1	6	9
6	1	9	0	6	1	10	6
7	2	0	6	7	2	2	3
8	2	4	0	8	2	6	0
9	2	7	6	9	2	9	9
10	2	11	0	10	3	1	6
11	3	2	6	11	3	5	3
12	3	6	0	12	3	9	0
13	3	9	6	13	4	0	9
14	4	1	0	14	4	4	6
15	4	4	6	15	4	8	3
16	4	8	0	16	5	0	0
17	4	11	6	17	5	3	9
18	5	3	0	18	5	7	6
19	5	6	6	19	5	11	3
20	5	10	0	20	6	3	0
21	6	1	6	21	6	6	9
22	6	5	0	22	6	10	6
23	6	8	6	23	7	2	3
24	7	0	0	24	7	6	0

IN. LNG.	FT.	IN.	PA.	S.	IN. LNG.	FT.	IN.	PA.	S.
1	0	0	3	6	1	0	0	3	9
2	0	0	7	0	2	0	0	7	6
3	0	0	10	6	3	0	0	11	3
4	0	1	2	0	4	0	1	3	0
5	0	1	5	6	5	0	1	6	9
6	0	1	9	0	6	0	1	10	6
7	0	2	0	6	7	0	2	2	3
8	0	2	4	0	8	0	2	6	0
9	0	2	7	6	9	0	2	9	9
10	0	2	11	0	10	0	3	1	6
11	0	3	2	6	11	0	3	5	3

QRS INCH LNG.	IN.	PA.	S.	T.	QRS INCH LNG.	IN.	PA.	S.	T.
¼	0	0	10	6	¼	0	0	11	3
½	0	1	9	0	½	0	1	10	6
¾	0	2	7	6	¾	0	2	9	9

FT. LNG.	4 IN. BROAD.			FT. LNG.	4½ IN BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	4	0	1	0	4	3
2	0	8	0	2	0	8	6
3	1	0	0	3	1	0	9
4	1	4	0	4	1	5	0
5	1	8	0	5	1	9	3
6	2	0	0	6	2	1	6
7	2	4	0	7	2	5	9
8	2	8	0	8	2	10	0
9	3	0	0	9	3	2	3
10	3	4	0	10	3	6	6
11	3	8	0	11	3	10	9
12	4	0	0	12	4	3	0
13	4	4	0	13	4	7	3
14	4	8	0	14	4	11	6
15	5	0	0	15	5	3	9
16	5	4	0	16	5	8	0
17	5	8	0	17	6	0	3
18	6	0	0	18	6	4	6
19	6	4	0	19	6	8	0
20	6	8	0	20	7	1	0
21	7	0	0	21	7	5	3
22	7	4	0	22	7	9	6
23	7	8	0	23	8	1	9
24	8	0	0	24	8	6	0

IN. LNG.	4 IN. BROAD.				IN. LNG.	4½ IN BROAD.			
IN.	FT.	IN.	PA.	S.	IN.	FT.	IN.	PA.	S.
1	0	0	4	0	1	0	0	4	3
2	0	0	8	0	2	0	0	8	6
3	0	1	0	0	3	0	1	0	0
4	0	1	4	0	4	0	1	5	0
5	0	1	8	0	5	0	1	9	3
6	0	2	0	0	6	0	2	1	6
7	0	2	4	0	7	0	2	5	9
8	0	2	8	0	8	0	2	10	0
9	0	3	0	0	9	0	3	2	3
10	0	3	4	0	10	0	3	6	6
11	0	3	8	0	11	0	3	10	9

QRS. INCH LNG.	4 IN. BROAD.				QRS. INCH LNG.	4½ IN BROAD.			
QRS.	IN.	PA.	S.	T.	QRS.	IN.	PA.	S.	T.
¼	0	1	0	0	¼	0	1	0	9
½	0	2	0	0	½	0	2	1	6
¾	0	3	0	0	¾	0	3	2	3



4½ IN. BROAD.		4½ IN. BROAD.	
FT.	-----	FT.	-----
LNG.	FT. IN. PA.	LNG.	FT. IN. PA.
1	0 4 6	1	0 4 9
2	0 9 0	2	0 9 6
3	1 1 6	3	1 2 3
4	1 6 0	4	1 7 0
5	1 10 6	5	1 11 9
6	2 3 0	6	2 4 6
7	2 7 6	7	2 9 3
8	3 0 0	8	3 2 0
9	3 4 6	9	3 6 9
10	3 9 0	10	3 11 6
11	4 1 6	11	4 4 3
12	4 6 0	12	4 0 0
13	4 10 6	13	5 1 0
14	5 3 0	14	5 6 6
15	5 7 6	15	5 11 3
16	6 0 0	16	6 4 0
17	6 4 6	17	6 8 9
18	6 9 0	18	7 1 6
19	7 1 6	19	7 6 3
20	7 6 0	20	7 11 0
21	7 10 6	21	8 3 0
22	8 3 0	22	8 8 6
23	8 7 6	23	9 1 3
24	0 0 0	24	9 6 0

IN.	FT. IN. PA. S.				IN.	FT. IN. PA. S.			
LNG.	-----				LNG.	-----			
1	0	0	4	6	1	0	0	4	9
2	0	0	9	0	2	0	0	9	6
3	0	1	1	6	3	0	1	2	3
4	0	1	6	0	4	0	1	7	0
5	0	1	10	6	5	0	1	11	9
6	0	2	3	0	6	0	2	4	6
7	0	2	7	6	7	0	2	9	3
8	0	3	0	0	8	0	3	2	0
9	0	3	4	6	9	0	3	6	9
10	0	3	9	0	10	0	3	11	6
11	0	4	1	6	11	0	4	4	3

QRS	IN. PA. S. T.				QRS	IN. PA. S. T.			
LNG.	-----				LNG.	-----			
¼	0	1	1	6	¼	0	1	2	3
½	0	2	3	0	½	0	2	4	6
¾	0	3	4	6	¾	0	3	6	0

5 IN. BROAD.				5½ IN. BROAD.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	0	5	0	1	0	5	3
2	0	10	0	2	0	10	6
3	1	3	0	3	1	3	9
4	1	8	0	4	1	9	0
5	2	1	0	5	2	2	3
6	2	6	0	6	2	7	6
7	2	11	0	7	3	0	9
8	3	4	0	8	3	6	0
9	3	9	0	9	3	11	3
10	4	2	0	10	4	4	6
11	4	7	0	11	4	9	9
12	5	0	0	12	5	3	0
13	5	5	0	13	5	8	3
14	5	10	0	14	6	1	6
15	6	3	0	15	6	6	9
16	6	8	0	16	7	0	0
17	7	1	0	17	7	5	3
18	7	6	0	18	7	10	6
19	7	11	0	19	8	3	9
20	8	4	0	20	8	9	0
21	8	9	0	21	9	2	3
22	9	2	0	22	9	7	6
23	9	7	0	23	10	0	9
24	10	0	0	24	10	6	0

IN.	-----				IN.	-----			
LNG.	FT.	IN.	PA.	S.	LNG.	FT.	IN.	PA.	S.
1	0	0	5	0	1	0	0	5	3
2	0	0	10	0	2	0	0	10	6
3	0	1	3	0	3	0	1	3	9
4	0	1	8	0	4	0	1	9	0
5	0	2	1	0	5	0	2	2	3
6	0	2	6	0	6	0	2	7	6
7	0	2	11	0	7	0	3	0	9
8	0	3	4	0	8	0	3	6	0
9	0	3	9	0	9	0	3	11	3
10	0	4	2	0	10	0	4	4	6
11	0	4	7	0	11	0	4	9	9

QRS.	-----				QRS.	-----			
INCH	IN.	PA.	S.	T.	INCH	IN.	PA.	S.	T.
¼	0	1	3	0	¼	0	1	3	9
½	0	2	6	0	½	0	2	7	6
¾	0	3	9	0	¾	0	3	11	3

5½ IN. BROAD.				5¾ IN. BROAD.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	0	5	6	1	0	5	9
2	0	11	0	2	0	11	6
3	1	4	6	3	1	5	3
4	1	10	0	4	1	11	0
5	2	3	6	5	2	4	9
6	2	9	0	6	2	10	6
7	3	2	6	7	3	4	3
8	3	8	0	8	3	10	0
9	4	1	6	9	4	3	9
10	4	7	0	10	4	0	6
11	5	0	6	11	5	3	3
12	5	6	0	12	5	9	0
13	5	11	6	13	6	2	0
14	6	5	0	14	6	8	6
15	6	10	6	15	7	2	3
16	7	4	0	16	7	8	0
17	7	9	6	17	8	1	9
18	8	3	0	18	8	7	6
19	8	8	6	19	9	1	3
20	9	2	0	20	9	7	0
21	9	7	6	21	10	0	0
22	10	1	0	22	10	6	6
23	10	6	6	23	11	0	3
24	11	0	0	24	11	6	0

IN.	-----				IN.	-----			
LNG.	FT.	IN.	PA.	S.	LNG.	FT.	IN.	PA.	S.
1	0	0	5	6	1	0	0	5	9
2	0	0	11	0	2	0	0	11	6
3	0	1	4	6	3	0	1	5	3
4	0	1	10	0	4	0	1	11	0
5	0	2	3	6	5	0	2	4	9
6	0	2	0	0	6	0	2	10	6
7	0	3	2	6	7	0	3	4	3
8	0	3	8	0	8	0	3	10	0
9	0	4	1	6	9	0	4	3	9
10	0	4	7	0	10	0	4	9	6
11	0	5	0	6	11	0	5	3	3

QRS.	-----				QRS.	-----			
INCH	IN.	PA.	S.	T.	INCH	IN.	PA.	S.	T.
LNG.	-----				LNG.	-----			
¼	0	1	4	6	¼	0	1	5	3
½	0	2	9	0	½	0	2	10	6
¾	0	4	1	6	¾	0	4	3	0

PT. LNG.	6 IN. BROAD.			PT. LNG.	6 1/4 IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	6	0	1	0	6	3
2	1	0	0	2	1	0	6
3	1	6	0	3	1	6	9
4	2	0	0	4	2	1	0
5	2	6	0	5	2	7	3
6	3	0	0	6	3	1	6
7	3	6	0	7	3	7	9
8	4	0	0	8	4	2	0
9	4	6	0	9	4	8	3
10	5	0	0	10	5	2	6
11	5	6	0	11	5	8	9
12	6	0	0	12	6	3	0
13	6	6	0	13	6	9	3
14	7	0	0	14	7	3	6
15	7	6	0	15	7	9	0
16	8	0	0	16	8	4	0
17	8	6	0	17	8	10	3
18	9	0	0	18	9	4	6
19	9	6	0	19	9	10	9
20	10	0	0	20	10	5	0
21	10	6	0	21	10	11	3
22	11	0	0	22	11	5	6
23	11	6	0	23	11	11	9
24	12	0	0	24	12	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	0	6	0	1	0	0	6	3
2	0	1	0	0	2	0	1	0	6
3	0	1	6	0	3	0	1	6	9
4	0	2	0	0	4	0	2	1	0
5	0	2	6	0	5	0	2	7	3
6	0	3	0	0	6	0	3	1	6
7	0	3	6	0	7	0	3	7	9
8	0	4	0	0	8	0	4	2	0
9	0	4	6	0	9	0	4	8	3
10	0	5	0	0	10	0	5	2	6
11	0	5	6	0	11	0	5	8	9

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
1/4	0	1	6	0	1/4	0	1	6	0
1/2	0	3	0	0	1/2	0	3	1	6
3/4	0	4	6	0	3/4	0	4	8	3

6½ IN. BROAD.				6¾ IN. BROAD.			
FT.	LNG.			FT.	LNG.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	6	6	1	0	6	9
2	1	1	0	2	1	1	6
3	1	7	6	3	1	8	3
4	2	2	0	4	2	3	0
5	2	8	6	5	2	9	9
6	3	3	0	6	3	4	6
7	3	9	6	7	3	11	3
8	4	4	0	8	4	6	0
9	4	10	6	9	5	0	9
10	5	5	0	10	5	7	6
11	5	11	6	11	6	2	3
12	6	6	0	12	6	9	0
13	7	0	6	13	7	3	9
14	7	7	0	14	7	10	6
15	8	1	6	15	8	5	3
16	8	8	0	16	9	0	0
17	9	2	6	17	9	6	9
18	9	9	0	18	10	1	6
19	10	3	6	19	10	8	3
20	10	10	0	20	11	3	0
21	11	4	6	21	11	9	9
22	11	11	0	22	12	4	6
23	12	5	6	23	12	11	3
24	13	0	0	24	13	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	0	6	6	1	0	0	6	9
2	0	1	1	0	2	0	1	1	6
3	0	1	7	6	3	0	1	8	3
4	0	2	2	0	4	0	2	3	0
5	0	2	8	6	5	0	2	9	9
6	0	3	3	0	6	0	3	4	6
7	0	3	9	6	7	0	3	11	3
8	0	4	4	0	8	0	4	6	0
9	0	4	10	6	9	0	5	0	9
10	0	5	5	0	10	0	5	7	6
11	0	5	11	6	11	0	6	2	3

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
¼	0	1	7	6	¼	0	1	8	3
½	0	3	3	0	½	0	3	4	6
¾	0	4	10	6	¾	0	5	0	9

		7 IN. BROAD.					7½ IN. BROAD.		
FT.	LNG.	-----			FT.	LNG.	-----		
		FT.	IN.	PA.			FT.	IN.	PA.
1		0	7	0	1		0	7	3
2		1	2	0	2		1	2	6
3		1	9	0	3		1	9	9
4		2	4	0	4		2	5	0
5		2	11	0	5		3	0	3
6		3	6	0	6		3	7	6
7		4	1	0	7		4	2	9
8		4	8	0	8		4	10	0
9		5	3	0	9		5	5	3
10		5	10	0	10		6	0	6
11		6	5	0	11		6	7	9
12		7	0	0	12		7	3	0
13		7	7	0	13		7	10	3
14		8	2	0	14		8	5	6
15		8	9	0	15		9	0	9
16		9	4	0	16		9	8	0
17		9	11	0	17		10	3	3
18		10	6	0	18		10	10	6
19		11	1	0	19		11	5	9
20		11	8	0	20		12	1	0
21		12	3	0	21		12	8	3
22		12	10	0	22		13	3	6
23		13	5	0	23		13	10	9
24		14	0	0	24		14	6	0

IN.	LNG.	-----				IN.	LNG.	-----			
		FT.	IN.	PA.	S.			FT.	IN.	PA.	S.
1		0	0	7	0	1		0	0	7	3
2		0	1	2	0	2		0	1	2	6
3		0	1	9	0	3		0	1	9	9
4		0	2	4	0	4		0	2	5	0
5		0	2	11	0	5		0	3	0	3
6		0	3	6	0	6		0	3	7	6
7		0	4	1	0	7		0	4	2	9
8		0	4	8	0	8		0	4	10	0
9		0	5	3	0	9		0	5	5	3
10		0	5	10	0	10		0	6	0	6
11		0	6	5	0	11		0	6	7	9

QRS.	INCH	LNG.	-----				QRS.	INCH	LNG.	-----			
			IN.	PA.	S.	T.				IN.	PA.	S.	T.
¼			0	1	9	0	¼			0	1	9	9
½			0	3	6	0	½			0	3	7	6
¾			0	5	3	0	¾			0	5	5	3

FT. LNG.	7½ IN. BROAD.			FT. LNG.	7¼ IN BROAD		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	7	6	1	0	7	9
2	1	3	0	2	1	3	6
3	1	10	6	3	1	11	3
4	2	6	0	4	2	7	0
5	3	1	6	5	3	2	9
6	3	9	0	6	3	10	6
7	4	4	6	7	4	6	3
8	5	0	0	8	5	2	0
9	5	7	6	9	5	9	9
10	6	3	0	10	6	5	6
11	6	10	6	11	7	1	3
12	7	6	0	12	7	9	0
13	8	1	6	13	8	4	9
14	8	9	0	14	9	0	6
15	9	4	6	15	9	8	3
16	10	0	0	16	10	4	0
17	10	7	6	17	10	11	9
18	11	3	0	18	11	7	6
19	11	10	6	19	12	3	3
20	12	6	0	20	12	11	0
21	13	1	6	21	13	6	9
22	13	9	0	22	14	2	6
23	14	4	6	23	14	10	3
24	15	0	0	24	15	6	0

IN. LNG.	FT. IN. PA. S.			
1	0	0	7	6
2	0	1	3	0
3	0	1	10	6
4	0	2	6	0
5	0	3	1	6
6	0	3	9	0
7	0	4	4	6
8	0	5	0	0
9	0	5	7	6
10	0	6	3	0
11	0	6	10	6

IN. LNG.	FT. IN. PA. S.			
1	0	0	7	9
2	0	1	3	6
3	0	1	11	3
4	0	2	7	0
5	0	3	2	9
6	0	3	10	6
7	0	4	6	3
8	0	5	2	0
9	0	5	9	9
10	0	6	5	6
11	0	7	1	3

QRS. INCH LNG	IN. PA. S. T.			
¼	0	1	10	6
½	0	3	9	0
¾	0	5	7	6

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	1	11	3
½	0	3	10	6
¾	0	5	9	9

8 IN. BROAD.				8½ IN. BROAD.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	0	8	0	1	0	8	3
2	1	4	0	2	1	4	6
3	2	0	0	3	2	0	9
4	2	8	0	4	2	9	0
5	3	4	0	5	3	5	3
6	4	0	0	6	4	1	6
7	4	8	0	7	4	9	9
8	5	4	0	8	5	6	0
9	6	0	0	9	6	2	3
10	6	8	0	10	6	10	6
11	7	4	0	11	7	6	9
12	8	0	0	12	8	3	0
13	8	8	0	13	8	11	3
14	9	4	0	14	9	7	6
15	10	0	0	15	10	3	9
16	10	8	0	16	11	0	0
17	11	4	0	17	11	8	3
18	12	0	0	18	12	4	6
19	12	8	0	19	13	0	9
20	13	4	0	20	13	9	0
21	14	0	0	21	14	5	3
22	14	8	0	22	15	1	6
23	15	4	0	23	15	9	9
24	16	0	0	24	16	6	0

IN.	-----				IN.	-----			
LNG.	FT.	IN.	PA.	S.	LNG.	FT.	IN.	PA.	S.
1	0	0	8	0	1	0	0	8	3
2	0	1	4	0	2	0	1	4	6
3	0	2	0	0	3	0	2	0	9
4	0	2	8	0	4	0	2	9	0
5	0	3	4	0	5	0	3	5	3
6	0	4	0	0	6	0	4	1	6
7	0	4	8	0	7	0	4	9	9
8	0	5	4	0	8	0	5	6	0
9	0	6	0	0	9	0	6	2	3
10	0	6	8	0	10	0	6	10	6
11	0	7	4	0	11	0	7	0	9

QRS.	-----				QRS.	-----			
INCH	IN.	PA.	S.	T.	INCH	IN.	PA.	S.	T.
¼	0	2	0	0	¼	0	2	0	9
½	0	4	0	0	½	0	4	1	6
¾	0	6	0	0	¾	0	6	2	3



FT.	8½ IN. BROAD.			FT.	8¾ IN. BROAD.			
	LNG.	FT.	IN.		PA.	LNG.	FT.	IN.
1		0	8	6	1	0	8	9
2		1	5	0	2	1	5	6
3		2	1	6	3	2	2	3
4		2	10	0	4	2	11	0
5		3	6	6	5	3	7	9
6		4	3	0	6	4	4	6
7		4	11	6	7	5	1	3
8		5	8	0	8	5	10	0
9		6	4	6	9	6	6	9
10		7	1	0	10	7	3	6
11		7	9	6	11	8	0	3
12		8	6	0	12	8	9	0
13		9	2	6	13	9	5	9
14		9	11	0	14	10	2	6
15		10	7	6	15	10	11	3
16		11	4	0	16	11	8	0
17		12	0	6	17	12	4	9
18		12	9	0	18	13	1	6
19		13	5	6	19	13	10	3
20		14	2	0	20	14	7	0
21		14	10	6	21	15	3	9
22		15	7	0	22	16	0	6
23		16	3	6	23	16	9	3
24		17	0	0	24	17	6	0

IN.	FT. IN. PA. S.			
LNG.	FT.	IN.	PA.	S.
1	0	0	8	6
2	0	1	5	0
3	0	2	1	6
4	0	2	10	0
5	0	3	6	6
6	0	4	3	0
7	0	4	11	6
8	0	5	8	0
9	0	6	4	6
10	0	7	1	0
11	0	7	9	6

IN.	FT. IN. PA. S.			
LNG.	FT.	IN.	PA.	S.
1	0	0	8	9
2	0	1	5	6
3	0	2	2	3
4	0	2	11	0
5	0	3	7	9
6	0	4	4	6
7	0	5	1	3
8	0	5	10	0
9	0	6	6	9
10	0	7	3	6
11	0	8	0	3

QRS.	IN. PA. S. T.			
INCH	IN.	PA.	S.	T.
LNG.				
¼	0	2	1	6
½	0	4	3	0
¾	0	6	4	6

QRS.	IN. PA. S. T.			
INCH	IN.	PA.	S.	T.
LNG.				
¼	0	2	2	3
½	0	4	4	6
¾	0	6	6	9

		9 IN. BROAD.					9½ IN. BROAD.				
FT.		-----			FT.		-----				
LNG.		FT.	IN.	PA.	LNG		FT.	IN.	PA.		
1		0	9	0	1		0	9	3		
2		1	6	0	2		1	6	6		
3		2	3	0	3		2	3	9		
4		3	0	0	4		3	1	0		
5		3	9	0	5		3	10	3		
6		4	6	0	6		4	7	6		
7		5	3	0	7		5	4	9		
8		6	0	0	8		6	2	0		
9		6	9	0	9		6	11	3		
10		7	6	0	10		7	8	6		
11		8	3	0	11		8	5	9		
12		9	0	0	12		9	3	0		
13		9	9	0	13		10	0	3		
14		10	6	0	14		10	9	6		
15		11	3	0	15		11	6	9		
16		12	0	0	16		12	4	0		
17		12	9	0	17		13	1	3		
18		13	6	0	18		13	10	6		
19		14	3	0	19		14	7	9		
20		15	0	0	20		15	5	0		
21		15	9	0	21		16	2	3		
22		16	6	0	22		16	11	6		
23		17	3	0	23		17	8	9		
24		18	0	0	24		18	6	0		
-----											
IN.		-----			IN.		-----				
LNG		FT.	IN.	PA.	S.	LNG		FT.	IN.	PA.	S.
1		0	0	9	0	1		0	0	9	3
2		0	1	6	0	2		0	1	6	6
3		0	2	3	0	3		0	2	3	9
4		0	3	0	0	4		0	3	1	0
5		0	3	9	0	5		0	3	10	3
6		0	4	6	0	6		0	4	7	6
7		0	5	3	0	7		0	5	4	9
8		0	6	0	0	8		0	6	2	0
9		0	6	9	0	9		0	6	11	3
10		0	7	6	0	10		0	7	8	6
11		0	8	3	0	11		0	8	5	9
-----											
QRS.		-----			QRS.		-----				
INCH		IN.	PA.	S.	T.	INCH		IN.	PA.	S.	T.
¼		0	2	3	0	¼		0	2	3	9
½		0	4	6	0	½		0	4	7	6
¾		0	6	9	0	¾		0	6	11	3

9½ IN. BROAD.				9½ IN. BROAD.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	0	9	6	1	0	9	9
2	1	7	0	2	1	7	6
3	2	4	6	3	2	5	3
4	3	2	0	4	3	3	0
5	3	11	6	5	4	0	9
6	4	9	0	6	4	10	6
7	5	6	6	7	5	8	3
8	6	4	0	8	6	6	0
9	7	1	6	9	7	3	9
10	7	11	0	10	8	1	6
11	8	8	6	11	8	11	3
12	9	6	0	12	9	9	0
13	10	3	6	13	10	6	9
14	11	1	0	14	11	4	6
15	11	10	6	15	12	2	3
16	12	8	0	16	13	0	0
17	13	5	6	17	13	9	9
18	14	3	0	18	14	7	6
19	15	0	6	19	15	5	3
20	15	10	0	20	16	3	0
21	16	7	6	21	17	9	9
22	17	5	0	22	17	20	6
23	18	2	6	23	18	8	3
24	19	0	0	24	19	0	0

IN.	-----				IN.	-----			
LNG.	FT.	IN.	PA.	S.	LNG.	FT.	IN.	PA.	S.
1	0	0	9	6	1	0	0	9	9
2	0	1	7	0	2	0	1	7	6
3	0	2	4	6	3	0	2	5	3
4	0	3	2	0	4	0	3	3	0
5	0	3	11	6	5	0	4	0	9
6	0	4	9	0	6	0	4	10	6
7	0	5	6	6	7	0	5	8	3
8	0	6	4	0	8	0	6	6	0
9	0	7	1	6	9	0	7	3	9
10	0	7	11	0	10	0	8	1	6
11	0	8	8	6	11	0	8	11	3

QRS.	-----				QRS.	-----			
INCH	IN.	PA.	S.	T.	INCH	IN.	PA.	S.	T.
LNG	-----				LNG.	-----			
¼	0	2	4	6	¼	0	2	5	3
½	0	4	9	0	½	0	4	10	6
¾	0	7	1	6	¾	0	7	3	9

FT. LNG.	10 IN. BROAD.			FT. LNG.	10½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	10	0	1	0	10	3
2	1	8	0	2	1	8	6
3	2	6	0	3	2	6	9
4	3	4	0	4	3	5	0
5	4	2	0	5	4	3	3
6	5	0	0	6	5	1	6
7	5	10	0	7	5	11	9
8	6	8	0	8	6	10	0
9	7	6	0	9	7	8	3
10	8	4	0	10	8	6	6
11	9	2	0	11	9	4	9
12	10	0	0	12	10	3	0
13	10	10	0	13	11	1	3
14	11	8	0	14	11	11	6
15	12	6	0	15	12	9	9
16	13	4	0	16	13	8	0
17	14	2	0	17	14	6	3
18	15	0	0	18	15	4	6
19	15	10	0	19	16	2	9
20	16	8	0	20	17	1	0
21	17	6	0	21	17	11	3
22	18	4	0	22	18	9	6
23	19	2	0	23	19	7	9
24	20	0	0	24	20	6	0

IN. LNG.	FT. IN. PA. S.			
1	0	0	10	0
2	0	1	8	0
3	0	2	6	0
4	0	3	4	0
5	0	4	2	0
6	0	5	0	0
7	0	5	10	0
8	0	6	8	0
9	0	7	6	0
10	0	8	4	0
11	0	9	2	0

IN. LNG.	FT. IN. PA. S.			
1	0	0	10	3
2	0	1	8	6
3	0	2	6	9
4	0	3	5	0
5	0	4	3	3
6	0	5	1	6
7	0	5	11	9
8	0	6	10	0
9	0	7	8	3
10	0	8	6	6
11	0	9	4	9

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	2	6	0
½	0	5	0	0
¾	0	7	6	0

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	2	6	9
½	0	5	1	6
¾	0	7	8	3

FT. LNG.	10½ IN. BROAD.			FT. LNG.	10½ IN BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	0	10	6	1	0	10	9
2	1	9	0	2	1	9	6
3	2	7	6	3	2	8	3
4	3	6	0	4	3	7	0
5	4	4	6	5	4	5	9
6	5	3	0	6	5	4	6
7	6	1	6	7	6	3	3
8	7	0	0	8	7	2	0
9	7	10	6	9	8	0	9
10	8	9	0	10	8	11	6
11	9	7	6	11	9	10	3
12	10	6	0	12	10	9	0
13	11	4	6	13	11	7	9
14	12	3	0	14	12	6	6
15	13	1	6	15	13	5	3
16	14	0	0	16	14	4	0
17	14	10	6	17	15	2	9
18	15	9	0	18	16	1	6
19	16	7	6	19	17	0	3
20	17	6	0	20	17	11	0
21	18	4	6	21	18	9	9
22	19	3	0	22	19	8	6
23	20	1	6	23	20	7	3
24	21	0	0	24	21	6	0

IN. LNG.	FT. IN. PA. S.			
1	0	0	10	6
2	0	1	9	0
3	0	2	7	6
4	0	3	6	0
5	0	4	4	6
6	0	5	3	0
7	0	6	1	6
8	0	7	0	0
9	0	7	10	6
10	0	8	9	0
11	0	9	7	6

IN. LNG.	FT. IN PA. S.			
1	0	0	10	9
2	0	1	9	6
3	0	2	8	3
4	0	3	7	0
5	0	4	5	9
6	0	5	4	6
7	0	6	3	3
8	0	7	2	0
9	0	8	0	9
10	0	8	11	6
11	0	9	10	3

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	2	7	6
½	0	5	3	0
¾	0	7	10	6

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	2	8	3
½	0	5	4	6
¾	0	8	0	9

		11 IN. BROAD.					11½ IN. BROAD.				
FT.		-----			FT.		-----				
LNG.		FT.	IN.	PA.	LNG.		FT.	IN.	PA.		
1		0	11	0	1		0	11	3		
2		1	10	0	2		1	10	6		
3		2	9	0	3		2	9	9		
4		3	8	0	4		3	9	0		
5		4	7	0	5		4	8	3		
6		5	6	0	6		5	7	6		
7		6	5	0	7		6	6	9		
8		7	4	0	8		7	6	0		
9		8	3	0	9		8	5	3		
10		9	2	0	10		9	4	6		
11		10	1	0	11		10	3	9		
12		11	0	0	12		11	3	0		
13		11	11	0	13		12	2	3		
14		12	10	0	14		13	1	6		
15		13	9	0	15		14	0	9		
16		14	8	0	16		15	0	0		
17		15	7	0	17		15	11	3		
18		16	6	0	18		16	10	6		
19		17	5	0	19		17	9	9		
20		18	4	0	20		18	9	0		
21		19	3	0	21		19	8	3		
22		20	2	0	22		20	7	6		
23		21	1	0	23		21	6	9		
24		22	0	0	24		22	6	0		
-----											
IN.		-----			IN.		-----				
LNG		FT.	IN.	PA.	S.	LNG.		FT.	IN.	PA.	S.
1		0	0	11	0	1		0	0	11	3
2		0	1	10	0	2		0	1	10	6
3		0	2	9	0	3		0	2	9	9
4		0	3	8	0	4		0	3	9	0
5		0	4	7	0	5		0	4	8	3
6		0	5	6	0	6		0	5	7	6
7		0	6	5	0	7		0	6	6	9
8		0	7	4	0	8		0	7	6	0
9		0	8	3	0	9		0	8	5	3
10		0	9	2	0	10		0	9	4	6
11		0	10	1	0	11		0	10	3	9
-----											
QRS.		-----			QRS.		-----				
INCH		IN.	PA.	S.	T.	INCH		IN.	PA.	S.	T.
¼		0	2	9	0	¼		0	2	9	9
½		0	5	6	0	½		0	5	7	6
¾		0	8	3	0	¾		0	8	5	3

		11½ IN. BROAD.					11½ IN BROAD.		
FT.		~~~~~			FT.		~~~~~		
LNG.		FT.	IN.	PA.	LNG.		FT.	IN.	PA.
1		0	11	6	1		0	11	9
2		1	11	0	2		1	11	6
3		2	10	6	3		2	11	3
4		3	10	0	4		3	11	0
5		4	9	6	5		4	10	9
6		5	9	0	6		5	10	6
7		6	8	6	7		6	10	3
8		7	8	0	8		7	10	0
9		8	7	6	9		8	9	9
10		9	7	0	10		9	9	6
11		10	6	6	11		10	9	3
12		11	6	0	12		11	9	0
13		12	5	6	13		12	8	9
14		13	5	0	14		13	8	6
15		14	4	6	15		14	8	3
16		15	4	0	16		15	8	0
17		16	3	6	17		16	7	9
18		17	3	0	18		17	7	6
19		18	2	6	19		18	7	3
20		19	2	0	20		19	7	0
21		20	1	6	21		20	6	9
22		21	1	0	22		21	6	6
23		22	0	6	23		22	6	3
24		23	0	0	24		23	6	0

IN.	FT. IN. PA. S.				IN.	FT. IN. PA. S.			
LNG.	~~~~~				LNG.	~~~~~			
1	0	0	11	6	1	0	0	11	9
2	0	1	11	0	2	0	1	11	6
3	0	2	10	6	3	0	2	11	3
4	0	3	10	0	4	0	3	11	0
5	0	4	9	6	5	0	4	10	9
6	0	5	9	0	6	0	5	10	6
7	0	6	8	6	7	0	6	10	3
8	0	7	8	0	8	0	7	10	0
9	0	8	7	6	9	0	8	9	9
10	0	9	7	0	10	0	9	9	6
11	0	10	6	6	11	0	10	9	3

QRS.	IN. PA. S. T.				QRS.	IN. PA. S. T.			
INCH	~~~~~				INCH	~~~~~			
LNG.					LNG.				
¼	0	2	10	6	¼	0	2	11	3
½	0	5	9	0	½	0	5	10	6
¾	0	8	7	6	¾	0	8	9	9

		12 IN. BROAD.					12½ IN. BROAD.								
FT.	-----							FT.	-----						
LNG.	FT. IN. PA.						LNG.	FT. IN. PA.							
1	1	0	0				1	1	0	3					
2	2	0	0				2	2	0	6					
3	3	0	0				3	3	0	9					
4	4	0	0				4	4	1	0					
5	5	0	0				5	5	1	3					
6	6	0	0				6	6	1	6					
7	7	0	0				7	7	1	9					
8	8	0	0				8	8	2	0					
9	9	0	0				9	9	2	3					
10	10	0	0				10	10	2	6					
11	11	0	0				11	11	2	9					
12	12	0	0				12	12	3	0					
13	13	0	0				13	13	3	3					
14	14	0	0				14	14	3	6					
15	15	0	0				15	15	3	9					
16	16	0	0				16	16	4	0					
17	17	0	0				17	17	4	3					
18	18	0	0				18	18	4	6					
19	19	0	0				19	19	4	9					
20	10	0	0				20	20	5	0					
21	21	0	0				21	21	5	3					
22	22	0	0				22	22	5	6					
23	23	0	0				23	23	5	9					
24	24	0	0				24	24	6	0					
-----															
IN.	-----							IN.	-----						
LNG.	FT. IN. PA. S.						LNG.	FT. IN. PA. S.							
1	0	1	0	0			1	0	1	0	3				
2	0	2	0	0			2	0	2	0	6				
3	0	3	0	0			3	0	3	0	9				
4	0	4	0	0			4	0	4	1	0				
5	0	5	0	0			5	0	5	1	3				
6	0	6	0	0			6	0	6	1	6				
7	0	7	0	0			7	0	7	1	9				
8	0	8	0	0			8	0	8	2	0				
9	0	9	0	0			9	0	9	2	3				
10	0	10	0	0			10	0	10	2	6				
11	0	11	0	0			11	0	11	2	9				
-----															
QRS.	-----							QRS.	-----						
INCH	IN. PA. S. T.						INCH	IN. PA. S. T.							
LNG.							LNG.								
¼	0	3	0	0			¼	0	3	0	9				
⅓	0	6	0	0			⅓	0	6	1	6				
½	0	9	0	0			½	0	9	2	3				



FT. LNG.	12½ IN. BROAD.			FT. LNG.	12½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	0	6	1	1	0	9
2	2	1	0	2	2	1	6
3	3	1	6	3	3	2	3
4	4	2	0	4	4	3	0
5	5	2	6	5	5	3	9
6	6	3	0	6	6	4	6
7	7	3	6	7	7	5	3
8	8	4	0	8	8	6	0
9	9	4	6	9	9	6	9
10	10	5	0	10	10	7	6
11	11	5	6	11	11	8	3
12	12	6	0	12	12	9	0
13	13	6	6	13	13	9	9
14	14	7	0	14	14	10	6
15	15	7	6	15	15	11	3
16	16	8	0	16	17	0	0
17	17	8	6	17	18	0	9
18	18	9	0	18	19	1	6
19	19	9	6	19	20	2	3
20	20	10	0	20	21	3	0
21	21	10	6	21	22	3	9
22	22	11	0	22	23	4	6
23	23	11	6	23	24	5	3
24	25	0	0	24	25	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	1	0	6	1	0	1	0	9
2	0	2	1	0	2	0	2	1	6
3	0	3	1	6	3	0	3	2	3
4	0	4	2	0	4	0	4	3	0
5	0	5	2	6	5	0	5	3	9
6	0	6	3	0	6	0	6	4	6
7	0	7	3	6	7	0	7	5	3
8	0	8	4	0	8	0	8	6	0
9	0	9	4	6	9	0	9	6	9
10	0	10	5	0	10	0	10	7	6
11	0	11	5	6	11	0	11	8	3

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
¼	0	3	1	6	¼	0	3	2	3
⅓	0	6	3	0	⅓	0	6	4	6
½	0	9	4	6	½	0	9	6	9

FT. LNG.	13 IN. BROAD.			FT. LNG.	13½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	1	0	1	1	1	3
2	2	2	0	2	2	2	6
3	3	3	0	3	3	3	9
4	4	4	0	4	4	5	0
5	5	5	0	5	5	6	3
6	6	6	0	6	6	7	6
7	7	7	0	7	7	8	9
8	8	8	0	8	8	10	0
9	9	9	0	9	9	11	3
10	10	10	0	10	11	0	6
11	11	11	0	11	12	1	9
12	13	0	0	12	13	3	0
13	14	1	0	13	14	4	3
14	15	2	0	14	15	5	6
15	16	3	0	15	16	6	9
16	17	4	0	16	17	8	0
17	18	5	0	17	18	9	3
18	19	6	0	18	19	10	6
19	20	7	0	19	20	11	9
20	21	8	0	20	22	1	0
21	22	9	0	21	23	2	3
22	23	10	0	22	24	3	6
23	24	11	0	23	25	4	9
24	26	0	0	24	26	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	1	1	0	1	0	1	1	3
2	0	2	2	0	2	0	2	2	6
3	0	3	3	0	3	0	3	3	9
4	0	4	4	0	4	0	4	5	0
5	0	5	5	0	5	0	5	6	3
6	0	6	6	0	6	0	6	7	6
7	0	7	7	0	7	0	7	8	9
8	0	8	8	0	8	0	8	10	0
9	0	9	9	0	9	0	9	11	3
10	0	10	10	0	10	0	11	0	6
11	0	11	11	0	11	1	0	1	9

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
¼	0	3	3	0	¼	0	3	3	9
½	0	6	6	0	½	0	6	7	6
¾	0	9	9	0	¾	0	9	11	3

FT. LNG.	13½ IN. BROAD.			FT. LNG.	13½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	1	6	1	1	1	9
2	2	3	0	2	2	3	6
3	3	4	6	3	3	5	3
4	4	6	0	4	4	7	0
5	5	7	6	5	5	8	9
6	6	9	0	6	6	10	6
7	7	10	6	7	8	0	3
8	9	0	0	8	9	2	0
9	10	1	6	9	10	3	9
10	11	3	0	10	11	5	6
11	12	4	6	11	12	7	3
12	13	6	0	12	13	9	0
13	14	7	6	13	14	10	9
14	15	9	0	14	16	3	6
15	16	10	6	15	17	2	3
16	18	0	0	16	18	4	0
17	19	1	6	17	19	5	9
18	20	3	0	18	20	7	6
19	21	4	6	19	21	9	3
20	22	6	0	20	22	11	0
21	23	7	6	21	24	0	9
22	24	9	0	22	25	2	6
23	25	10	6	23	26	4	3
24	27	0	0	24	27	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
	FT.	IN.	PA.	S.		FT.	IN.	PA.	S.
1	0	1	1	6	1	0	1	1	9
2	0	2	3	0	2	0	2	3	6
3	0	3	4	6	3	0	3	5	3
4	0	4	6	0	4	0	4	7	0
5	0	5	7	6	5	0	5	8	9
6	0	6	9	0	6	0	6	10	6
7	0	7	10	6	7	0	8	0	3
8	0	9	0	0	8	0	9	2	0
9	0	10	1	6	9	0	10	3	9
10	0	11	3	0	10	0	11	5	6
11	1	0	4	6	11	1	0	7	3

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
	IN.	PA.	S.	T.		IN.	PA.	S.	T.
¼	0	3	4	6	¼	0	3	5	3
½	0	6	9	0	½	0	6	10	6
¾	0	10	1	6	¾	0	10	3	9

FT. LNG.	14 IN. BROAD.			FT. LNG.	14½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	2	0	1	1	2	3
2	2	4	0	2	2	4	6
3	3	6	0	3	3	6	9
4	4	8	0	4	4	9	0
5	5	10	0	5	5	11	3
6	7	0	0	6	7	1	6
7	8	2	0	7	8	3	9
8	0	4	0	8	9	6	0
9	10	6	0	9	10	8	3
10	11	8	0	10	11	10	6
11	12	10	0	11	13	0	9
12	14	0	0	12	14	3	0
13	15	2	0	13	15	5	3
14	16	4	0	14	16	7	6
15	17	6	0	15	17	9	0
16	18	8	0	16	19	0	0
17	10	10	0	17	20	2	3
18	21	0	0	18	21	4	6
19	22	2	0	19	22	6	0
20	23	4	0	20	23	9	0
21	24	6	0	21	24	11	3
22	25	8	0	22	26	1	6
23	26	10	0	23	27	3	9
24	28	0	0	24	28	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	1	2	0	1	0	1	2	3
2	0	2	4	0	2	0	2	4	6
3	0	3	6	0	3	0	3	6	9
4	0	4	8	0	4	0	4	9	0
5	0	5	10	0	5	0	5	11	3
6	0	7	0	0	6	0	7	1	6
7	0	8	2	0	7	0	8	3	0
8	0	0	4	0	8	0	9	6	0
9	0	10	6	0	9	0	10	8	3
10	0	11	8	0	10	0	11	10	6
11	1	0	10	0	11	1	1	0	9

QRS. LNCH LNG.	IN. PA. S. T.				QRS. LNCH LNG.	IN. PA. S. T.			
¼	0	3	6	0	¼	0	3	6	9
⅓	0	7	0	0	⅓	0	7	1	6
½	0	10	6	0	½	0	10	8	3

FT. LNG.	14½ IN. BROAD.			FT. LNG.	14½ IN BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	2	6	1	1	2	9
2	2	5	0	2	2	5	6
3	3	7	6	3	3	8	3
4	4	10	0	4	4	11	0
5	6	0	6	5	6	1	9
6	7	3	0	6	7	4	6
7	8	5	6	7	8	7	3
8	9	8	0	8	9	10	0
9	10	10	6	9	11	0	9
10	12	1	0	10	12	3	6
11	13	3	6	11	13	6	3
12	14	6	0	12	14	9	0
13	15	8	6	13	15	11	9
14	16	11	0	14	17	2	6
15	18	1	6	15	18	5	3
16	19	4	0	16	19	8	0
17	20	6	6	17	20	10	9
18	21	9	0	18	22	1	6
19	22	11	6	19	23	4	3
20	24	2	0	20	24	7	0
21	25	4	6	21	25	9	9
22	26	7	0	22	27	0	6
23	27	9	6	23	28	3	3
24	29	0	0	24	29	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN PA. S.			
1	0	1	2	6	1	0	1	2	9
2	0	2	5	0	2	0	2	5	6
3	0	3	7	6	3	0	3	8	3
4	0	4	10	0	4	0	4	11	0
5	0	6	0	6	5	0	6	1	9
6	0	7	3	0	6	0	7	4	6
7	0	8	5	6	7	0	8	7	3
8	0	9	8	0	8	0	9	10	0
9	0	10	10	6	9	0	11	0	9
10	1	0	1	0	10	1	0	3	6
11	1	1	3	6	11	1	1	6	3

QRS. INCH LNG	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
¼	0	3	7	6	¼	0	3	8	3
½	0	7	3	0	½	0	7	4	6
¾	0	10	10	6	¾	0	11	0	9

		15 IN. BROAD.					15½ IN. BROAD.				
FT.					FT.						
LNG.		FT. IN. PA.			LNG.		FT. IN. PA.				
1		1	3	0	1		1	3	3		
2		2	6	0	2		2	6	6		
3		3	9	0	3		3	9	9		
4		5	0	0	4		5	1	0		
5		6	3	0	5		6	4	3		
6		7	6	0	6		7	7	6		
7		8	9	0	7		8	10	9		
8		10	0	0	8		10	2	0		
9		11	3	0	9		11	5	3		
10		12	6	0	10		12	8	6		
11		13	9	0	11		13	11	9		
12		15	0	0	12		15	3	0		
13		16	3	0	13		16	6	3		
14		17	6	0	14		17	9	6		
15		18	9	0	15		19	0	9		
16		20	0	0	16		20	4	0		
17		21	3	0	17		21	7	3		
18		22	6	0	18		22	10	6		
19		23	9	0	19		24	1	9		
20		25	0	0	20		25	5	0		
21		26	3	0	21		26	8	3		
22		27	6	0	22		27	11	6		
23		28	9	0	23		29	2	9		
24		30	0	0	24		30	6	0		
-----											
IN.		FT. IN. PA. S.			IN.		FT. IN. PA. S.				
LNG.					LNG.						
1		0	1	3	0	1		0	1	3	3
2		0	2	6	0	2		0	2	6	6
3		0	3	9	0	3		0	3	9	9
4		0	5	0	0	4		0	5	1	0
5		0	6	3	0	5		0	6	4	3
6		0	7	6	0	6		0	7	7	6
7		0	8	9	0	7		0	8	10	9
8		0	10	0	0	8		0	10	2	0
9		0	11	3	0	9		0	11	5	3
10		1	0	6	0	10		1	0	8	6
11		1	1	9	0	11		1	1	11	9
-----											
QRS.		IN. PA. S. T.			QRS.		IN. PA. S. T.				
INCH.					INCH.						
¼		0	3	9	0	¼		0	3	9	9
½		0	7	6	0	½		0	7	7	6
¾		0	11	3	0	¾		0	11	5	3

FT. LNG.	15½ IN. BROAD.			FT. LNG.	15½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	3	6	1	1	3	9
2	2	7	0	2	2	7	6
3	3	10	6	3	3	11	3
4	5	2	0	4	5	3	0
5	6	5	6	5	6	6	9
6	7	9	0	6	7	10	6
7	9	0	6	7	9	2	3
8	10	4	0	8	10	6	0
9	11	7	6	9	11	9	9
10	12	11	0	10	13	1	6
11	14	2	6	11	14	5	3
12	15	6	0	12	15	9	0
13	16	9	6	13	17	0	9
14	18	1	0	14	18	4	6
15	19	4	6	15	19	8	3
16	20	8	0	16	21	0	0
17	21	11	6	17	22	3	9
18	23	3	0	18	23	7	6
19	24	6	6	19	24	11	3
20	25	10	0	20	26	3	0
21	27	1	6	21	27	6	9
22	28	5	0	22	28	10	6
23	29	8	6	23	30	2	3
24	31	0	0	24	31	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
	FT.	IN.	PA.	S.		FT.	IN.	PA.	S.
1	0	1	3	6	1	0	1	3	9
2	0	2	7	0	2	0	2	7	6
3	0	3	10	6	3	0	3	11	3
4	0	5	2	0	4	0	5	3	0
5	0	6	5	6	5	0	6	6	9
6	0	7	9	0	6	0	7	10	6
7	0	9	0	6	7	0	9	2	3
8	0	10	4	0	8	0	10	6	0
9	0	11	7	6	9	0	11	9	9
10	1	0	11	0	10	1	1	1	6
11	1	2	2	6	11	1	2	5	3

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
	IN.	PA.	S.	T.		IN.	PA.	S.	T.
¼	0	3	10	6	¼	0	3	11	3
½	0	7	9	0	½	0	7	10	6
¾	0	11	7	6	¾	0	11	9	9

16 IN. BROAD.				16½ IN. BROAD.					
FT.	.....			FT.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
1	1	4	0	1	1	4	3		
2	2	8	0	2	2	8	6		
3	4	0	0	3	4	0	9		
4	5	4	0	4	5	5	0		
5	6	8	0	5	6	9	3		
6	8	0	0	6	8	1	6		
7	9	4	0	7	9	5	9		
8	10	8	0	8	10	10	0		
9	12	0	0	9	12	2	3		
10	13	4	0	10	13	6	6		
11	14	8	0	11	14	10	9		
12	16	0	0	12	16	3	0		
13	17	4	0	13	17	7	3		
14	18	8	0	14	18	1	6		
15	20	0	0	15	20	3	9		
16	21	4	0	16	21	8	0		
17	22	8	0	17	23	0	3		
18	24	0	0	18	24	4	6		
19	25	4	0	19	25	8	9		
20	26	8	0	20	27	1	0		
21	28	0	0	21	28	5	3		
22	29	4	0	22	29	9	6		
23	30	8	0	23	31	1	9		
24	32	0	0	24	32	6	0		
.....				.....					
IN.	.....			IN.	.....				
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.		
			S.				S.		
1	0	1	4	0	1	0	1	4	3
2	0	2	8	0	2	0	2	8	6
3	0	4	0	0	3	0	4	0	9
4	0	5	4	0	4	0	5	5	0
5	0	6	9	0	5	0	6	9	3
6	0	8	0	0	6	0	8	1	6
7	0	9	4	0	7	0	9	5	9
8	0	10	8	0	8	0	10	10	0
9	1	0	0	0	9	1	0	2	3
10	1	1	4	0	10	1	1	6	6
11	1	2	8	0	11	1	2	10	9
.....				.....					
QRS.	.....			QRS.	.....				
INCH	IN.	PA.	S.	INCH	IN.	PA.	S.		
LNG.	T.			LNG.	T.				
¼	0	4	0	0	¼	0	4	0	9
½	0	8	0	0	½	0	8	1	6
¾	1	0	0	0	¾	1	0	2	3



		16½ IN. BROAD.					16¾ IN. BROAD.		
FT.	LNG.	FT.	IN.	PA.	FT.	LNG.	FT.	IN.	PA.
1		1	4	6	1		1	4	9
2		2	9	0	2		2	9	6
3		4	1	6	3		4	2	3
4		5	6	0	4		5	7	0
5		6	10	6	5		6	11	9
6		8	3	0	6		8	4	6
7		9	7	6	7		9	9	3
8		11	0	0	8		11	2	0
9		12	4	6	9		12	6	9
10		13	9	0	10		13	11	6
11		15	1	6	11		15	4	3
12		16	6	0	12		16	9	0
13		17	10	6	13		18	1	9
14		19	3	0	14		19	6	6
15		20	7	6	15		20	11	3
16		22	0	0	16		22	4	0
17		23	4	6	17		23	8	9
18		24	9	0	18		25	1	6
19		26	1	6	19		26	6	3
20		27	6	0	20		27	11	0
21		28	10	6	21		29	3	9
22		30	3	0	22		30	8	6
23		31	7	6	23		32	1	3
24		33	0	0	24		33	6	0

IN. LNG.	FT.	IN.	PA.	S.	IN. LNG.	FT.	IN.	PA.	S.
1	0	1	4	6	1	0	1	4	9
2	0	2	9	0	2	0	2	9	6
3	0	4	1	6	3	0	4	2	3
4	0	5	6	0	4	0	5	7	0
5	0	6	10	6	5	0	6	11	9
6	0	8	3	0	6	0	8	4	6
7	0	9	7	6	7	0	9	9	3
8	0	11	0	0	8	0	11	2	0
9	1	0	4	6	9	1	0	6	9
10	1	1	9	0	10	1	1	11	6
11	1	3	1	6	11	1	3	4	3

QRS. INCH LNG.	IN.	PA.	S.	T.	QRS. INCH LNG.	IN.	PA.	S.	T.
¼	0	4	1	6	¼	0	4	2	3
½	0	8	3	0	½	0	8	4	6
¾	1	0	4	6	¾	1	0	6	9

		17 IN. BROAD.					17½ IN. BROAD.			
FT.	LNG.	FT.	IN.	PA.	FT.	LNG.	FT.	IN.	PA.	
1		1	5	0	1		1	5	3	
2		2	10	0	2		2	10	6	
3		4	3	0	3		4	3	9	
4		5	8	0	4		5	9	0	
5		7	1	0	5		7	2	3	
6		8	6	0	6		8	7	6	
7		9	11	0	7		10	0	9	
8		11	4	0	8		11	6	0	
9		12	9	0	9		12	11	3	
10		14	2	0	10		14	4	6	
11		15	7	0	11		15	9	9	
12		17	0	0	12		17	3	0	
13		18	5	0	13		18	8	3	
14		19	10	0	14		20	1	6	
15		21	3	0	15		21	6	9	
16		22	8	0	16		23	0	0	
17		24	1	0	17		24	5	3	
18		25	6	0	18		25	10	6	
19		26	11	0	19		27	3	9	
20		28	4	0	20		28	9	0	
21		29	9	0	21		30	2	3	
22		31	2	0	22		31	7	6	
23		32	7	0	23		33	0	9	
24		34	0	0	24		34	6	0	
IN. LNG.		FT. IN. PA. S.			IN. LNG.		FT. IN. PA. S.			
1		0	1	5	0	1	0	1	5	3
2		0	2	10	0	2	0	2	10	6
3		0	4	3	0	3	0	4	3	9
4		0	5	8	0	4	0	5	9	0
5		0	7	1	0	5	0	7	2	3
6		0	8	6	0	6	0	8	7	6
7		0	9	11	0	7	0	10	0	9
8		0	11	4	0	8	0	11	6	0
9		1	0	9	0	9	1	0	11	3
10		1	2	2	0	10	1	2	4	6
11		1	3	7	0	11	1	3	9	9
QRS. INCH LNG.		IN. PA. S. T.			QRS. INCH LNG.		IN. PA. S. T.			
¼		0	4	3	0	¼	0	4	3	9
½		0	8	6	0	½	0	8	7	6
¾		1	0	9	0	¾	1	0	11	3

FT.	17½ IN. BROAD.			FT.	17½ IN. BROAD.			
	LNG.	FT.	IN.		PA.	LNG.	FT.	IN.
1		1	5	6	1	1	5	9
2		2	11	0	2	2	11	6
3		4	4	6	3	4	5	3
4		5	10	0	4	5	11	0
5		7	3	6	5	7	4	9
6		8	9	0	6	8	10	6
7		10	2	6	7	10	4	3
8		11	8	0	8	11	10	0
9		13	1	6	9	13	3	9
10		14	7	0	10	14	9	6
11		16	0	6	11	16	3	3
12		17	6	0	12	17	9	0
13		18	11	6	13	19	2	9
14		20	5	0	14	20	8	6
15		21	10	6	15	22	2	3
16		23	4	0	16	23	8	0
17		24	9	6	17	25	1	9
18		26	3	0	18	26	7	6
19		27	8	6	19	28	1	3
20		29	2	0	20	29	7	0
21		30	7	6	21	31	0	9
22		32	1	0	22	32	6	6
23		33	6	6	23	34	0	3
24		35	0	0	24	35	6	0

IN. LNG.	FT.	IN.	PA.	S.
1	0	1	5	6
2	0	2	11	0
3	0	4	4	6
4	0	5	10	0
5	0	7	3	6
6	0	8	9	0
7	0	10	2	6
8	0	11	8	0
9	1	1	1	6
10	1	2	7	0
11	1	4	0	6

IN. LNG.	FT.	IN.	PA.	S.
1	0	1	5	9
2	0	2	11	6
3	0	4	5	3
4	0	5	11	0
5	0	7	4	9
6	0	8	10	6
7	0	10	4	3
8	0	11	10	0
9	1	1	3	9
10	1	2	9	6
11	1	4	3	3

QRS. INCH LNG.	IN.	PA.	S.	T.
¼	0	4	4	6
½	0	8	9	0
¾	1	1	1	6

QRS. INCH LNG.	IN.	PA.	S.	T.
¼	0	4	5	3
½	0	8	10	6
¾	1	1	3	9

		18 IN. BROAD.					18½ IN. BROAD.			
FT.		-----			FT.		-----			
LNG.		FT.	IN.	PA.	LNG.		FT.	IN.	PA.	
1		1	6	0	1		1	6	3	
2		3	0	0	2		3	0	6	
3		4	6	0	3		4	6	9	
4		6	0	0	4		6	1	0	
5		7	6	0	5		7	7	3	
6		9	0	0	6		9	1	6	
7		10	6	0	7		10	7	9	
8		12	0	0	8		12	2	0	
9		13	6	0	9		13	8	3	
10		15	0	0	10		15	2	6	
11		16	6	0	11		16	8	9	
12		18	0	0	12		18	3	0	
13		19	6	0	13		19	9	3	
14		21	0	0	14		21	3	6	
15		22	6	0	15		22	9	9	
16		24	0	0	16		24	4	0	
17		25	6	0	17		25	10	3	
18		27	0	0	18		27	4	6	
19		28	6	0	19		28	10	9	
20		30	0	0	20		30	5	0	
21		31	6	0	21		31	11	3	
22		33	0	0	22		33	5	6	
23		34	6	0	23		34	11	9	
24		36	0	0	24		36	6	0	
-----										
IN.		FT. IN. PA. S.			IN.		FT. IN. PA. S.			
LNG.					LNG.					
1		0	1	6	0	1	0	1	6	3
2		0	3	0	0	2	0	3	0	6
3		0	4	6	0	3	0	4	6	9
4		0	6	0	0	4	0	6	1	0
5		0	7	6	0	5	0	7	7	3
6		0	9	0	0	6	0	9	1	6
7		0	10	6	0	7	0	10	7	9
8		1	0	0	0	8	1	0	2	0
9		1	1	6	0	9	1	1	8	3
10		1	3	0	0	10	1	3	2	6
11		1	4	6	0	11	1	4	8	9
-----										
QRS.		IN. PA. S. T.			QRS.		IN. PA. S. T.			
INCH					INCH					
LNG.					LNG.					
¼		0	4	6	0	¼	0	4	6	9
⅓		0	9	0	0	⅓	0	9	1	6
½		1	1	6	0	½	1	1	8	3

		18½ IN. BROAD.					18¾ IN. BROAD.		
FT.					FT.				
LNG.		FT.	IN.	PA.	LNG.		FT.	IN.	PA.
1		1	6	6	1		1	6	9
2		3	1	0	2		3	1	6
3		4	7	6	3		4	8	3
4		6	2	0	4		6	3	0
5		7	8	6	5		7	9	9
6		9	3	0	6		9	4	6
7		10	9	6	7		10	11	3
8		12	4	0	8		12	6	0
9		13	10	6	9		14	0	9
10		15	5	0	10		15	7	6
11		16	11	6	11		17	2	3
12		18	6	0	12		18	9	0
13		20	0	6	13		20	3	9
14		21	7	0	14		21	10	6
15		23	1	6	15		23	5	3
16		24	8	0	16		25	0	0
17		26	2	6	17		26	6	9
18		27	9	0	18		28	1	6
19		29	3	6	19		29	8	3
20		30	10	0	20		31	3	0
21		32	4	6	21		32	9	9
22		33	11	0	22		34	4	6
23		35	5	6	23		35	11	3
24		37	0	0	24		37	6	0

IN. LNG.	FT. IN. PA. S.			
1	0	1	6	6
2	0	3	1	0
3	0	4	7	6
4	0	6	2	0
5	0	7	8	6
6	0	9	3	0
7	0	10	9	6
8	1	0	4	0
9	1	1	10	6
10	1	3	5	0
11	1	4	11	6

IN. LNG.	FT. IN. PA. S.			
1	0	1	6	9
2	0	3	1	6
3	0	4	8	3
4	0	6	3	0
5	0	7	9	9
6	0	9	4	6
7	0	10	11	3
8	1	0	6	0
9	1	2	0	9
10	1	3	7	6
11	1	5	2	3

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	4	7	6
½	0	9	3	0
¾	1	1	10	6

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	4	8	3
½	0	9	4	6
¾	1	2	0	9

FT. LNG.	19 IN. BROAD.			FT. LNG.	19½ IN. BROAD.				
	FT.	IN.	PA.		FT.	IN.	PA.		
1	1	7	0	1	1	7	3		
2	3	2	0	2	3	2	6		
3	4	9	0	3	4	9	9		
4	6	4	0	4	6	5	0		
5	7	11	0	5	8	0	3		
6	9	6	0	6	9	7	6		
7	11	1	0	7	11	2	9		
8	12	8	0	8	12	10	0		
9	14	3	0	9	14	5	3		
10	15	10	0	10	16	0	6		
11	17	5	0	11	17	7	9		
12	19	0	0	12	19	3	0		
13	20	7	0	13	20	10	3		
14	22	2	0	14	22	5	6		
15	23	9	0	15	24	0	9		
16	25	4	0	16	25	8	0		
17	26	11	0	17	27	3	3		
18	28	6	0	18	28	10	6		
19	30	1	0	19	30	5	9		
20	31	8	0	20	32	1	0		
21	33	3	0	21	33	8	3		
22	34	10	0	22	35	3	6		
23	36	5	0	23	36	10	9		
24	38	0	0	24	38	6	0		
IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	1	7	0	1	0	1	7	3
2	0	3	2	0	2	0	3	2	6
3	0	4	9	0	3	0	4	9	9
4	0	6	4	0	4	0	6	5	0
5	0	7	11	0	5	0	8	0	3
6	0	9	6	0	6	0	9	7	6
7	0	11	1	0	7	0	11	2	9
8	1	0	8	0	8	1	0	10	0
9	1	2	3	0	9	1	2	5	3
10	1	3	10	0	10	1	4	0	6
11	1	5	5	0	11	1	5	7	9
QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
¼	0	4	9	0	¼	0	4	9	9
½	0	9	6	0	½	0	9	7	6
¾	1	2	3	0	¾	1	2	5	3

19½ IN. BROAD.				19¼ IN. BROAD.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	1	7	6	1	1	7	9
2	3	3	0	2	3	3	6
3	4	10	6	3	4	11	3
4	6	6	0	4	6	7	0
5	8	1	6	5	8	2	9
6	9	9	0	6	9	10	6
7	11	4	6	7	11	6	3
8	13	0	0	8	13	2	0
9	14	7	6	9	14	9	9
10	16	3	0	10	16	5	6
11	17	10	6	11	18	1	3
12	19	6	0	12	19	9	0
13	21	1	6	13	21	4	9
14	22	9	0	14	23	0	6
15	24	4	6	15	24	8	3
16	26	0	0	16	26	4	0
17	27	7	6	17	27	11	9
18	29	3	0	18	29	7	6
19	30	19	6	19	31	3	3
20	32	6	0	20	32	11	0
21	34	1	6	21	34	6	9
22	35	9	0	22	36	2	6
23	37	4	6	23	37	10	3
24	39	0	0	24	39	6	0

IN. LNG.	-----				IN. LNG.	-----			
	FT.	IN.	PA.	S.		FT.	IN.	PA.	S.
1	0	1	7	6	1	0	1	7	9
2	0	3	3	0	2	0	3	3	6
3	0	4	10	6	3	0	4	11	3
4	0	6	6	0	4	0	6	7	0
5	0	8	1	6	5	0	8	2	9
6	0	9	9	0	6	0	9	10	6
7	0	11	4	6	7	9	11	6	3
8	1	1	0	0	8	1	1	2	0
9	1	2	7	6	9	1	2	9	9
10	1	4	3	0	10	1	4	5	6
11	1	5	10	6	11	1	6	1	3

QRS. INCH LNG.	-----				QRS. INCH LNG.	-----			
	IN.	PA.	S.	T.		IN.	PA.	S.	T.
¼	0	4	10	6	¼	0	4	11	3
½	0	9	9	0	½	0	9	10	6
¾	1	2	7	6	¾	1	2	9	9

		20 IN. BROAD.					20 1/4 IN. BROAD.				
FT.		-----			FT.		-----				
LNG.		FT.	IN.	PA.	LNG.		FT.	IN.	PA.		
1		1	8	0	1		1	8	3		
2		3	4	0	2		3	4	6		
3		5	0	0	3		5	0	9		
4		6	8	0	4		6	9	0		
5		8	4	0	5		8	5	3		
6		10	0	0	6		10	1	6		
7		11	8	0	7		11	9	9		
8		13	4	0	8		13	6	0		
9		15	0	0	9		15	2	3		
10		16	8	0	10		16	10	6		
11		18	4	0	11		18	6	9		
12		20	0	0	12		20	3	0		
13		21	8	0	13		21	11	3		
14		23	4	0	14		23	7	6		
15		25	0	0	15		25	3	9		
16		26	8	0	16		27	0	0		
17		28	4	0	17		28	8	3		
18		30	0	0	18		30	4	6		
19		31	8	0	19		32	0	9		
20		33	4	0	20		33	9	0		
21		35	0	0	21		35	5	3		
22		36	8	0	22		37	1	6		
23		38	4	0	23		38	9	9		
24		40	0	0	24		40	6	0		
-----											
IN.		FT. IN. PA. S.			IN.		FT. IN. PA. S.				
LNG.					LNG.						
1		0	1	8	0	1		0	1	8	3
2		0	3	4	0	2		0	3	4	6
3		0	5	0	0	3		0	5	0	9
4		0	6	8	0	4		0	6	9	0
5		0	8	4	0	5		0	8	5	3
6		0	10	0	0	6		0	10	1	6
7		0	11	8	0	7		0	11	9	9
8		1	1	4	0	8		1	1	6	0
9		1	3	0	0	9		1	3	2	3
10		1	4	8	0	10		1	4	10	6
11		1	6	4	0	11		1	6	6	9
-----											
QRS.		IN. PA. S. T.			QRS.		IN. PA. S. T.				
INCH					INCH						
LNG.					LNG.						
1/4		0	5	0	0	1/4		0	5	0	9
1/2		0	10	0	0	1/2		0	10	1	6
3/4		1	3	0	0	3/4		1	3	2	3



FT. LNG.	20½ IN. BROAD.			FT. LNG.	20½ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	8	6	1	1	8	9
2	3	5	0	2	3	5	6
3	5	1	6	3	5	2	3
4	6	10	0	4	6	11	0
5	8	6	6	5	8	7	9
6	10	3	0	6	10	4	0
7	11	11	6	7	12	1	3
8	13	8	0	8	13	10	0
9	15	4	6	9	15	6	9
10	17	1	0	10	17	3	6
11	18	9	0	11	19	0	3
12	20	6	0	12	20	9	0
13	22	2	0	13	22	5	9
14	23	11	0	14	24	2	6
15	25	7	6	15	25	11	3
16	27	4	0	16	27	8	0
17	29	0	6	17	29	4	9
18	30	9	0	18	31	1	6
19	32	5	0	19	32	10	3
20	34	2	0	20	34	7	0
21	35	10	0	21	36	3	9
22	37	7	0	22	38	0	6
23	39	3	6	23	39	9	3
24	41	0	0	24	41	6	0

IN. LNG.	FT. IN. PA. S.			
1	0	1	8	6
2	0	3	5	0
3	0	5	1	6
4	0	6	10	0
5	0	8	6	6
6	0	10	3	0
7	0	11	11	6
8	1	1	8	0
9	1	3	4	6
10	1	5	1	0
11	1	6	9	6

IN. LNG.	FT. IN. PA. S.			
1	0	1	8	9
2	0	3	5	6
3	0	5	2	3
4	0	6	11	0
5	0	8	7	9
6	0	10	4	6
7	1	0	1	3
8	1	1	10	0
9	1	3	6	9
10	1	5	3	6
11	1	7	0	3

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	5	1	6
½	0	10	3	0
¾	1	3	4	6

QRS. INCH LNG.	IN. PA. S. T.			
¼	0	5	2	3
½	0	10	4	6
¾	1	3	6	9

FT. LNG.	21 IN. BROAD.			FT. LNG.	21 1/4 IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	9	0	1	1	9	3
2	3	6	0	2	3	6	6
3	5	3	0	3	5	3	9
4	7	0	0	4	7	1	0
5	8	9	0	5	8	10	3
6	10	6	0	6	10	7	6
7	12	3	0	7	12	4	9
8	14	0	0	8	14	2	0
9	15	9	0	9	15	11	3
10	17	6	0	10	17	8	6
11	19	3	0	11	19	5	9
12	21	0	0	12	21	3	0
13	22	9	0	13	23	0	3
14	24	6	0	14	24	9	6
15	26	3	0	15	26	6	9
16	28	0	0	16	28	4	0
17	29	9	0	17	30	1	3
18	31	6	0	18	31	10	6
19	33	3	0	19	33	7	9
20	35	0	0	20	35	5	0
21	36	0	0	21	37	2	3
22	38	6	0	22	38	11	6
23	40	3	0	23	40	8	9
24	42	0	0	24	42	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	1	9	0	1	0	1	9	3
2	0	3	6	0	2	0	3	6	6
3	0	5	3	0	3	0	5	3	9
4	0	7	0	0	4	0	7	1	0
5	0	8	9	0	5	0	8	10	3
6	0	10	6	0	6	0	10	7	6
7	1	0	3	0	7	1	0	4	9
8	1	2	0	0	8	1	2	2	0
9	1	3	9	0	9	1	3	11	3
10	1	5	6	0	10	1	5	8	6
11	1	7	3	0	11	1	7	5	9

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
1/4	0	5	3	0	1/4	0	5	3	9
1/2	0	10	6	0	1/2	0	10	7	6
3/4	1	3	9	0	3/4	1	3	11	3

FT. LNG.	21½ IN. BROAD.			FT. LNG.	21¾ IN. BROAD.		
	FT.	IN.	PA.		FT.	IN.	PA.
1	1	9	6	1	1	9	9
2	3	7	0	2	3	7	0
3	5	4	0	3	5	5	3
4	7	2	0	4	7	3	0
5	8	11	6	5	9	0	9
6	10	9	0	6	10	10	6
7	12	6	6	7	12	8	3
8	14	4	0	8	14	6	0
9	16	1	6	9	16	3	9
10	17	11	0	10	18	1	6
11	19	8	0	11	19	11	3
12	21	6	0	12	21	9	0
13	23	3	6	13	23	6	9
14	25	1	0	14	25	4	6
15	26	10	6	15	27	2	3
16	28	8	0	16	29	0	0
17	30	5	6	17	30	9	9
18	32	3	0	18	32	7	6
19	34	0	6	19	34	5	3
20	35	10	0	20	36	3	0
21	37	7	6	21	35	0	9
22	39	5	0	22	39	10	6
23	41	2	6	23	41	8	3
24	43	0	0	24	43	6	0

IN. LNG.	FT. IN. PA. S.				IN. LNG.	FT. IN. PA. S.			
1	0	1	9	6	1	0	1	9	9
2	0	3	7	0	2	0	3	7	6
3	0	5	4	0	3	0	5	5	3
4	0	7	2	0	4	0	7	3	0
5	0	8	11	6	5	0	9	0	9
6	0	10	9	0	6	0	10	10	6
7	1	0	6	6	7	1	0	8	3
8	1	2	4	0	8	1	2	6	0
9	1	4	1	6	9	1	4	3	9
10	1	5	11	0	10	1	6	1	6
11	1	7	8	6	11	1	7	11	3

QRS. INCH LNG.	IN. PA. S. T.				QRS. INCH LNG.	IN. PA. S. T.			
¼	0	5	4	6	¼	0	5	5	3
½	0	10	9	0	½	0	10	10	6
¾	1	4	1	6	¾	1	4	3	9

FT. LNG.	22 IN. BROAD.				FT. LNG.	22 $\frac{1}{4}$ IN. BROAD.			
	FT.	IN.	PA.			FT.	IN.	PA.	
1	1	10	0		1	1	10	3	
2	3	8	0		2	3	8	6	
3	5	6	0		3	5	6	9	
4	7	4	0		4	7	5	0	
5	9	2	0		5	9	3	3	
6	11	0	0		6	11	1	6	
7	12	10	0		7	12	11	9	
8	14	8	0		8	14	10	0	
9	16	6	0		9	16	8	3	
10	18	4	0		10	18	6	6	
11	20	2	0		11	20	4	9	
12	22	0	0		12	22	3	0	
13	23	10	0		13	24	1	3	
14	25	8	0		14	25	11	6	
15	27	6	0		15	27	9	9	
16	29	4	0		16	29	8	0	
17	31	2	0		17	31	6	3	
18	33	0	0		18	33	4	6	
19	34	10	0		19	35	2	9	
20	36	8	0		20	37	1	0	
21	38	6	0		21	38	11	3	
22	40	4	0		22	40	9	6	
23	42	2	0		23	42	7	0	
24	44	0	0		24	44	6	0	

IN. LNG.	FT. IN. PA. S.			
1	0	1	10	0
2	0	3	8	0
3	0	5	6	0
4	0	7	4	0
5	0	9	2	0
6	0	11	0	0
7	1	0	10	0
8	1	2	8	0
9	1	4	6	0
10	1	6	4	0
11	1	8	2	0

IN. LNG.	FT. IN. PA. S.			
1	0	1	10	3
2	0	3	8	6
3	0	5	6	9
4	0	7	5	0
5	0	9	3	3
6	0	11	1	6
7	1	0	11	9
8	1	2	10	0
9	1	4	8	3
10	1	6	6	6
11	1	8	4	9

QRS. INCH LNG.	IN. PA. S. T.			
$\frac{1}{4}$	0	5	6	0
$\frac{1}{2}$	0	11	0	0
$\frac{3}{4}$	1	4	6	0

QRS. INCH LNG.	IN. PA. S. T.			
$\frac{1}{4}$	0	5	6	9
$\frac{1}{2}$	0	11	1	6
$\frac{3}{4}$	1	4	8	3

22½ IN. BROAD.				22¼ IN. BROAD.			
FT.	-----			FT.	-----		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	1	10	6	1	1	10	9
2	3	9	0	2	3	9	6
3	5	7	6	3	5	8	3
4	7	6	0	4	7	7	0
5	9	4	6	5	9	5	9
6	11	3	0	6	11	4	6
7	13	1	6	7	13	3	3
8	15	0	0	8	15	2	0
9	16	10	6	9	17	0	9
10	18	9	0	10	18	11	6
11	20	7	6	11	20	10	3
12	22	6	0	12	22	9	0
13	24	4	6	13	24	7	9
14	26	3	0	14	26	6	6
15	28	1	6	15	28	5	3
16	30	0	0	16	30	4	0
17	31	10	6	17	32	2	9
18	33	9	0	18	34	1	6
19	35	7	6	19	36	0	3
20	37	6	0	20	37	11	0
21	39	4	6	21	39	9	9
22	41	3	0	22	41	8	6
23	43	1	6	23	43	7	3
24	45	0	0	24	45	6	0

IN. LNG.	-----			
	FT.	IN.	PA.	S.
1	0	1	10	6
2	0	3	9	0
3	0	5	7	6
4	0	7	6	0
5	0	9	4	6
6	0	11	3	0
7	1	1	1	6
8	1	3	0	0
9	1	4	10	6
10	1	6	9	0
11	1	8	7	6

IN. LNG.	-----			
	FT.	IN.	PA.	S.
1	0	1	10	9
2	0	3	9	6
3	0	5	8	3
4	0	7	7	0
5	0	9	5	9
6	0	11	4	6
7	1	1	3	3
8	1	3	2	0
9	1	5	0	9
10	1	6	11	6
11	1	8	10	3

QRS. INCH LNG.	-----			
	IN.	PA.	S.	T.
¼	0	5	7	6
½	0	11	3	0
¾	1	4	10	6

QRS. INCH LNG.	-----			
	IN.	PA.	S.	T.
¼	0	5	8	3
½	0	11	4	6
¾	1	5	0	9

23 IN. BROAD.				23½ IN. BROAD.			
FT.	.....			FT.	.....		
LNG.	FT.	IN.	PA.	LNG.	FT.	IN.	PA.
1	1	11	0	1	1	11	3
2	3	10	0	2	3	10	6
3	5	9	0	3	5	9	9
4	7	8	0	4	7	9	0
5	9	7	0	5	9	8	3
6	11	6	0	6	11	7	6
7	13	5	0	7	13	6	9
8	15	4	0	8	15	6	0
9	17	3	0	9	17	5	3
10	19	2	0	10	19	4	6
11	21	1	0	11	21	3	9
12	23	0	0	12	23	3	0
13	24	11	0	13	25	2	3
14	26	10	0	14	27	1	6
15	28	9	0	15	29	0	9
16	30	8	0	16	31	0	0
17	32	7	0	17	32	11	3
18	34	6	0	18	34	10	6
19	36	5	0	19	36	9	9
20	38	4	0	20	38	9	0
21	40	3	0	21	40	8	3
22	42	2	0	22	42	7	6
23	44	1	0	23	44	6	9
24	46	0	0	24	46	6	0

IN.	.....				IN.	.....			
LNG	FT.	IN.	PA.	S.	LNG.	FT.	IN.	PA.	S.
1	0	1	11	0	1	0	1	11	3
2	0	3	10	0	2	0	3	10	6
3	0	5	9	0	3	0	5	9	9
4	0	7	8	0	4	0	7	9	0
5	0	9	7	0	5	0	9	8	3
6	0	11	6	0	6	0	11	7	6
7	1	1	5	0	7	1	1	6	9
8	1	3	4	0	8	1	3	6	0
9	1	5	3	0	9	1	5	5	3
10	1	7	2	0	10	1	7	4	6
11	1	9	1	0	11	1	9	3	9

QRS.	.....				QRS.	.....			
INCH	IN.	PA.	S.	T.	INCH	IN.	PA.	S.	T.
LNG.	.....				LNG.	.....			
¼	0	5	9	0	¼	0	5	9	9
⅓	0	11	6	0	⅓	0	11	7	6
½	1	5	3	0	½	1	5	5	3

		23½ IN. BROAD.						23¼ IN. BROAD.			
FT.		-----				FT.		-----			
LNG.		FT.	IN.	PA.		LNG.		FT.	IN.	PA.	
1		1	11	6		1		1	11	9	
2		3	11	0		2		3	11	6	
3		5	10	6		3		5	11	3	
4		7	10	0		4		7	11	0	
5		9	9	6		5		9	10	9	
6		11	9	0		6		11	10	6	
7		13	8	6		7		13	10	3	
8		15	8	0		8		15	10	0	
9		17	7	6		9		17	9	9	
10		19	7	0		10		19	9	6	
11		21	6	6		11		21	9	3	
12		23	6	0		12		23	9	0	
13		25	5	6		13		25	8	9	
14		27	5	0		14		27	8	6	
15		29	4	6		15		29	8	3	
16		31	4	0		16		31	8	0	
17		33	3	6		17		33	7	9	
18		35	3	0		18		35	7	6	
19		37	2	6		19		37	7	3	
20		39	2	0		20		39	7	0	
21		41	1	6		21		41	6	9	
22		43	1	0		22		43	6	6	
23		45	0	6		23		45	6	3	
24		47	0	0		24		47	6	0	
-----											
IN.		FT. IN. PA. S.				IN.		FT. IN. PA. S.			
LNG.		FT.	IN.	PA.	S.	LNG.		FT.	IN.	PA.	S.
1		0	1	11	6	1		0	1	11	9
2		0	3	11	0	2		0	3	11	6
3		0	5	10	6	3		0	5	11	3
4		0	7	10	0	4		0	7	11	0
5		0	9	9	6	5		0	9	10	9
6		0	11	9	0	6		0	11	10	6
7		1	1	8	6	7		1	1	10	3
8		1	3	8	0	8		1	3	10	0
9		1	5	7	6	9		1	5	9	9
10		1	7	7	0	10		1	7	9	6
11		1	9	6	6	11		1	9	9	3
-----											
QRS.		IN. PA. S. T.				QRS.		IN. PA. S. T.			
INCH		IN.	PA.	S.	T.	INCH		IN.	PA.	S.	T.
¼		0	5	10	6	¼		0	5	11	3
½		0	11	9	0	½		0	11	10	6
¾		1	5	7	6	¾		1	5	9	9

FT. LNG.	24 IN. BROAD.		
	FT.	IN.	PA.
1	2	0	0
2	4	0	0
3	6	0	0
4	8	0	0
5	10	0	0
6	12	0	0
7	14	0	0
8	16	0	0
9	18	0	0
10	20	0	0
11	22	0	0
12	24	0	0
13	26	0	0
14	28	0	0
15	30	0	0
16	32	0	0
17	34	0	0
18	36	0	0
19	38	0	0
20	40	0	0
21	42	0	0
22	44	0	0
23	46	0	0
24	48	0	0

IN. LNG.	FT. IN. PA. S.			
	FT.	IN.	PA.	S.
1	0	2	0	0
2	0	4	0	0
3	0	6	0	0
4	0	8	0	0
5	0	10	0	0
6	1	0	0	0
7	1	2	0	0
8	1	4	0	0
9	1	6	0	0
10	1	8	0	0
11	1	10	0	0

QRS. INCH LNG.	IN. PA. S. T.			
	IN.	PA.	S.	T.
$\frac{1}{4}$	0	6	0	0
$\frac{1}{2}$	1	0	0	0
$\frac{3}{4}$	1	6	0	0



OF THE

# PRICES & WEIGHT

OF

# NAILS.



AS I know of no materials relating to building, in which so great *abuses* and *impositions* constantly occur, as in the article of Nails, I shall be very particular in my directions concerning them, in hopes of preventing such practices for the future.

Nails are of many sorts, and of several of those sorts there are great variety.

N. B.—The Wholesale Dealers in Nails have found it necessary to distinguish them into *General* and *Special*. But first of what they understand by *General* Nails.

Under the *General* sorts of Nails they comprehend, 1. Brads, 2. Hobbs, and 3. Nails.

1. BRADS; viz. Bill-Brads, Plain-Brads, and Gunner-Brads.

2. HOBBS; viz. Clasp-Hobbs, Dye-Hobbs, Rose-Hobbs, Skidder-Hobbs, and Thick-Hobbs.

3. NAILS; viz. Deck Nails, Flat-head Nails, Flat-point Nails, Draw Nails, Lead Nails, Rose-Nails, Scupper-Nails, Sharp-Nails, Middle-Nails, Square-Nails, Prigg-Nails, Spike-Nails, &c.

N. B.—The above, which are known by the names of *General* Nails, are sold by the thousand, and including them all, the prices are from 8d. to 1*2s.* per thousand, and the weight from 2½oz. to 40lb. per thousand.

Note—A thousand of Nails is 1200, there being 120 to the hundred.

☞ If you would understand how to buy Nails, of any of the above sorts, (for there are several sizes and prices of each sort) you must observe the following Table.

THE USE OF THE FOLLOWING  
**TABLE.**

*Having the PRICE to find the WEIGHT.*

**EXAMPLE I.**

If a thousand of Rose-Nails cost 2s 3d. how much ought they to weigh?

Look in the Table for 2s. 3d. the price, and against it is 5lb. 4oz. and so much a thousand of Rose-Nails (which cost 2s. 3d.) ought to weigh.

**EXAMPLE II.**

If a thousand of Rose-Nails cost 12s. how much ought they to weigh?

Look in the Table for 12s. the price, and against it is 40lb. and that is the weight of a thousand of Rose-Nails, which cost 12s.

*Having the WEIGHT to find the PRICE.*

**EXAMPLE I.**

What is the price or value of a thousand of Sharp-Nails that weigh 2lb. 8oz.?

Look in the Table for 2lb. 8oz. the weight, and against it stands 1s. 4½d. and that is the price of a thousand of Sharp-Nails, which weigh 2lb. 8oz.

**EXAMPLE II.**

What ought I to pay for a thousand of Sharp-Nails that weigh 36lb.?

Look in the table for 36lb. the weight, and against it stands 11s. and that is what I ought to pay for them.

And so you may find either the weight or value of any other of the *General* Sorts of Nails; and the same method is to be observed for finding the weight or value of any of the *Special* sorts of Nails.

## THE TABLE

OF THE

*Prices and Weight of the General  
sorts of Nails, viz.*

1. BRADS—viz. Bill-Brads, Plain-Brads, and Gunner-Brads.

2. HOBBS—viz. Clasp-Hobbs, Dye-Hobbs, Rose-Hobbs, Skidder-Hobbs, and Thick-Hobbs.

3. NAILS—viz. Deck-Nails, Flat-head-Nails, Flat-point-Nails, Draw-Nails, Lead-Nails, Rose Nails, Scupper-Nails, Sharp-Nails, Middle-Nails, Square-Nails, Pig-Nails, Spike-Nails, and Weight Nails.

Price per Thousand.		Should weigh per Thousand.		Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.	s.	d.	lb.	oz.
0	7 $\frac{3}{4}$	0	2 $\frac{1}{4}$	2	8	6	8
0	8	0	5	2	8 $\frac{1}{2}$	6	12
0	8 $\frac{1}{4}$	0	6	2	9	7	0
0	9	0	8	2	10 $\frac{1}{2}$	7	8
0	9 $\frac{1}{4}$	0	9	3	0	8	0
0	9 $\frac{1}{2}$	0	10	3	3	9	0
0	10 $\frac{1}{2}$	0	14	3	7	10	0
0	10 $\frac{3}{4}$	0	15	3	10	11	0
0	11	1	0	4	1	12	0
1	0 $\frac{1}{2}$	1	6	4	6	13	0
1	1	1	8	4	9	14	0
1	1 $\frac{1}{2}$	1	12	5	0	15	0
1	2	1	14	5	3	16	0
1	2 $\frac{1}{4}$	2	0	5	6	17	0
1	4 $\frac{1}{2}$	2	8	5	10	18	0
1	6	2	12	6	2	19	0
1	6 $\frac{1}{2}$	2	14	6	5	20	0
1	7	3	0	6	8	21	0
1	8 $\frac{1}{2}$	3	8	6	10	22	0
1	9 $\frac{1}{2}$	3	12	7	3	23	0
1	10	4	0	7	6	24	0
1	11	4	4	8	2	26	0
2	0	4	8	8	10	28	0
2	1	4	12	9	2	30	0
2	2 $\frac{1}{4}$	5	0	9	6	32	0
2	3	5	4	11	0	36	0
2	4	5	8	12	0	40	0
2	6	6	0				

## NAILS.

*Flat-pointed, Strong, or Drawed.*

The Name		Price per Cwt.			The Name.		Price per Cwt.		
s.	d.	£	s.	d.	s.	d.	£	s.	d.
2	0	1	11	0	4	0	1	9	0
2	6	1	10	0	5	0	1	9	0
3	4	1	9	0	6	0	1	9	0

## THE TABLE

OF THE

*Price and Weight of the Special  
sorts of Nails.*

*Batten Brads.*

Price per Thousand.		Should weigh per Thousand.		Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.	s.	d.	lb.	oz.
0	8½	0	8	1	9	2	12
0	11	0	14	1	10	2	14
0	11½	1	0	1	11	3	0
1	3	1	12	2	4	4	0
1	3½	1	14	2	10	5	0
1	4	2	0				

*Clout Nails.*

Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.
2	1	4	8
2	10	7	0
3	2	8	0

*Dog Nails.*

Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.
3	9	9	0
4	9	12	0
6	0	16	0

*Clout Brads.*

Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.
3	6	9	0

N. B. There are larger Dog Nails, viz. from 20lbs. to 120lbs. per thousand, and are sold at 4d. per lb.

*Round Head Nails.*

Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.
0	11½	0	13
1	0¼	1	0
1	3	1	10
1	4½	2	0
1	11	3	4
2	9	5	0
3	3	7	0
4	4	10	0
5	6	13	0

*Tenter Hooks.*

Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.
1	3	1	0
1	6	1	8
2	2	3	8
3	0	5	8
4	6	10	0
7	0	19	0
16	0	40	0

*Jobent Nails.*

Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.
0	10½	0	14
0	11¼	1	0
1	2½	1	14
1	3	2	0
1	7	3	0

*Glaziers' Sprigs.*

Price per Thousand.		Should weigh per Thousand.	
s.	d.	lb.	oz.
0	7½	0	3
0	8	0	14
0	8½	1	0

*Pound Nails.*

The Name.		Price per Cwt.			The Name.		Price per Cwt.		
lb.	oz.	£	s.	d.	lb.	oz.	£	s.	d.
14	0	1	15	0	44	0	1	18	0
20	0	1	15	0	54	0	1	13	0
34	0	1	15	0					

*Cart Nails*

Are from 5 to 8 inches long, and are sold at 30s. per Cwt.

*Ribbing Nails*

Are from 5 to 10 inches long, and are sold at 27s. per Cwt.

*Timber Nails*

Are from 6 to 16 inches long, and are sold at 30s. per Cwt.

*Joiners' Rivets*

Are sold by the pound weight, viz. those of 1 inch at 4½d.—1½ inches at 4½d.—2 inches at 4¼d.—3 inches at 4d.—and 4 inches at 4d.

*Wood Screws.*

Of wood screws there are 31 sizes, which are sold from 1s. 6d. to 36s. per gross, viz. at 1s. 6d.—1s. 8d.—2s.—2s. 3d.—2s. 6d.—2s. 8d.—2s. 10d.—3s.—3s. 2d.—3s. 6d.—3s. 9d.—4s. 4s. 3d.—4s. 6d.—5s.—5s. 6d.—5s. 9d.—6s.—7s.—9s.—10s.—12s.—14s.—15s.—18s.—20s.—22s.—24s.—28s.—30s.—and 36s.

THE  
**PRICES**  
 OF  
**JOINERS' TOOLS,**  
 &c.

---

*Augers.*

**T**HERE are 12 sizes of Augers, which are sold from 1s. to 4s. a piece, viz.

Those which are  $\frac{1}{2}$  inch at 1s.  $\frac{3}{4}$  inch at 1s. 2d.  $\frac{1}{2}$  inch at 1s. 3d.  $\frac{3}{4}$  inch at 1s. 5d. 1 inch at 1s. 6d.  $1\frac{1}{4}$  inch at 1s. 8d.  $1\frac{1}{2}$  inch at 2s.  $1\frac{3}{4}$  inch at 2s. 6d.  $1\frac{1}{2}$  inch at 2s. 8d.  $1\frac{3}{4}$  inch at 3s.  $1\frac{1}{2}$  inch at 3s. 6d. and 2 inches at 4s. a piece.

*Hammers.*

**T**HERE are several sorts of Hammers, but I shall only take notice of those known by the names of Claw-Hammers, Welded Cheek-Hammers, and Lathing-Hammers.

There are several sorts of Claw-Hammers, which are sold from 2s. 8d. to 8s. per dozen, viz.

At 2s. 8d. at 3s. 6d. at 4s. at 4s. 6d. at 5s. 6d. at 7s. and at 8s. per dozen.

There are four sorts of Welded Cheek-Hammers, which are sold from 11s. to 16s. 6d. per dozen, viz.

At 11s. at 12s. at 14s. and at 16s. 6d. per dozen.

There are four sorts of Lathing-Hammers, which are sold from 10s. to 15s. per dozen, viz.

At 10s. at 12s. at 14s. and at 15s. per dozen.

*Axes, Adzes, and Hatchets.*

**T**HERE are also three sorts of Axes, which I shall take notice of, viz. Felling-Axes, House-Axes, and Lopping-Axes.

There are four sorts of Felling-Axes, which are sold from 1s. 5d. to 2s. a piece, viz.

No. 1 at 1s. 5d. No. 2 at 1s. 6d. No. 3 at 1s. 10d. and No. 4 at 2s. a piece.

There are also four sorts of House-Axes, which are sold from 2s. 6d. to 3s. 6d. a piece, viz.

At 2s. 6d. at 3s. at 3s. 3d. and at 3s. 6d. a piece.

Likewise there are four sorts of Lopping-Axes, which are sold from 17s. to 24s. per dozen, viz.

At 17s. at 18s. at 22s. and at 24s. per dozen.

There are two sizes of Adzes, one at 20d. and the other at 2s. a piece.

There are two sizes of Joiners' Hatchets, the one is sold at 18s. and the other at 20s. per dozen.

## *Saws.*

THERE are several sorts of Saws, both of steel and iron, viz. Compass Steel Saws, Grafting-Saws, Hand and Pannel Saws, Tenant-Saws, Two Hand Peg Tooth-Saws, Whip Steel-Saws, Rib Steel-Saws.

Compass Steel-Saws are sold by the dozen, viz.

Those of 12 inches at 8s. and those of 15 inches at 10s. per dozen.

Grafting-Saws are also sold by the dozen, viz.

Those of 10 inches at 9s. 12 inches at 12s. 14 inches at 14s. 16 inches at 16s. and 18 inches at 18s. per dozen.

Hand and Pannel-Saws are likewise sold by the dozen, viz.

Those of 20 inches are at 22s. 22 inches at 25s. 24 inches at 28s. and 26 inches at 30s. per dozen.

Hand and Pannel-Saws (extraordinary) hardened plates, viz.

Those of 22 inches are sold at 4s. 6d. 24 inches at 5s. and 26 inches at 5s. 6d. a piece.

Tenant-Saws, hardened plates (extraordinary) are sold at 55s. per dozen.

Two Hand Peg Tooth and Whip Steel-Saws: of these there are 13 different sorts, which are sold from 6s. 6d. to 30s. a piece, viz.

Those of 3 feet at 6s. 6d. 3½ feet at 7s. 8d. 4 feet at 9s. 4½ feet at 10s. 5 feet at 11s. 5½ feet at 13s. 6 feet at 15s. 6½ feet at 16s. 7 feet at 17s. 7½ feet at 20s. 8 feet at 22s. 8½ feet at 25s. and 9 feet at 30s. a piece.

Rib Steel-Saws are sold singly, viz.

Those of 5 feet at 8s. 5½ feet at 9s. and 6 feet at 10s. a piece.

### *White's Saws.*

Hand Saws, whet and set, are sold singly, viz.

Those of 22 inches at 6s. 24 inches at 6s. 6d. and 26 inches at 7s. a piece.

Pannel-Saws, made by White, whet and set, are sold at 6s. a piece.

Tenant-Saws, made by White, whet and set, are sold at 7s. a piece.

Whip-Saws, made by White, whet and set, with tillers, and set: of these there are seven sizes, which are sold as follows, viz.

Those of 6 feet at 28s. 6½ feet at 32s. 7 feet at 34s. 7½ feet at 38s. 8 feet at 42s. 8½ feet at 44s. and 9 feet at 50s.

### *Iron Saws.*

Iron Hand Saws are sold by the dozen, viz.

Those of 17 inches at 8s. 18 inches at 9s. 19 inches at 10s. 20 inches at 12s. 22 inches at 13s. and 24 inches at 16s. per dozen.

Iron Two Hand, Peg Tooth, and Whip-Saws, are sold singly, viz.

Those of 3 feet at 3s. 3½ feet at 3s. 6d. 4 feet at 4s. 4½ feet at 4s. 6d. 5 feet at 5s. 5½ feet at 5s. 6d. 6 feet at 6s. 6d. 6½ feet at 7s. and 7 feet at 7s. 6d.

Hand Saw Screws are sold at 6s. per gross.

Hand Saw Sets are sold at 2s. per dozen.

But the very best are 3s. per dozen.

Stone-Saws are sold at 35s. per hundred weight.

### *Chizels.*

There are several sorts of Chizels, viz. Firmers and Gouges, Mortice-Chizels, Paring-Chizels, Broad-Chizels, Heading-Chizels, Scribing-Chizels, Turning-Chizels, and Socket-Gouges; all which are sold by the dozen, viz.

Firmers and Gouges shouldered, those of an inch or under, at 20d. per dozen; those from 1½ inch to 1¾ inch, at 2s. per dozen; those from 1½ inch to 2 inches, at 2s. 6d. per dozen.

N. B.—Of these there are a longer sort, which are 4s. per dozen.

Mortice-Chizels at 4s. 6d. per dozen.

Paring-Chizels at 7s. per dozen.



N. B.—There are a better sort of Paring Chizels which are 8s. per dozen.

Broad-Chizels are 7s. per dozen.

Heading-Chizels, those of  $\frac{1}{2}$  Inch, are 4s. per dozen.

And those of  $\frac{1}{2}$  inch and inch are 6s. per dozen.

Scribing-Chizels are 5s. per dozen; Turning-Chizels and Gouges are 5s. 6d. per dozen.

Socket-Gouges are 5s. per dozen.

### *Compasses.*

Of these there are 7 sizes, which are sold from 20d. to 3s. 4d. per dozen, viz.

At 20d. at 2s. at 2s. 3d. at 2s. 6d. at 2s. 9d. at 3s. at 3s. 4d. per dozen.

Compasses with Steel Sweeps are of different sizes, and are sold singly, viz.

Those of 12 inches at 2s 6d. 13 inches at 2s. 9d. 14 inches at 3s. and 15 inches at 3s. 6d. per pair.

### *Trowels.*

Of these there are the following sorts, viz.

Brick Trowels at 10s. per dozen.

Setting Trowels at 9s. per dozen.

Stopping Trowels at 8s. per dozen.

Stone Trowels at 10s. per dozen.

And Laying Trowels at 10s. per dozen.

### *Jack, or Hand Screws (single.)*

Of these there are several sizes, which are sold by the pair, viz.

Those of  $\frac{1}{2}$  inch at 16s. those of  $\frac{3}{4}$  inch at 25s. those of  $\frac{1}{2}$  inch at 26s. those of an inch at 30s. those of  $1\frac{1}{2}$  inch at 31s those of  $1\frac{1}{4}$  inch,  $1\frac{3}{4}$  inch, and  $1\frac{1}{2}$  inch, at 4s. a pair.

### *Jack, or Hand Screws (double)*

Are sold by the pair, viz. those of  $1\frac{1}{4}$  inch at 40s. and those of  $1\frac{1}{2}$  inch at 80s.

### *Bolts.*

There are several sorts of Bolts, viz Balcony Bolts, Spring Bolts, Sash Bolts. and Shutter Bolts.

Some Balcony Bolts are sold by the dozen, and some by the pair; there are ten sorts of those which are sold per dozen, viz.

At 6s. at 7s. at 9s. at 12s. at 15s. at 18s. at 22s. at 24s. at 26s. and at 28s. per dozen.

Balcony Bolts, sold by the pair, of these there are eight sorts, viz.

At 3s. at 3s. 6d. at 4s. 6d. at 5s. at 5s. 6d. at 7s. at 9s. and at 12s. per pair.

Spring Bolts and Sash Bolts are sold by the dozen, and of these there are 15 sorts, viz.

At 1s. 6d. at 1s. 10d. at 2s. 3d. at 2s. 4d. at 2s. 9d. at 3s. 6d. at 4s. at 4s. 6d. at 5s. 6d. at 6s. 6d. at 9s. at 12s. at 13s. at 15s. and at 18s. per dozen.

Shutter Bolts are sold per the dozen; and of these there are five sorts, viz.

At 10s. at 12s. at 14s. at 16s. and at 18s. per dozen.

## *Latches.*

Of these there are several sorts, viz. Long Tinned Latches; Varnished Latches; Spring and Thumb Latches, with Brass Knobs; and Rimmed Latches.

Long Tinned Latches are sold by the dozen, and of these there are 7 sorts, viz.

At 2s. 3d. at 2s. 6d. at 3s. at 4s. at 4s. 6d. at 6s. and at 7s. per dozen.

Varnished Latches are sold by the dozen, and of these there are 5 sorts, viz.

At 2s. 6d. at 3s. at 4s. at 6s. and at 8s. per dozen.

Spring and Thumb Latches are sold by the dozen, and of these there are 9 sorts, viz.

At 3s. 6d. at 4s. at 4s. 6d. at 5s. 6d. at 7s. at 8s. at 9s. at 12s. and at 14s. per dozen.

Latches with Brass Knobs are sold by the dozen, and of these there are 3 sorts, viz.

At 14s. at 16s. and at 18s. per dozen.

Rimmed Latches: of these there are sundry sorts, viz. Iron Cased, Brass Cased, and some Sliding Cased, and some not Cased; these are sold singly, and are from 1s. 10d. to 16s. a piece, viz.

At 1s. 10d. at 2s. 2d. at 2s. 4d. at 3s. at 3s. 6d. at 4s. at 4s. 6d. at 5s. 6d. at 6s. 6d. at 8s. 6d. at 9s. at 10s. at 12s. at 13s. and at 16s. a piece.

## Hinges.

There being several sorts and many sizes of Hinges, the wholesale Smiths and Ironmongers, to avoid, as much as possible, too great a multiplicity of prices, have contrived to class and consider several sorts together, after such a manner, that the prices set down under each class or sortment are applicable to the whole.

Black Hinges, Chest Hinges, Chest Hasps, Hooks and Hinges, Scuttle Hinges, Strap Hinges.

The above sorts are sold by the dozen, as follows, viz.

At 3*s.* 3*d.* at 4*s.* 3*d.* at 5*s.* 3*d.* at 6*s.* 3*d.* at 7*s.* 6*d.* at 8*s.* 6*d.* and at 10*s.* 6*d.* per dozen.

Cross Garnet Hinges with rising joints, are sold by the dozen; and from 6*s.* 6*d.* to 15*s.* 6*d.* viz. at 6*s.* 6*d.* at 8*s.* 6*d.* at 10*s.* 6*d.* at 13*s.* 6*d.* and at 15*s.* 6*d.* per dozen.

Cross Garnet and Scuttle Hinges that are weighty, are sold at 32*s.* 6*d.* per hundred weight.

But if more than 25 pair to the hundred weight, then at 12*d.* per hundred more.

Cross Garnet Hinges, with filed joints, are sold at 37*s.* 6*d.* per hundred weight.

Hinges with hooks are sold at 30*s.* per hundred weight.

N. B.—Sometimes they have Stay-Hooks, and then they are 2*s.* per hundred more.

Holdfasts and Wall-Hooks are sold at 33*s.* per hundred weight.

Ditto for joiners are sold at 4½*d.* per pound.

Hooks and Eyes, for gates, are sold at 3½*d.* or 3¼*d.* per pound.

The cheaper sort of Hinges are Lancashire Hinges, Balcony Hinges, Chest Hinges, Dove Tailed Hinges, Cross Garnet Hinges, Shutter Hinges, Pew Hinges, Box Hinges, Side Hinges, and Bed Hinges.

N. B.—These sorts are sold by the dozen, viz.

At 1*s.* at 1*s.* 2*d.* at 1*s.* 6*d.* at 2*s.* 6*d.* at 3*s.* at 4*s.* at 5*s.* at 8*s.* at 10*s.* at 12*s.* at 14*s.* at 16*s.* at 18*s.* at 20*s.* at 24*s.* and at 30*s.* per dozen.

Smooth filed Hinges, viz. Balcony Hinges, Box Hinges, Chest Hinges, Clock Case Hinges, Desk Hinges, Pew Hinges, Shutter Hinges, Side Hinges, and Tumblers.

N. B.—These Hinges are sold by the dozen as follows, viz.

At 1s. 6d. at 1s. 8d. at 1s. 9d. at 2s. at 2s. 2d. at 2s. 6d. at 3s. at 3s. 6d. at 4s. at 4s. 6d. at 5s. 6d. at 7s. at 9s. at 10s. at 11s. at 14s. at 16s. at 20s. at 22s. at 24s. at 26s. at 30s. at 36s. and at 42s. per dozen.

Some smooth filed Hinges are sold by the pair, and are from 4s. to 7s. viz.

At 4s. at 5s. at 5s. 6d. at 6s. and at 7s. a pair.

The best IL Hinges are sold by the pair, viz.

Those of 6 inches at 9d. 7 inches at 10d. 8 inches at 1s. 9 inches at 1s. 2d. 10 inches at 1s. 6d. 11 inches at 2s. and 12 inches at 2s. 9d. a pair.

N. B.—There are larger sizes, which are sold at 10d. per pound.

II. Hinges, with rising joints, are sold by the pair, as follows, viz.

Those of 7 inches at 1s. 2d. 8 inches at 1s. 6d. 9 inches at 1s. 9d. 10 inches at 2s. 2d. 11 inches at 3s. and 12 inches at 4s. a pair.

N. B.—There are larger sizes, which are sold at 10d. per pound.

Pew Hinges are sold by the dozen, as follows, viz.

Those of 6 inches at 9s. 7 inches at 13s. 8 inches at 17s. 9 inches at 21s. and 10 inches at 26s. per dozen.

Shutter Hinges are sold by the dozen, viz.

Those of 6 inches at 7s. 7 inches at 10s. 8 inches at 12s. and 9 inches at 16s. per dozen.

Side Hinges are sold by the dozen, as follows, viz.

5 inches at 4s. 6d. 6 inches at 6s. 7 inches at 8s. 8 inches at 10s. 9 inches at 12s. and 10 inches at 13s. per dozen.

The best Dove-tailed Hinges are sold by the pair, viz.

Those of 3 inches at 3s. 3½ inches at 4s. 4 inches at 4s. 6d. 4½ inches at 5s. and 5 inches at 6s. a pair.

## *Locks.*

THE different sorts of Locks are almost innumerable, as it respects the making and contriving their wards and guards, &c. and a more particular account than what I shall give of them, would, by the generality of readers, I presume, be thought superfluous; the Locks I shall exhibit the prices of, are,

1. Bastard Banbury Stock Locks.
2. Livery Stock Locks.
3. Plate Stock Locks.
4. Plate Closet Locks; ditto with screws; ditto with single springs; ditto with double springs.
5. Spring Stock Locks, twice dead; Spring Stock Locks, twice dead in snite.
6. Iron Rimmed Locks, once dead; twice dead and pull back with brass knobs; one bolt, two bolts, and three bolts, plain, and wards bound.
7. Brass Rimmed Locks; closet with spindles: not cased, cased, and silding case.
8. D Gate Locks, with two wards, three wards, steel wards, slit key, or letter key.
9. Hanging Locks; Pad Locks, Slit Keyed Locks, Bridged and Secret Padlocks.
10. Cabinet Locks, Box Locks, Cupboard Locks, and Till Locks.
11. Cabinet Locks, Till Locks, Scrutoire Locks, Desk Locks, Book Case Locks, in snite; Five Locks and one key.
12. Inside Locks for chests, desks, tills, cupboards, and boxes, viz.  
X Keys, X Wards, XX Wards, XX and Bullet Wards, S Bitted, &c.
13. Outside Locks for boxes, chests, trunks, and band boxes.
14. Very small X Ward, Cupboard, and Till Locks.

I shall begin with those which the wholesale dealers price distinctly; and it must be observed, (by such as would attain a true notion of these things,) that as it was in the case of some Hinges, so it is in the case of some Locks; the wholesale Ironmongers and Smiths, to avoid as much as possible too great a multiplicity of prices, have contrived to class, or sort, several kinds of Locks together, so that the prices set down shall be applicable to all the sorts in each class.

Bastard Banbury Stock Locks, are sold by the dozen, viz.

At 6s. at 7s. at 8s. and at 9s. per dozen.

Livery Stock Locks are sold from 6s. 6d. to 24s. per dozen, viz.

At 6s. 6d. at 8s. 6d. at 9s. at 11s. at 14s. at 16s. at 20s. at 22s. and at 24s. per dozen.

Plate Stock Locks are sold from 5s. to 27s. per dozen, viz.

At 8s. at 9s. at 11s. at 12s. at 14s. at 16s. at 20s. at 22s. at 24s. and at 27s. per dozen.

Plate Closet Locks: of these some are sold by the dozen; some are sold singly, with screws; some are sold singly, with single springs; and some are sold singly, with double springs: those sold by the dozen are from 11s. to 20s. viz.

At 11s. at 12s. at 14s. at 16s. and at 20s. per dozen.

Those sold singly with screws, are from 16d. to 3s. 6d. a piece, viz.

At 1s. 4d. at 1s. 8d. at 1s. 10d. at 2s. 2d. at 2s. 9d. and at 3s. 6d. a piece.

Those sold singly with single springs, are sold from 6s. 6d. to 9s. a piece, viz.

At 6s. 6d. at 7s. at 8s. and at 9s. a piece.

Those sold singly, with double springs, are sold from 12s. to 16s. a piece, viz.

At 12s. at 14s. and at 16s. a piece.

Spring Stock Locks, twice dead, are sold from 2s. 2d. to 9s. 6d. a piece, viz.

At 2s. 2d. at 2s. 4d. at 2s. 10d. at 3s. 6d. at 4s. 6d. at 5s. 6d. at 7s. at 8s. and at 9s. 6d. a piece.

Spring Stock Locks twice dead, in suite, are from 11s. to 50s. viz.

At 11s. at 14s. at 16s. at 20s. at 22s. at 24s. at 26s. at 33s. at 40s. and at 50s. a piece.

Iron Rimmed Locks are of sundry sorts, viz.

Once dead, twice dead and pull-backs, with brass knobs, one bolt, two bolts, and three bolts; plain, and wards bound.

Brass Rimmed Locks, Closet, with splindles, not cased, cased, and sliding cased.

N.B.—The above Locks are of several prices, viz. from 11d. to 32s. a piece, viz.

At 11d. at 1s. at 1s. 2d. at 1s. 6d. at 1s. 7d. at 1s. 10d. at 2s. 2d. at 2s. 4d. at 2s. 6d. at 2s. 9d. at 3s. at 3s. 6d. at 4s. at 4s. 3d. at 4s. 6d. at 4s. 9d. at 5s. 6d. at 6s. at 6s. 6d. at 7s. 6d. at 8s. at 8s. 6d. at 9s. at 9s. 6d. at 10s. at 12s. at 13s. at 16s. at 18s. at 21s. at 24s. at 26s. and at 32s. a piece.

Besides these Iron Rimmed Locks, and Brass Rimmed Locks, before mentioned, there are also 26 sorts which are sold in suite, viz.

At 14s. at 16s. at 19s. at 21s. at 24s. at 26s. at 28s. at 30s. at 33s. at 36s. at 38s. at 42s. at 48s. at 54s. at 60s. at 65s. at 68s. at 70s. at 76s. at 84s. at 90s. at £5. at £5. 10s. at £6. at £6. 10s. and at £7. per suite.

D Gate Locks, if two wards, three wards, steel wards, slit key, or letter key, are from 2s. 6d. to 14s. per dozen, viz.

At 2s. 6d. at 2s. 9d. at 3s. at 3s. 4d. at 3s. 6d. at 4s. at 4s. 6d. at 5s. at 7s. at 7s. 6d. at 8s. at 9s. at 11s. and at 14s. a dozen.

Hanging Locks, Padlocks, and Slit-keyed Locks, are from 3s. 6d. to 16s. per dozen, viz.

At 3s. 6d. at 4s. at 4s. 6d. at 5s. 6d. at 7s. at 8s. at 9s. at 10s. 6d. at 12s. at 14s. and at 16s. per dozen.

Bridged and Secret Padlocks; some are from 9s. to 16s. per dozen, viz.

At 9s. at 11s. at 14s. and at 16s. a dozen.

Bridged and Secret Padlocks; some are sold singly, and those are from 20d. to 5s. 6d. a piece, viz.

At 1s. 8d. at 1s. 10d. at 2s. 2d. at 2s. 6d. at 2s. 9d. at 3s. 6d. at 4s. and at 5s. 6d. a piece

Cabinet Locks, Box Locks, Cupboard Locks, Till Locks, (whether in suite or not,) are from 3s. 6d. to 16s. per dozen, viz.

At 3s. 6d. at 3s. 8d. at 4s. at 4s. 6d. at 5s. 6d. at 7s. at 8s. at 10s. at 11s. at 14s. and at 16s. per dozen.

Cabinet Locks, Till Locks, Escrutoire Locks. in suite, five Locks and one key, Desk Locks, and Book Case Locks, are from 2s. to 7s. a piece, viz.

At 2s. at 2s. 6d. at 3s. at 3s. 6d. at 4s. at 5s. 6d. and at 7s. a piece.

N. B.—There are some of higher price, but not of common use.

Of Inside Locks for chests, desks, tills, cupboards, and boxes, there are sundry sorts, viz.

X Keys, X Wards, XX Wards, XX and Bullet Wards, S Bitted Spring, &c. and these are sold from 3s. 2d. to 36s. per dozen, viz.

At 3s. 2d. at 3s. 6d. at 4s. at 4s. 4d. at 4s. 6d. at 4s. 8d. at 5s. 3d. at 5s. 6d. at 5s. 8d. at 7s. at 8s. at 9s. at 11s. at 12s. at 14s. at 16s. at 20s. at 22s. at 26s. at 28s. and at 36s. a dozen.

Inside Locks not sold in dozens, but single, viz.

At 2s. 2d. at 3s. at 3s. 6d. at 4s. 6d. at 5s. at 5s. 6d. at 7s. at 8s. and at 11s. a piece.

Outside Box and Chest Locks, sold by the dozen, are from 3s. 2d. to 19s. viz.

At 3s. 2d. at 3s. 6d. at 4s. at 4s. 6d. at 5s. 6d. at 7s. at 7s. 6d. at 8s. at 9s. 6d. at 11s. at 14s. at 16s. and at 19s. per dozen.

Outside Locks for Trunks and Band Boxes, are sold at 5s. 6d. — Ditto plain drill-

212 *Prices of Joiners' Tools, &c.*

led at 7s. X Wards at 8s. Raised at 14s. per dozen.

Ditto small X Wards Cupboard and Till Locks, are sold per dozen, viz.

At 4s. 6d. and at 5s. per dozen.

*Iron Work,*

Done by the pound Weight, is

Casements for Windows, Cross Window Bars, filed, and Work of the like nature, at 4½d. per pound.

Iron Doors and Shutters, at 10d. per pound.

All hammered work, as Chimney Bars, Stays, Upright Window Bars, Iron Fenders, Shutter Bars, Pump Work, Bolts, Saddle Bars, Cramps, Hold-fasts, Wall Hooks, Gudgeons, Hoops, and all Black Work of the same nature, at 3½d. per pound.

Pins, Hoops, Chains, Hooks, &c. to stable-bails, at 4d. per pound.



1 sq foot = 1 sq yard

5 running feet of lining  
in 1 sq yd.

119  
h b  
d b  
10 b 3 3/4  
9

---

11 3 60



3 3  
6

---

3 5

1-7

---

h b

3 3/4  
9

---

11 3 60

$\delta^{\circ} 0$   
 $3'' 10$ 


---

12 46 02  
    46  


---

    5 12  
 40 8  


---

 12 46 9 2  


---

 12 5 9 1  


---

    3 2 7

   2 3  
 15 4 11  


---

    2

15 4 11 6  


---

 5 2 6

9981  
 1866  
 St. Pierre  
 de Miquelon  
 de France

