

## BRICK AND TILE COMPUTING SLIDE SCALE

Also for all other Masonry Units

### Operating Instructions . . .

First examine the scales on the rule and find the A Scale for the number of units per Sq. Ft. of wall area. This scale is to be used with the tables of units per foot of area which will be found on the reverse side of the rule. Next-Examine the B Scale which is used in connection with the A Scale, it covers a range in height of a wall from 1' to 50'. Next the C Scale covers a range from 1' to 140' in length of a wall with its divisions spaced in tenths and also in inches. The D Scale is the result of the multiplication of the number of units on the A Scale times the height on the B Scale times the length on the C Scale.

**Example 1:** A wall 10 feet high and 100 feet long has 7 units per foot of wall, how many units will be required to build the wall? Answer 7000 units.

**Solution on the rule:** Find figure 7 on Scale A, connect figure 10' on Scale B to 7 on A. Then find that 100' on C Scale is in register with 7,000 on the D Scale.

The above example is a very easy one to illustrate the operation of the scales. These figures are in register, or nearly so, when the slide is closed even with the body of the rule.

**Example 2:** A 4" thick wall is laid with 2¼" by 8" brick with a ¾" mortar joint. The wall is 11' high and 100' long. Answer:- 7205 units.

**Solution on the rule:** Find 9 division lines on Scale A between figures 6 and 7 making each division a 10th. The middle division line is longer than the others making it easy to read as .5 then since each division line is .1 between 6 and 7 it is not difficult to see that 6.55 falls half way between the 5th and 6th line between 6 and 7. Next find 11' half way between 10' and 12' on Scale B. This being easily identified as the long line between these two figures. Connect this line with 6.55 on A Scale by moving the slide slightly to the right. Now find that 100' on the C Scale falls almost exactly over the second division line to the right of 7,000 on the D Scale. Now by checking the division lines between 7,000 and 10,000 on D Scale you find that the value of each division is 100 so you would read the answer as 7,200 which is within 5 units of accuracy. However as you become familiar with the rule and wish to figure more accurately you can do so by mentally multiplying the last figure of the Units by the multiplier and this will give you the final figure of the answer as in this example since the last figure of 6.55 x 11 must be 5 then you read the answer 7,205 which is correct.

The reading of any Slide Rule accurately depends on how closely you set the scales to each other and you should be able to read any result within 1 percent of accuracy which is sufficiently close for estimating masonry units.

**Example 3:** A wall 12' high and 35' long is laid up with 7¾" x 15¾" concrete blocks on a ¼" mortar joint. How many Units will be required? Answer 470.4.

**Solution on the rule:** Laid in a ¼" mortar joint there are 1.12 units per square foot of wall. Set 12' on Scale B to connect 1.12 on Scale A. Then in register with 35' on Scale C you find the second long line to the right of 450 on Scale D. which reads 470 and since the multiplication of 1.12 x 12 on scale A and B must leave the last figure to the right as 4 you read 470.4 for accuracy.

When you have a length of wall greater than the 140' shown on the scale C take one 10th of the total and add 0 to the answer.

**Example 4:** A 5" by 8" tile wall 800' long is to be laid up in a ¾" mortar joint. How many units will be required? From table on back of the rule find that it requires 3.2 units per square foot of 4" wall. Find 3.2 on Scale A (the second long line to the right of 3) connect 20' on Scale B and read 80' (a 10th of 800') on Scale C, connected to 5100 on Scale D then add 0 to 5,100 and read 51,000 units which is within 200 units of accuracy. To read this accurately you can do so mentally by figuring the 3.2 x 20 and the last digit will be 2 at the right and x 80 the last figure to the right will be 2 so you read the total as 51,200 which is correct.

As you become adept at reading this rule it becomes easy to read so that the problems which appear difficult at the first attempt soon can be read quickly and accurately.

NO ALLOWANCE FOR WASTE IS INCLUDED IN THE RULE CALCULATIONS, THESE YOU MUST ESTIMATE ACCORDING TO USUAL PRACTICE.