

How To Make A Scale Drawing

Because as a draftsman everything you draw must be drawn accurately to some scale, it is essential that you become thoroughly familiar with scale drawing. A scale is a ruler marked off conveniently to represent proportionally larger or smaller distances. All mechanical drawings are drawn to some convenient scale. The plans of a house, for example, are usually drawn to the scale of 1/4-inch equals one foot. This means that every 1/4-inch on the rule represents a foot on the house. If the house is 40 feet long and 20 feet wide, the plan, drawn to the 1/4-inch scale, will be 10 inches long and 5 inches wide. The same plan, drawn to the 1/8-inch scale (one-eighth inch equals a foot), would be 5 inches long and 2 1/2 inches wide. In architectural drafting the scales most commonly used are, 1/2 inch equals a foot, 1/4 inch equals a foot, 1/8 inch equals a foot and in some cases a inch equals a foot. These are known as the 1/2-inch scale, the 1/4-inch scale, etc. In map work the scales are usually so many hundred feet or so many miles to the inch, thus: 1 inch equals 200 feet; 1 inch equals 3 miles; 1 inch equals 50 miles, etc. In detail work and shop work the scale is denoted as 1/2 SIZE, 1/4 SIZE, or FULL SIZE. In this case 1/2 inch equals an INCH; 1/4 inch equals an INCH; or an inch equals an INCH. The three scales may be divided into three groups as follows: 1. Architect's plans and elevations: 1 inch, or fraction thereof, equals 1 foot 2. Map work: 1 inch, or fraction thereof, equals so many feet or miles 3. Shop drawings and detail work: 1 inch, or fraction thereof, equals 1 inch Suppose you had to draw the plan of a house which is 35 feet long and 22 feet wide, and you wanted to get it on a page. What scale would you use? Let us say the page is 8 1/2 inches wide and 11 inches deep. If you used the half-inch scale, your length would be 17 1/2 inches, which is too long for the page. If you used the quarter-inch scale, your length would be 8 3/4 inches so that it would fit lengthwise, as the page is 11 inches long. You would naturally choose the quarter-inch scale and work accordingly. There are scores of different scales such as 3/4 and a inch, 1 1/2 and 3 inch, full size, half size, quarter size, 10, 20, 30, 40, 50, 60, and 100 feet to the inch, and many others. In doing shop drawing an ordinary ruler will do, for if you are working half or quarter-size it is only necessary to divide your reading by that fraction. You may also use the half or quarter-inch scale, reading it in inches instead of feet. In using scales, always read the mark directly from above, and use a very sharp needle-point pencil to make the tiny dot. Some draftsmen make little arrows pointing to the particular mark. The vital importance of accurate scale drawing cannot be overemphasized, **YOU CANNOT HOPE TO DO MECHANICAL DRAWING UNLESS YOU CAN DRAW ACCURATELY TO ANY SCALE !** Remember if you practice faithfully, you should be able to make accurate drawings to scale.

About the Author

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