

For *safe, uniformly distributed* loads, double the loads given in the table.

To use the above table, the weight to be carried in the centre of a given span is first determined, and then select any depth for the beam, and follow along the horizontal line until below the span at top of column. The number there found will be the safe load in pounds for a beam of the given depth and one inch thick. Divide the weight to be carried by the number of pounds found from the table, as above, and the result will be the width in inches required for the beam. Thus, for example, it is required to know how thick a piece of timber should be that is 10 inches deep, spanning 12 feet to carry 3000 lbs. hung in the middle, or, what is the same thing, 6000 lbs. uniformly distributed. Opposite 10 in the first column and below 12 in the fifth column, we find 617 lbs., the safe load for one inch thick. Dividing 3000 by 617, we find the timber should be a shade less than 5 inches thick. The following table is given as showing judicious sizes for the wooden stringer-beams for the various classes of bridges, and for varying panel-lengths. In judging this table, it is to be considered that the standard wheel loads recommended in Part I. are extreme, and therefore very occasional, so that a much lower factor can safely be used for such loads. Under these circumstances, if the stringers are of good timber, they can safely be proportioned for a working stress of 1500 lbs. per square inch.