



Gutter Systems Information:

In order to properly install an effective and foolproof system, one must pay close attention to sizing the gutter and the downspout for the subject project; in doing so, make sure to accurately determine the area of the roof in the horizontal plane. Secondly, diagram where the downspouts will be located in the system, trying to bear in mind that it is recommended that aluminum, copper, and/or stainless steel gutters should ideally be located not more than 30 feet between downspouts. However, plain steel gutters may go up to 40 feet or slightly more depending on the situation.

After determining the above, the area of the roof must be calculated. In performing this calculation, the drainage of each downspout must be calculated. If each downspout performs the same size roof area, pick a typical area to size the gutters. If the roof areas differ, we recommend using the highest roof area drained by one downspout. Once this is performed, the rain intensity will need to be factored in using the rainfall charts. Local codes may dictate the duration of the rain cycle design employed, for example usually a ten year rainfall is the minimum. When this is reached, you should multiply the rainfall shown (in feet) by 12 to determine the rainfall intensity in the preferred length: inches.

Having performed the above mentioned calculations, giving you the rainfall intensity and the roof area per drain, you can now proceed with sizing your gutter, which is aided by the charts provided in this disclosure. The first chart is designed for half-round gutter systems, while the other chart is designed for quarter-round and like gutter systems. First, you must use the roof area per downspout at the bottom of the chart and find the point of intersection for the appropriate measurements of rainfall intensity as previously ascertained. If the value is between two system amounts, err on the side of the higher value for optimal performance of the system. Additionally, in determining the size of the downspouts, remember that there is one square inch of downspout for every 100 square feet of roof area; thus, take your roof's area and divide it by 100 to reach the desired result. This amount is the required area for the downspout and must be matched with the chart to ascertain which downspout has enough area to meet this requirement. Please make sure that the downspout selected will fit into the gutter that you have already chosen.

Downspout Type	Size	Area
Round	3"	7.07 sq. in.
	4"	12.57 sq. in.
	5"	19.64 sq. in.
	6"	28.27 sq. in.
Square	3"x3"	9.0 sq. in.
	4"x4"	16.0 sq. in.
	5"x5"	25.0 sq. in.
	6"x6"	36.0 sq. in.
Rectangle	2"x3"	6.0 sq. in.
	3"x4"	12.0 sq. in.
	4"x5"	20.0 sq. in.
	5"x6"	30.0 sq. in.

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