

Gutter Sizing Guidelines – Old Garage

Summary: The following contains sizing for both the IPC and UPC plumbing codes. You will need to determine which in your area is appropriate. These calculations assume the roof measurement is for one side of the roof having only one downspout/gutter system, except where noted.

In properly sizing the gutter system (i.e. sometimes also referred to as the drainage system), any of the following can be varied: roof size, number of downspouts, slope of the gutters and the size of the gutters and downspouts. Your roof size has been fixed and the below assume it has been constructed to meet building codes.

Your Roof Size: **600**

Your Rainfall amount: **2.0 inches**

Your Gallons Per Minute Per Square Foot of Roof Area: **1.2**

Your Gallons Per Hour Per Square Foot of Roof Area: **742**

UPC Gutter system with One Downspout: **3" gutter with at least 1/2" slope or greater (i.e. bigger gutter or greater slope)**

UPC Gutter system with Two Downspouts: **3" gutter or larger with 1/8" slope or greater**

IPC Gutter system with One Downspout (Interpolated for local rainfall): **4" gutter with at least 1/16" slope or greater (i.e. bigger gutter or greater slope)**

IPC Gutter system with Two Downspouts (Interpolated for local rainfall): **3" gutter or larger with 1/16" slope or greater**

UPC Details: The amount of rainfall that will need to be carried off the roof for Cerrillos, NM it is 2.0 inches of rain per hour or 1.2 gallons per minute per square foot of roof area according to the 100-Year, 1 hour rainfall map from the National Weather Service (refer to Attachment A).

The total rainfall that needs to be handled is determined by multiplying the Gallons Per Minute Per Square Foot of Roof Area by the Square Footage of Roof area to be handled. On a 600 square foot roof, this works out to be:

1.2 Gallons Per Minute Per Square Foot of Roof Area x 600 square feet = 1.2 gallons per minute.

Per this calculation, the guttering system needs to be designed to handle 1.2 gallons per minute or 742 gallons per hour (i.e. multiplying 1.2 gallons by 60 minutes).

The Uniform Plumbing Code table below highlights your various design options. The table would dictate that a roof needing to handle 742 gallons per hour would require a system designed with at least the highlighted specifications below.