

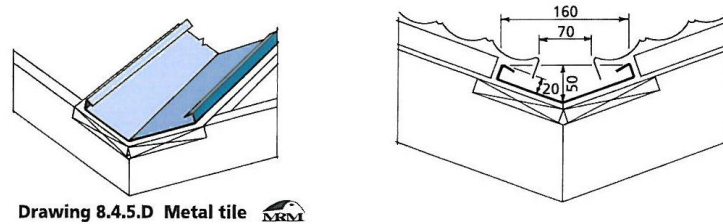
Valley Design

Gerard Roofs Combination Valleys are designed to meet the requirements for roof drainage on catchment areas that feed into the valley as indicated in the NZ Metal Roof and Wall Cladding Code of Practice (MRM Code of Practice).

The capacity of a valley gutter is determined in a different manner than that for normal gutters that are flat or very near to flat. By definition a valley is a gutter at the internal intersection of two sloping planes of roof cladding where the roof pitch is greater than 8°. Because the minimum slope of a valley is greater than 5.5° the discharge rate is greater than that of a flat gutter and as the roof pitch increases, the rate of flow, and therefore the catchment area that can be drained, increases proportionately.

Valley gutters must be designed for the greatest rainfall likely in the area in a 50 year return period (ARI). The valley capacity must be capable of discharging the total roof catchment area above the valley plus half the area of any dormer.

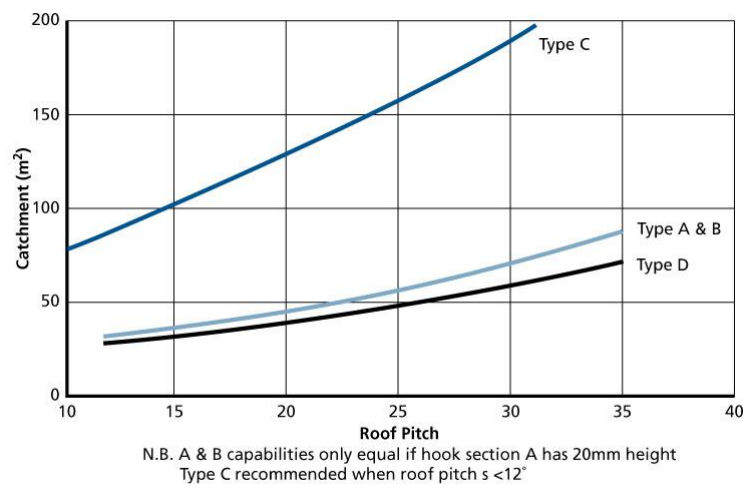
Figure 1 - MRM Code of Practice Valley Dimensions



Drawing 8.4.5.D Metal tile

Gerard Roofs Combination Valley dimensions are very similar to those in the MRM Code of Practice shown as drawing 8.4.5.D (Figure 1)

Figure 2 - Roof Pitch vs Catchment Area for Different Valley Types



Graph 8.4.5.1.

A Gerard Roofs Combination Valley is specifically designed based on the information supplied in the MRM Code of Practice and in use history by Gerard Roofs. It can be used for catchment areas that do not exceed the line of Valley Type D for the pitch shown on Graph 8.4.5.1. (Figure 2).

E2/AS1 requires a valley to be 250 mm wide or 160 mm wide as being suitable for a catchment area of up to 16 m² for roof pitches down to 12.5°. The catchment area of 16 m² for a pitch of 12.5° aligns with MRM graph 8.4.5.1, however beyond 12.5° it does not take into account the flow rates and increase in catchment area that the valley can cope with.