GAF

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Version 2.0

GUIDE

A Guide to Estimating Acrylic for Metal Roofs

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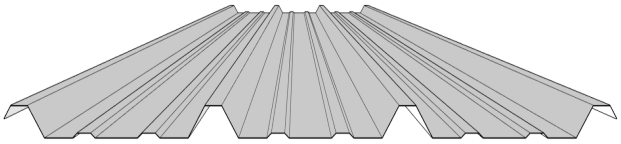
A. ACTUAL SQUARE FOOTAGE OF METAL SURFACE AREA:

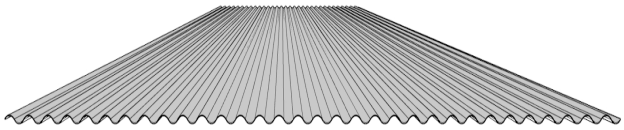
a. Match the jobsite roof panel to the sample cross sections below to determine the multiplication factor needed for the actual surface area. To calculate the proper amount of coating to achieve the required film thickness, the panel configuration must always be taken into consideration.

MULTIPLICATION FACTOR

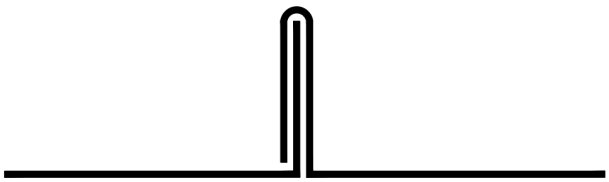
1.2 Multiplication Factor



R - Panel - 1.2 Multiplication Factor

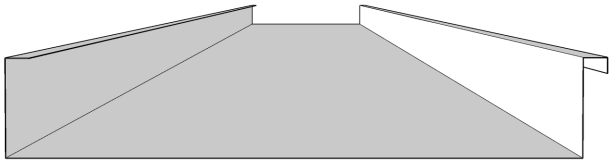


Corrugated Panel - 1.2 Multiplication Factor

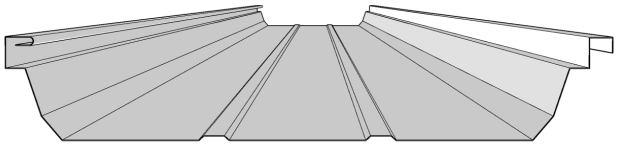


Overlap Seam

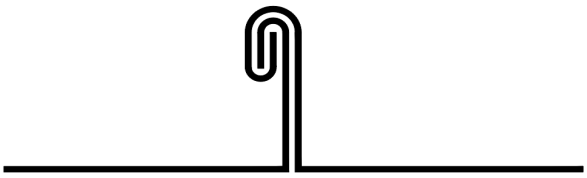
1.3 Multiplication Factor



Standing Seam Panel - 1.3 Multiplication Factor



Trapezoidal Seam Panel - 1.3 Multiplication Factor



Locked Seam (Single & Double)

B. PRIMER REQUIREMENTS:

a. Spot priming (light rust) — Estimate the total area affected by rust in roofing squares (100 ft^2) and multiply by 0.3 to 0.5 gal/sq (1.22 to 2.04 L/10 m^2). This is the amount of gallons of **Metal Roof Primer** required.

b. Light to medium sound rust (flash rust) — Estimate the total area affected by rust in roofing squares (100 ft^2) and multiply by 0.3 to 0.5 gal/sq (1.22 to 2.04 L/10 m^2). This is the amount of gallons of **Metal Roof Primer** required.

c. Medium to Heavy Sound Rust — Estimate the total area affected by rust in roofing squares (100 ft^2) and multiply by 0.33 to 0.40 gal/sq (1.34 to 1.63 L/10 m^2). This is the amount of gallons of **Lock-Down Primer** required.*

*If a water-based primer is required over medium to heavy sound rust due to local VOC regulations, estimate two coats of **Metal Roof Primer** at the rate of 0.3 gal/sq (1.22 L/10 m^2) per coat. Prepare surface by mechanically abrasion to remove rust prior to priming.

C. FASTENERS:

a. All fasteners must be encapsulated with **GAF Premium Brush-Grade Acrylic Flashing** or sealed utilizing **Repair Caps.**

i. Estimate a 2 gallon (7.6 liter) pail to flash approximately 858 fasteners.

ii. Estimate a 5 gallon (19 liter) pail to flash approximately 2,145 fasteners.

iii. Estimate 1 roll of **Repair Caps** per 1,476 fasteners. Common fastening patterns typically see around 60-80 fasteners per square.

D. HORIZONTAL (END-LAP) SEAMS:

a. All horizontal, or end-lap, seams must be reinforced with either **GAF Flashing Grade** and **Premium Fabric** (6" or 15.24 cm) or **Repair Tape** (6" or 15.24 cm). Determine lineal feet of horizontal seams by multiplying the building length by the multiplication factor of the panel, then multiplying the total by the number of horizontal seams. Application needs to be centered at the seam and tapered at each end to a smooth finish.

i. Estimate 100 lineal feet (30.5 m) per 2 gallon (7.6 liter) pail, or 250 lineal feet (76.2 m) per 5 gallon (19 liter) pail, of **GAF Premium Brush-Grade Acrylic Flashing***, applied at 4 gal/sq and 6" (15.24 cm) width. **Premium Fabric** is supplied in 300 ft rolls.

b. Estimate 1 roll of Repair Tape per 50 lineal feet (15 m) of seam. Repair tape needs to be coated over and should not be left exposed to the elements to where it can pick up moisture.

E. VERTICAL (SIDE-LAP) SEAMS:

a. Overlap and trapezoidal vertical seams must be treated with flashing grade only. Other vertical seams may forgo treatment **IF** the seal/tape is intact in the seam or if the seam is double locked. Determine lineal feet of vertical seams by dividing the building length by the panel width, then multiplying by the vertical length from ridge cap to roof edge for each side of the roof to be coated. Estimate 200 lineal feet (61 m) per 2 gallon (7.6 liter) pail, or 500 lineal feet (152.4 m) per 5 gallon (19 liter) pail, of **GAF Premium Brush-Grade Acrylic Flashing*** applied at a total rate of 2 gal/sq (8.15 L/10 m^2) at a 2" width (5.08 cm).Vertical seams can also be sealed using 2" (5 cm) **Repair Tape.**

F. PENETRATIONS:

a. Determine the area to be detailed by estimating the surface area where fabric will be installed taking into account a 2" extension of the flashing grade past the fabric edge. The following is an estimation of a 4" diameter penetration.

i. Vertical surface area is $2 \times \pi \times r \times h = 2 \times \pi \times 2in \times 8in = 100$ sq. in. Horizontal surface area is $l \times w = (8in + 4in + 8in) \times (8in + 4in + 8in) = 400\ in^2$ Total area is 500 in^2 or 3.47 ft^2 Application rate of **GAF Premium Brush-Grade Acrylic Flashing*** is 4 gal/sq, therefore a 2 gal pail will cover 50 ft^2 and a 5 gallon pail will cover 125 ft^2 Number of 4" pipe penetration details per 2 gallon pail is 50 / 3.47 = 14 and per 5 gallon pail is 125 / 3.47 = 36

G. OTHER DETAILS:

a. Take into consideration other details on each specific roof, which may require additional reinforcement or other attention.

i. Gaps at the ridge cap or at the overlap of dissimilar metal panels should be filled utilizing a portable urethane spray foam or closed-cell polyurethane backer rod. Estimate the approximate cubic feet of space that requires treatment and order the appropriate portable foam kit or closed-cell polyurethane backer rod. Order the backer rod slightly larger than the gap to be filled so that it compresses firmly into place.

ii. Where the metal roof panels join a dissimilar surface, the interface must be sealed with **GAF Premium Brush-Grade Acrylic Flashing*** and **Premium Fabric** (12" or 30.5 cm) at an estimated 50 lineal feet (15.2 m) per 2 gallon (7.6 liter) pail, or 125 lineal feet (23.2 m) per 5 gallon (19 liter) pail, of **GAF Premium Brush-Grade Acrylic Flashing***, applied at 4 gal/sq and 12" (30.5 cm) width. Estimate 1 roll of **Premium Fabric** per 100 lineal feet (30.5 m) or 300 lineal feet (91.4 m) of joint.

H. APPLICATION

a. Refer to relevant Quick Spec published in GAF Liquid-Applied Roofing Manual for coating application rates.

b. Multiply application rate (gallons per square) by the area of the roof (squares) to be coated to determine the amount of gallons of product needed.

c. Multiply total gallons by the multiplication factor listed in section A of this Estimating Guide.

d. Divide by gallons/unit to determine the total number of units that need to be ordered for the job.

e. **Coating Estimation Example**: For a 40,000 ft^2 trapezoidal standing seam roof to receive a 15-year GAF **Acrylic Top Coat** system use the following calculations:
   i. Total number of squares: 40,000/100 = 400 squares
   ii. Total coating application (from Quick Spec): (1.00 + 1.50 + 1.00) gallons/square = 3.50 gallons/square
   iii. Total required gallons of **Acrylic Top Coat**: 400 squares X 3.50 gallons/square =1,400 gallons
   iv. Adjustments for metal surface area (deck profile) from section A of this Estimating Guide: 1.3 x 1,400 gallons = 1,820 gallons
   v. Unit calculation: If using 5 gallon pails, total number of pails required: 1,820 gallons/5 gallons per pail = 364 pails of **GAF Acrylic Top Coat**.

I. OTHER COST ESTIMATE CONSIDERATIONS:

a. Supplies
   i. Replacement Panels (Metal / Skylight)
   ii. Fasteners
   iii. Flashing / Counter–Flashing

b. Labor
   i. Repair Work
   ii. Power Washing / Cleaning
   iii. Seam Treatment / Detail Work
   iv. Primer Application
   v. Coating Application

c. Miscellaneous Costs
   i. Equipment Rental
   ii. Clean Up / Disposal Costs
   iii. Travel / Lodging / Subsistence Expenses
   iv. Warranty Fees (If Applicable)
   v. Waste Factor

NOTE: This estimating guide is for informational purposes only. You should always confirm job site conditions, roof measurements, applicable code requirements and approximate quantities before ordering, and include a waste factor. GAF is not responsible for any shortage or surplus of ordered product.