

# Coatings Coverage

## Coating Theoretical Coverage (Gallons/Square @)

% Solids by Volume	mil/sq ft/gal	mil/sq ft/gal	5 mils	10 mils	15 mils	20 mils	25 mils	30 mils	35 mils	40 mils	50 mils
26%	417.0	4.17	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.6	12.0
30%	481.2	4.81	1.0	2.1	3.1	4.2	5.2	6.2	7.3	8.3	10.4
38%	609.5	6.10	0.8	1.6	2.5	3.3	4.1	4.9	5.7	6.6	8.2
42%	673.7	6.74	0.7	1.5	2.2	3.0	3.7	4.5	5.2	5.9	7.4
44%	705.8	7.06	0.7	1.4	2.1	2.8	3.5	4.2	5.0	5.7	7.1
55%	882.2	8.82	0.6	1.1	1.7	2.3	2.8	3.4	4.0	4.5	5.7
62%	994.5	9.95	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0
69%	1106.8	11.07	0.4	0.9	1.4	1.8	2.3	2.7	3.2	3.6	4.5
74%	1187.0	11.87	0.4	0.8	1.3	1.7	2.1	2.5	2.9	3.4	4.2
77%	1235.1	12.35	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	4.0
93%	1491.7	14.92	0.3	0.7	1.0	1.3	1.7	2.0	2.3	2.7	3.4
96%	1539.8	15.40	0.3	0.6	1.0	1.3	1.6	1.9	2.3	2.6	3.3
100%	1604.0	16.04	0.3	0.6	0.9	1.2	1.6	1.9	2.2	2.5	3.1

The theoretical coverage rate of a coating is the number of roofing squares covered by one gallon of a coating material spread over a flat smooth surface area at a thickness of 0.001-inch or 1 mil. One gallon of coating material that has 100% solid content by volume will cover an area of 16 roofing squares that is 1 dry mil thick. A roofing square is equal to 100 sq ft.

A coating with a 60% solid content by volume, applied at 30 mils dry film thickness (DFT), is used in the formulas below to arrive at various theoretical coverages. These calculations use solids content by volume, not solids content by weight.

### To find the theoretical thickness for one gallon of coating:

Theoretical thickness per gallon 60% solids x 16 roofing square (rf) x mil/gal

= 0.6 x 16

= 9.6 rf x mil/gal

### To find the theoretical number of gallons required at a specified thickness:

Number of gallons per roofing square = dry film thickness/theoretical thickness per gallon

= 30 mils/9.6 rf x mil/gal

= 3.1 gallons/roofing square or 100 sq ft

**Actual Coverage Requirements:** When coatings are applied over SPF, mod bit, and other roof surfaces, many factors, such as substrate texture, overspray loss, container residue, spills, equipment characteristics, applicator technique, etc., will directly affect the amount of coating material required to meet the designed minimum dry film thickness. It is very important additional material be added to the theoretical quantities to ensure the proper minimum coating thickness is applied and there is enough material to complete the project. Applicators will typically add an additional 10-15% to the theoretical coverage rates to account for such factors.

Application Rate	55%	69%	74%	77%	93%	96%	100%
1 gallon/100 sf	8.8 mils	11.1 mils	11.9 mils	12.4 mils	15.2 mils	15.4 mils	16 mils
2 gallons/100 sf	17.6	22.2	23.8	24.8	30.4	30.8	32

## Substrate Application Recommendations and Yields

Substrate	Membrane Cleaner	Acrylic General Purpose Primer	Bleed Block Plus Primer	TPO II Primer	Epoxy Primer
EPDM	0.2 g/square				
TPO	0.2 g/square			0.4 g/square*	
Metal		0.5 g/square*			0.5 g/square~
Concrete		0.5 g/square*			
APP and Smooth SBS	0.2 g/square		0.6 g/square		
Smooth Built-Up	0.2 g/square		0.5 g/square		
Granulated Cap Sheet			0.6 g/square		
Mastic Yields	60 DFT ~37-50 linear feet at 4" wide or 225 fasteners per gallon				

### Adhesion tests are required to all unique substrates on every project

\*If needed pending adhesion tests to confirm adequate adhesion

^Recommended to prevent possible discoloration of coating from PVC

~Required for use over rust on metal where applicable

## Silicone and Acrylic Coating Yields

Silicone	LS Silicone	HSLV Silicone	Acrylic	General/QS/HT/FR	Clear Coat
18 mils	1.6 g/square	1.2 g/square	25 mils	2.8 g/square	5.2 g/square
22 mils	2.0 g/square	1.5 g/square	30 mils	3.4 g/square	
28 mils	2.6 g/square	1.9 g/square	40 mils	4.5 g/square	
35 mils	3.2 g/square	2.3 g/square			

## Spray Polyurethane Foam Yields

HFC			HFO		
Version	Density	Yield	Version	Density	Yield
40	2.5	3000-3500 bdft/set	40	2.5	3400-3800 bdft/set
60	2.8	2600-2800 bdft/set	60	2.8	3000-3200 bdft/set
70	3.0	2500-2700 bdft/set	70	3.0	2800-3000 bdft/set
HailCoat System	PremiSEAL 80: 2300-2500 bdft; HailCoat Polyurea: 3.5 g/square; LS Silicone: 1.4 g/square; Tie-In Primer: 0.25 g/square				

Coverage rates and yields provided are theoretical with zero waste to a perfectly smooth surface and are not guaranteed.

Contractor should understand the many variables that affect yields and coverage rates, including, but not limited to, substrate texture and porosity, temperature, wind, application method, applicator skill, etc. For assistance in maximizing coverage rates and application performance, contact CRFC.



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