

TECH-TALK

BULLETIN

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Supersedes all previous versions

Coatings and Sealants

This Tech-Talk is intended as a guide for the use and estimation of fluid applied coatings, membranes and sealants. The calculations contained herein are theoretical and generally do not take into account substrate condition or the experience of the applicator. Please adjust as your experience requires.

Definitions

WFT	Wet Film Thickness or the thickness as applied wet prior to any drying or shrinkage
DFT	Dry Film Thickness or the thickness after the coating is fully cured.
Mil	The most common Imperial unit of measure for coatings is equivalent to 1 thousandth of an inch which equals 25.4 microns or 25.4 μ .
Micron	Metric unit of measure for coatings or thin films, also known as the Micrometre or μ which equals 0.001 mm or 0.000039 inch or 0.039 mil. Metric measurements in millimeters are more common for air barrier membranes.
LF	A linear foot is a unit of length. It is commonly given in reference to a given width or other unit.
SBV	Solids by Volume can be found on technical data sheets and will vary by product.
SBW	Solids by Weight requires conversion to SBV in order to be useful for these calculations.

Theoretical Coverage

$$\text{ft}^2 / \text{US gal} = \frac{\% \text{ SBV} \times 1604}{\text{DFT (mils)}} \quad \text{or} \quad \text{m}^2 / \text{liter} = \frac{\text{SBV} \times 1000}{\text{DFT (microns)}}$$

Practical Coverage

$$\text{Theoretical Coverage} - (\text{Theoretical Coverage} \times \% \text{ Loss})$$

Consumption

$$\frac{\text{Area (ft}^2 \text{ or m}^2\text{)}}{\text{Practical Coverage (gallons or liters)}}$$

TECH-TALK BULLETIN

Coatings “Rate of Use” Thickness Chart, Wet Film Thickness

US

Coatings Thickness Inches	Coatings (thousands) Mil Thickness	Coverage Sq. Feet Per Gallon Area
0.001	1	1,604
0.002	2	802
0.005	5	320.8
0.007	7	229.1
0.01	10	160.4
0.015	15	106.9
0.016	16	100.0
0.02	20	80.2
0.03	30	53.5
1/32"	31.25	51.3
0.04	40	40.1
0.05	50	32.1
1/16"	62.5	25.7
1/8"	125	12.8
0.15	150	10.7
0.175	175	9.2
3/16"	187	8.6
0.2	200	8
0.225	225	7.1
1/4"	250	6.4

Metric

Coatings Thickness mm	Coatings Micron	Coverage Sq. Meter Per Liter Area
0.1	100	10.0000
0.125	125	8.0000
0.15	150	6.6667
0.2	200	5.0000
0.25	250	4.0000
0.5	500	2.0000
0.6	600	1.6667
0.7	700	1.4286
0.8	800	1.2500
0.9	900	1.1111
1	1000	1.0000
2	2000	0.5000
2.5	2500	0.4000
3	3000	0.3333
3.5	3500	0.2857
4	4000	0.2500
4.75	4750	0.2105
5	5000	0.2000
5.75	5750	0.1739
6.35	6350	0.1575

Convert Film Thickness

FROM

Wet film thickness
Dry film thickness

TO

Dry film thickness
Wet film thickness

CALCULATE

$DFT = WFT \times \%SBV$
 $WFT = DFT \div \%SBV$

TECH-TALK

BULLETIN

Sealant Coverage Chart

Joint Size	LF per			
	10.3 oz Tube	20 oz Sausage	30 oz Tube	Gallon
1/8 X 1/8	102.7	192.5	308	1232
1/8 X 1/4	51.3	96.3	154	616
1/8 X 3/8	34.2	64.2	102.7	410.7
1/8 X 1/2	25.7	48.1	77	308
1/8 X 5/8	20.5	38.5	61.6	246.4
1/8 X 3/4	17.1	32.1	51.3	205.3
1/8 X 7/8	14.7	27.5	44	176
1/8 X 1	12.8	24.1	38.5	154
1/4 X 1/4	25.7	48.1	77	308
1/4 X 3/8	12.8	32	51.3	205
1/4 X 1/2	12.8	24.1	38.5	154
1/4 X 5/8	10.3	19.3	30.8	123.2
1/4 X 3/4	8.6	16	25.7	102.7
1/4 X 7/8	7.3	13.8	22	88
1/4 X 1	6.4	12	19.3	77
3/8 X 3/8	11.4	21.4	34.2	136.9
3/8 X 1/2	8.6	16	25.7	102.7
3/8 X 5/8	6.8	12.8	20.5	82.1
3/8 X 3/4	5.7	10.7	17.1	68.4
3/8 X 7/8	4.9	9.2	14.7	58.7
3/8 X 1	4.3	8	12.8	51.3

Joint Size	LF per			
	10.3 oz Tube	20 oz Sausage	30 oz Tube	Gallon
1/2 X 1/2	6.4	12	19.3	77
1/2 X 5/8	5.1	9.6	15.4	61.6
1/2 X 3/4	4.3	8	12.8	51.3
1/2 X 7/8	3.7	6.9	11	44
1/2 X 1	3.2	6	9.6	38.5
5/8 X 5/8	4.1	7.7	12.3	49.3
5/8 X 3/4	3.4	6.4	10.3	41.1
5/8 X 7/8	2.9	5.5	8.8	35.2
5/8 X 1	2.6	4.8	7.7	30.8
3/4 X 3/4	2.9	5.3	8.6	34.2
3/4 X 7/8	2.4	4.6	7.3	29.3
3/4 X 1	2.1	4	6.4	25.7
7/8 X 7/8	2.1	3.9	6.3	25.1
7/8 X 1	1.8	3.4	5.5	22
1 X 1	1.6	3	4.8	19.3

Notes: 128 oz per Gal

Approx. 12ea 10.3 oz tubes per gallon

1 ft = 0.305 m

1/8 in = 3.175 mm

1 oz = 29.57 ml

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Disclaimer

The conversion charts are provided for your personal use. You must verify that the values calculated are accurate and suitable for your application.

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