Scotchrap™ 50, 51 and Pipe Primer Scotchfil™ Electrical Insulation Putty

All Weather Corrosion Protection

Wrap Your Job Up Right with Scotchrap™ Tapes

Scotchrap 50 and 51 Tapes are tough, polyvinyl chloride based tapes with special high tack adhesives formulated to resist corrosion of metal piping systems above and below ground, fittings and joints on all mill-coated pipe and electrical conduit systems. Scotchrap 50 and 51 tapes are:

- Resistant to corrosive salt water, soil acids, alkalies and salts, common chemicals, chemical vapors, and exposure to outdoor weathering and sunlight.
- Resistant to impact, abrasions, punctures, and tears.

Scotchrap 50 is a highly conformable, all-weather 10 mil (0,254 mm) thick tape designed for application over a wide temperature range. Scotchrap 51 provides similar qualities in a thicker, 20 mil (0,508 mm) tape. Both tapes have high electric strength, excellent insulating properties.

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Start your job off right with Scotchrap™ Pipe Primer and Scotchfil™ Electrical Insulation Putty

Scotchrap Pipe Primer

A quick-dry, non-sag rubber base primer that permeates metal surface pits and irregularities, preparing the surface for tape application. Compatible with the special adhesives on Scotchrap Tapes, it enhances adhesion.

Scotchfil Electrical Insulation Putty

Use as a build-up compound on highly irregular surfaces such as fittings and valves, providing a smooth, waterproof taping surface. Scotchfil Putty is soft and pliable - simply press putty into place on irregular surfaces, mold with finger pressure and over tape using standard methods.

Application of primer, putty and tape:

Scotchrap tapes are easy to apply without special tools or dangerous flame. However, a few general application procedures should be followed to obtain optimum performance. Surfaces to be wrapped should be clean, dry and free of oil, grease and other contaminants. Blast removal of rust and scale is preferred. Welding slag and spatter, sharp edges or burrs should be chipped, grinded or filed.

Apply a uniform, continuous coating of Scotchrap Pipe Primer to the prepared surface and let dry. Fill in irregular surfaces with Scothfil Electrical Insulation Putty. Cover weld beads with one wrap of tape over the entire surface.

Straight pipe and conduit are normally spirally wrapped using tape width listed in coverage table. Field joints on mill-coated pipe can be wrapped spirally or with a cigarette wrap of wide tape. Unusually severe construction or soil conditions may require additional tape thickness or protective overwraps.

For below ground installation adequate provisions should be taken to protect the coating from physical damage during pipe handling, lowering or backfilling operations.

The pipeline ditch should be free of rock or other sharp objects so the coated pipe rests on a smooth bed of soil. Backfill materials should also be free of rock or other sharp objects to avoid damage of the coating. After layer of debris-free soil has covered the pipe, general backfill may be used.

Scotchrap Pipe Primer - Typical Properties

Property	Value
Color	Black
% Solids	30
Weight	7 lbs/gal (0.84 kg/litre)
Coverage @ 1 mil (0.025 mm) dry film thickness	700 sq. ft./gal (17.4 m2/litre)
Drying time @ 75° F (24°C) and 50% RH 1 mil (0,025mm) dry film thickness	15 min.
Flash Point	-14°F (-26°C)

Scotchfil Electrical Insulation Putty

Property	Value	
Color	Black	
Thickness	ASTM-D-1000	125 mils
Elongation	ASTM-D-1000	1000% min.
Dielectric Strength	ASTM-D-1000	575 V/mil
Insulation resistance	ASTM-D-1000	>1 x 10^6 megaohms

Scotchrap All-Weather Corrosion Protection Tapes - Typical Properties*

Property	Test Method	50 Tape	51 Tape
Classification Specification L-T-1512A	Federal	Type III	Type II
Color-Backing	-	Black	Black
Color-Adhesive	-	Black	Black
Thickness	ASTM-D-1000	10 mils (0,254 mm)	20 mils (0,508 mm)
Elongation @ Break	ASTM-D-1000		
10°F (-12°C)		100%	100%
74°F (23°C)		200%	150%

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Scotchrap All-Weather Corrosion Protection Tapes - Typical Properties* Continued

Property	Test Method	50 Tape	51 Tape
Breaking Strength	ASTM-D-1000	20 lb./in. (3.5 kN/m)	40 lb./in. (7,0 kN/m)
Adhesion to Steel 10°F (-12°C) 74°F (-23°C)	ASTM-D-1000	 30 oz./in. (0,328 kN/m) 20 oz./in. (0,219 kN/m)	 30 oz./in. (0,328 kN/m) 20 oz./in. (0,219 kN/m)
Adhesion to Backing 10°F (-12°C) 74°F (-23°C)	ASTM-D-1000	 30 oz./in. (0,328 kN/m) 20 oz./in. (0,219 kN/m)	 30 oz./in. (0,328 kN/m) 20 oz./in. (0,219 kN/m)
Roll Unwind 10°F (-12°C) 74°F (-23°C)	ASTM-D-1000	 16 oz./in. (0,175 kN/m) 16 oz./in. (0,175 kN/m)	 16 oz./in. (0,175 kN/m) 16 oz./in. (0,175 kN/m)
Water Vapor Transmission Rate g/100 in^2 (645 cm^2)/24 hrs.	ASTM-D-3833	1.0	1.0
Moisture Absorption	ASTM-D-570	.30%	.35%
Resistance to Weathering Weatherometer	3M	100 Hrs.	100 Hrs.
Dielectric Strength	ASTM-D-1000	12,000 Volts	20,000 Volts
Normal Application Temperature Range		+10°F to 150°F (-12°C to 65.6°C)	+10°F to 150°F (-12°C to 65.6°C)
Normal Service Temperature Range		-55°F to 175°F (-48°C to 80°C)	-55°F to 175°F (-48°C to 80°C)

*This data is not to be used for specification. Values listed are for typical properties and should not be considered minimum or maximum.
NOTE: For the Scotchrap tapes to work properly, all metal surfaces must be coated with 3M Scotchrap Pipe Primer before wrapping with the tape.

Scotchrap All-Weather Corrosion Protection Tape

Tape Width	#Rolls per Square
1"	12
2"	6
4"	3
6"	2
12"	1

All widths are in 100 ft. rolls. 1 square = 100 sq. ft. (i.e., a roll 1 ft. wide x 100 ft. long)
To covert to rolls, multiply the number of squares by the number of rolls/square from the above tables.

Scotchrap All-Weather Corrosion Protection Tape - Pipe Coverage Table

Pipe Size			Squares of Tape for 100 Linear Ft. Pipe	
Nominal I.D. (Inches)	O.D. (Inches)	Suggested Tape Width	Minimum Overlap 1/2"	Half-Lapped
1/2	0.84	1	0.44	0.44
3/4	1.05	2	0.37	0.55
1	1.32	2	0.46	0.69
1-1/4	1.66	2	0.58	0.87
1-1/2	1.90	2	0.66	0.99
2	2.38	2	0.83	1.25
21/2	2.88	2	1.00	1.51
3	3.50	4	1.05	1.83
31/2	4.00	4	1.20	2.09
4	4.50	4	1.35	2.36
5	5.57	4	1.59	2.92
6	6.63	6	1.89	3.47
7	7.63	6	2.18	3.99
8	8.63	6	2.46	4.52
10	10.75	6	3.07	5.63
12	12.75	6	3.64	6.67
14	14.00	6	4.00	7.33
16	16.00	6	4.57	8.37
18	18.00	6	5.14	9.42
20	20.00	6	5.71	10.47
22	22.00	6	6.28	11.51
24	24.00	6	6.85	12.56
26	26.00	6	7.42	13.61
28	28.00	6	8.00	14.65
30	30.00	6	8.56	15.70
36	36.00	6	10.28	18.84

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While the chart gives coverage data for most common sizes, the following formula may be helpful for non-standard items:

Squares of Tape $= \frac{\pi (LP)(DP)\,TW}{1200\,(TW-OV)}$

Where $\pi = 3.14$

LP = length of pipe (ft.)
DP = outside diameter of pipe (in.)
TW = tape width (in.)
OV = overlap of tape (in.)

When using metrics,

squares of tape $= \frac{\pi (LP)(DP)\,TW}{9290\,(TW-OV)}$

Metric Conversions

1 inch = 25,4 millimeters
1 foot = 0,3048 meter
1 sq. ft. = 0,092 sq. meter
1 gallon = 3,785 liters

Primer Coverage

1 gallon of Scotchrap Pipe Primer will cover up to 700 sq. ft. depending on the surface condition of the pipe. to calculate area of pipe for primer coverage:

Sq. ft. of pipe $= \pi (DP \div 12)(LP)$

Shelf Life

Scotchrap™ Pipe Primer, Scotchfil™ Electrical Insulation Putty and Scotchrap Tapes have a 5 year shelf life (from date of manufacturer) when stored under the following recommended storage conditions. Store behind present stock in a clean dry place at a temperature of 21°C (70°F) and 40 to 50% relative humidity. Good stock rotation is recommended. Scotchrap 50 and 51 are available in the following standard roll sizes:

1 in. (25,4 mm) x 100 ft. (30,5 meters)
2 in. (50,8 mm) x 100 ft. (30,5 meters)
4 in. (101,6 mm) x 100 ft. (30,5 meters)
6 in. (152,4 mm) x 100 ft. (30,5 meters)

Other lengths and widths available upon request.

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