

3M™ Scotchkote™ Liquid Epoxy Coating 323 Data Sheet


Product Description

3M™ Scotchkote™ Liquid Epoxy Coating 323 is a two-part system designed to help protect steel pipe and other metal surfaces from the harsh affects of corrosion.

Intended Uses

- As a patch material.
- As a girthweld coating.
- As an internal lining
- As a stand alone coating for pipe rehabilitation.

Product Features

- No solvents needed. VOC as mixed 12 g/L.
- High build, up to 45 mils/1150 microns in one application.
- Applicable by cartridge, brush, roller, HSS or plural component spray.
- Excellent adhesion.
- 100% solids.
- Can be applied to a substrate as cold as 41°F/5°C.
- Meets the requirements of AWWA C210.
- Resistant to damage from acids and bases in pH range 2-14.
- Resistant to hydrocarbons such as crude oil, motor oils and gasoline.
- Certified to ANSI/NSF Standard 61, Drinking Water System Components. 

General Application Steps

For use as a joint coating, a refurbishing coating or as a pipe coating:

1. Remove oil, grease and loosely adhering deposits.
2. Abrasive blast clean the surface to NACE No. 2/SSPC-SP10, ISO 8501:1, Grade SA 2 1/2 near-white metal.
3. Ensure the abraded surface is cleaned of abrading debris with the use of an air blast or a clean lint free cloth then verify anchor profile is 1.5 - 4 mils.
4. Within four hours of blasting as per the above cleaning process and with the metal above 41°F/5°C and a minimum of 5°F/3°C above the dew point, apply Scotchkote 323 at recommended film thickness. Allow to cure.
5. Repair all defects using Scotchkote 323.

For use as a repair material in the field where scratches or other holidays may have occurred.

1. Remove oil, grease and loosely adhering deposits.
2. Abrade the FBE surface with medium grit sandpaper (approx 80 grit). Powered rotary sanders and sweep blasting are also acceptable means of performing this task as well. Ensure that the surrounding FBE is roughened for 10 mm on all sides of the holiday.
3. Ensure the abraded surface is cleaned of abrading debris with the use of an air blast or a clean lint free cloth then verify anchor profile is 1.5 - 4 mils.
4. With the metal above 41°F/5°C and a minimum of 5°F/3°C above the dew point, apply Scotchkote 323 at recommended film thickness.

3M™ Scotchkote™ 323 Coverage per kit size (Assumes no waste)

| Kit | lbs of material | | Coverage in square feet @ mils | | |
|-----------------|-----------------|----------|--------------------------------|----------|--|
| | Total | 25 mils | 28 mils | 30 mils | |
| 50 ml | 0.15 | 0.85 | 0.76 | 0.71 | |
| 450 ml | 1.34 | 7.63 | 6.81 | 6.36 | |
| Quart | 2.10 | 11.90 | 10.60 | 9.90 | |
| Gallon | 8.70 | 47.70 | 42.60 | 39.70 | |
| 5-gal x 3 | 152.10 | 865.80 | 773.00 | 721.50 | |
| 55-gal drum x 3 | 1,690.40 | 9,621.80 | 8,590.90 | 8,018.10 | |



Properties

| Property | Test Description | Value |
|--|----------------------------|---|
| Color | | Blue-Green |
| Mix Ratio | | 2A : 1B by volume 70.8% : 29.2% by weight |
| Viscosity in cps @ | | |
| • Brush Grade 72°F/22°C | | Part A: 154,000 Part B: 6,000 |
| • Spray Grade 72°F/22°C | | Part A: 90,000 Part B: 19,000 |
| Shelf Life (unopened container) | | 24 months |
| Specific Gravity | | 1.35 mixed |
| Coverage | | 142 ft ² /(lb/mil) (0.74m ² /(kg/mm)) |
| Recommended Coating Thickness | | 25-60 mils (625-1500 microns) |
| Shyodu Gel Time (approximate pot life) | 200 gm mass | 75°F / 24°C 20 Min 104°F / 40°C 11 min |
| Dry to Touch Time | ASTM D1640 clause 7.5.2 | 41°F / 5°C 7 hrs 75°F / 24°C 1 hr 45 Min 122°F / 50°C 26 min |
| Approximate Back Fill Time (For additional information see chart below) | ASTM D1640 clause 7.7.1 | 41°F / 5°C 8 hrs 75°F / 24°C 2 hr 39 min 122°F / 50°C 39 min |

Typical Test Properties

| Property | Test Description | Typical Value |
|--|--|--|
| Cathodic Disbondment (steel grit blasted plates laboratory applied; results may vary depending on blast media) | CSA Z245.20-06 clause 12.8 | 149°F / 65°C, 3.5V, 24 hrs 4.9 mmr 149°F / 65°C, 1.5V, 48 hrs 5.5 mmr 149°F / 65°C, 1.5V, 28 days 7.5 mmr 176°F / 80°C, 1.5V, 14 days 6.4 mmr 176°F / 80°C, 1.5V, 28 days 6.6 mmr |
| Hot Water Soak Adhesion of Coating | CSA Z245.20-06 clause 12.14 | 203°F / 95°C 24 hrs Rating 1 167°F / 75°C 48 hrs Rating 1 167°F / 75°C 28 days Rating 1 |
| Dry Adhesion (Pull off strength) | ASTM D 4541-02 Type 4 | 4000 psi |
| Flexibility | CSA Z245.20-06 clause 12.11 | 68°F / 20°C 1.0/PD 32°F / 0°C 1.0/PD |
| Abrasion Resistance | ASTM D4060-06 CS-17 wheels 1000 g load 5000 cycles wheels resurfaced every 500 cycles | 0.325 g loss |
| Impact Strength | ASTM G14 | > 1.5j |
| Hardness | ASTM D-22 40-97 | Shor D 85 ± 1 |

Handling and Safety Precautions

Read all Health Hazard, Precautionary and First Aid, Material Safety Data Sheet, and/or product label prior to handling or use.

Ordering Information/Customer Service

For ordering technical or product information, or a copy of the Material Safety Data Sheet, call:
Phone: 800/722-6721
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80-6111-8345-2-Rev Q

3M™ Scotchkote™ Liquid Epoxy Coatings

323/323i Product Handling Times*

| Product Temperature | Pot-Life | Dry to Touch Time | Back Fill Time |
|---------------------|------------|-------------------|----------------|
| 40°F (4°C) | 45 minutes | 6-7 hours | 7-9 hours |
| 60°F (16°C) | 25 minutes | 2-3 hours | 4-6 hours |
| 75°F (24°C) | 18 minutes | 90-120 minutes | 2.5-3.5 hours |
| 85°F (29°C) | 14 minutes | 50-70 minutes | 1.5-2.5 hours |
| 100°F (38°C) | 10 minutes | 35-45 minutes | 60-90 minutes |
| 120°F (49°C) | 7 minutes | 20-30 minutes | 30-60 minutes |
| 150°F (66°C) | — | 5-15 minutes | 15-30 minutes |

*It is very important to understand that the times listed above are approximations and will vary due to separate product, ambient and substrate temperatures as well as a combination of them.

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