

3M™ Scotchkote™ Liquid Epoxy Coating 323P

Data Sheet and Application Instructions

Product Description

3M™ Scotchkote™ Liquid Epoxy Coating 323P is a two-part system designed as a patch to 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
- In a wide variety of other field applications where corrosion protection of metal is required.

Product Features

- Color match to 3M™ Scotchkote™ Fusion-Bonded Epoxy 6233
- No solvents needed.
- High build, up to 45 mils/1150 microns in one application.
- Applied by cartridge, brush, roller or 3M™ Scotchkote Spray Sytem HSS-450
- Excellent adhesion.
- 100% solids.
- VOC for Parts A and B as mixed 12 g/L
- Can be applied to a substrate as cold as 41°F/5°C.
- Meets the requirements of AWWA C210, 07 clause 5.2.1.1
- Certified to ANSI/NSF Standard 61, Drinking Water System Components. 

Chemical Resistance

Scotchkote 323P is resistant to damage by acids and bases in the pH range of 2 to 14. It is also resistant to hydrocarbons such as crude oil, motor oil, gasoline and many solvents. Testing is recommended if the coating is to be used in continual contact with oxidizing agents such as sodium hypochlorite (bleach) and aggressive solvents such as methyl ethyl ketone (MEK).

3M™ Scotchkote™ 323P Coverage per kit size

(Assumes no waste)

Kit	lbs of material Total	Coverage in square feet @ mils		
		25 mils	28 mils	30 mils
450 ml	1.34	7.63	6.81	6.36

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.
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 323P at a minimum thickness of 635 microns or 25 mils.
5. Allow to cure.
6. Visually or electrically inspect the coating for defects.
7. Repair all defects using Scotchkote 323P as a repair material.

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. An anchor pattern of 40 to 100 microns is preferred on the steel substrate.
3. Ensure the abraded surface is cleaned of abrading debris with the use of an air blast or a clean lint free cloth.
4. With the metal above 41°F/5°C and a minimum of 5°F/3°C above the dew point, apply Scotchkote 323/323i at a minimum thickness of 635 microns or 25 mils.



Properties

Property	Value
Color	Green (color match to Scotchkote 6233)
Mix Ratio	2A : 1B by volume 70.8% : 29.2% by weight
Viscosity in cps @	323P
• 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))
Max Operating Temperature	
• Wet	203°F/95°C
• Dry	250°F/121°C
Minimum Coating Thickness	25 mils/635 microns recommended

Typical Test Properties

Property	Test Description	Typical Value
Shyodu Gel Time (approximate pot life)	200 gm mass	75°F / 24°C 18 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 Shore D Hardness Chart)	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
Cathodic Disbondment (steel grit blasted plates laboratory applied; results may vary depending on blast media)	CSA Z245.20 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
Adhesion of Coating	CSA Z245.20 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
Flexibility	CSA Z245.20 clause 12.11	68°F / 20°C 0.7 %PD
		32°F / 0°C 0.7 %PD
Abrasion Resistance	ASTM D4060 CS-17 wheels 1000 g load 5000 cycles wheels resurfaced every 500 cycles	0.325 g loss
Impact Strength	ASTM G14	73.6 inch-lbs (8.3 Joules) at 75°F / 24°C
Impact Resistance	CSA Z245 20 Clause 12.12	See Chart Below

Impact Resistance

Impact value is the last Joule where three impacts have passed

Panel Number	Test Temperature	Joule Value	Holiday detection voltage	Average DFT (mils)
1	-40°F/-40°C	1.5	2500	30.4
3	14°F/-10°C	1.5	2500	27.2
5	68°F/20°C	2.75	2500	26.9
7	149°F/65°C	4.0	2500	27.0

3M™ Scotchkote™ Spray System HSS-450

The application of Scotchkote™ 323P has been simplified using the 3M™ Scotchkote™ Spray System HSS-450. The HSS-450 system utilizes a dual-cartridge setup along with unique application equipment designed specifically to spray apply Scotchkote 323P.



For more information and additional literature on the Scotchkote HSS-450 system, please visit our web site at www.3M.com/corrosion2010 or contact our Customer Service Center at 1-800-722-6721.

3M™ Scotchkote™ 450 ml Manual gun

An applicator is available to manually dispense Scotchkote™ 323P from the 450 ml cartridge.



Helpful Cartridge Spray Information

- Preheat cartridge to a temperature in between 120°F – 140°F

Equipment Clean-Up

MEK or toluene may be used to clean spray equipment, rollers and brushes. Utilize proper safety guidelines.

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.

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