

3M™ Scotchkote™ Liquid Epoxy Coating EP2306 Series (Formerly Copon EP2306)

Data Sheet and Application Guide

Product Description

3M Scotchkote Liquid Epoxy Coating EP2306 series has been specifically developed as an internal lining for gas pipelines to provide maximum flow efficiency for oil and gas pipelines.

Product Features

- Easy to apply
- Adhesion— Excellent to both blast cleaned and mechanically scraped surfaces.
- Corrosion Resistance— Excellent even under aggressive immersion conditions.
- Chemical Resistance— Unaffected by crude oil, natural gas, H₂S and CO₂ mixtures.
- Temperature Resistance— Suitable for use up to 100°C (212°F) in dry service conditions.
- Flow Efficiency— Increased gas flow with associated financial benefits
- Durability— Withstands hydrostatic testing and pigging operations
- Specifications— Conforms to many international specifications for gas pipeline coatings

General Application Steps

1. Remove oil, grease and loosely adhering deposits.
2. Abrasive blast clean steel surfaces to NACE No. 2/SSPC-SP10, ISO 8501:1, Grade SA2½ near white metal.
3. Apply Scotchkote EP2306 coating at the specified thickness.
4. Allow to cure.
5. Visually or electrically inspect the coating for defects.
6. Repair all defects.

Properties

Property	Value
Color	Red Oxide
Ratio	Base:Activator
EP2306-HF (50)	1:1 By volume 100:77 By weight
EP2306-HF (75)	2:1 By volume 100:32 By weight
EP2306-SF (100)	2.5:1 By volume 100:27 By weight

Property	Value
Drying & Cure times at 20°C (68°F)	
Pot Life	
EP2306-HF (50)	20 minutes
EP2306-HF (75)	2 hours
Touch Dry	
EP2306-HF (50)	2 hours
EP2306-HF (75)	2 hours
EP2306-SF (100)	6 hours
Hard Dry	
EP2306-HF (50)	16 hours
EP2306-HF (75)	16 hours
EP2306-SF (100)	16 hours
Full Cure	
EP2306-HF (50)	7 days
EP2306-HF (75)	7 days
EP2306-SF (100)	7 days
Volume Solids	
EP2306-HF (50)	48%
EP2306-HF (75)	75%
EP2306-SF (100)	100%
Shelf Life and Storage	Use within 2 years of purchase. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).
Specific Gravity	
EP2306-HF (50)	1.14
EP2306-HF (75)	1.3
EP2306-SF (100)	1.34
V.O.C. Calculated (for activator and base as mixed)	
EP2306-HF (50)	440g/litre
EP2306-HF (75)	225g/litre
EP2306-SF (100)	0g/litre
Film Thickness (Typical)	
EP2306-HF (50)	Wet: 155 microns Dry: 75 microns
EP2306-HF (75)	Wet: 100U microns Dry: 75E microns
EP2306-SF (100)	Wet/Dry 100 microns
Theoretical Coverage Rate	
EP2306-HF (50)	6.4 sq metres per litre at 75 microns dft.
EP2306-HF (75)	10.0 sq metres per litre at 75 microns dft.
EP2306-SF (100)	10.0 sq metres per litre at 100 microns dft.
Certification	
UK	
EP2306-HF (50)	Transco CM1/CM2
USA	
EP2306-HF (50)	API RP 5L2
EP2306-HF (75)	
EP2306-SF (100)	
France	
EP2306-HF (50)	Gaz de France
Italy	
EP2306-HF (50)	SNAM
International	
EP2306-HF (50)	ISO 15741
EP2306-HF (75)	
EP2306-SF (100)	

Application Procedures for 3M

Liquid Epoxy Coating EP2306 Series

Surface Preparation

Steel surfaces should be abrasive blasted to NACE No 2/SSPC-SP10, ISO 8501:1 Grade Sa2½. The blast profile is generally specified by the client; a typical profile is 35–75 microns. Where blast cleaning cannot be carried out, the surface should be mechanically scraped to remove all loose scale and produce a surface which is clean, dry and free from rust or dust.

Mixing

The contents of the Base container should be stirred, and while stirring, the contents of the Activator container should be added with stirring continuing until a homogenous mix is achieved. For applications by airless spray, the base and activator components must be mixed together prior to use.

Application

EP2306-HF (50)

Do not apply when relative humidity exceeds 90% or when surfaces to be coated are less than 3°C above the dew point. 3M Scotchkote Epoxy Coating EP2306-HF (50) can be applied by brush, roller, conventional or airless spray, with airless spray being the preferred method.

- Airless Spray Minimum 30: 1 pump ratio
- Tip Size 15-21 Thou orifice
- Tip pressure minimum 2500 psi (175 bar)
Conventional Spray Pressure Pot
- Needle Setup 1.4 - 1.8mm

Handling and Safety Precautions

- Read all Hazard, Precautionary, First Aid, and Disposal statements in the 3M Material Safety Data Sheets and Label for each product part prior to handling or use.
- Use only with adequate ventilation.
- Consult and follow local air quality regulations that may regulate product use and equipment cleaning.

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EP2306-HF (75)

The preferred method of application for 3M Scotchkote Liquid Epoxy Coating EP2306-HF (75) is airless spray or plural feed airless spray. Brush and roller application may be used for limited areas.

- Airless Spray Minimum 45: 1 pump ratio
- Tip Size 17-25 Thou orifice
- Tip pressure minimum 2500-3000 psi

Mixed product temperature 20–30°C

EP2306-SF (100)

3M Scotchkote Epoxy Coating EP2306-SF (100) is intended for application by plural feed airless spray. A material temperature of 40–50°C is required, which should be attained by heating the Base and Activator components to temperatures of 50–55°C and 30–35°C respectively.

- Airless Spray Minimum 45:1 pump ratio
- Tip Size 19–25 Thou orifice;
- Tip pressure typically 2500–3000 psi

Clean all equipment immediately after use with an appropriate cleaning solution such as MEK or toluene.

Note: When airless spray is being used, excessively high tip spraying pressures should be avoided. The minimum pressure at the pump conducive with good atomization should be used.

Note: For small areas, good quality brushes and mohair rollers should be used.

Ordering Information/Customer Service

For ordering technical or product information, or a copy of the Material Safety Data Sheet, call:

Phone: **01462 421 333**