

ARCHCO™ 453HTP EPOXY

Abrasion Resistant Internal Epoxy Phenolic-Novolac Lining for Pipes

Description

Archco™ 453HTP Epoxy is a two-part, high-temperature resistant, epoxy phenolic-novolac system designed for internal pipe linings requiring excellent chemical and temperature resistance over a wide range of temperatures and pressures. It is available in 88% solids or 100% solids systems for single-leg airless or plural component spray applications.

Uses

Corrosion protection for steel internal pipes in a variety of industries. The coating will protect piping against crude oil, seawater, wastewater, fuels, solvents, and lubricants up to 325°F (163°C).

Features

- Very low permeability
- Excellent adhesion
- Excellent chemical resistance
- Excellent resistance to H₂S gases
- Excellent temperature resistance (up to 325°F / 163°C)
- Excellent abrasion resistance
- Improved performance with heat soak

Application

All contaminants shall be removed from the steel surface to be coated. Oil and grease should be removed in accordance to SSPC-SP-1. Prepare surfaces by grit blasting to a clean near-white finish, SSPC-SP 10, NACE No. 2 or Sa 2-1/2. Appropriate angular grit shall be used to achieve a 3 to 5 mil (76 - 127 microns) anchor profile. 453HTP can be applied over blasted surfaces that have been treated by a soluble salt remover or an rust inhibitor.

To spray the 100% solids version of Archco™ 453HTP Epoxy, a plural-component, airless spray unit with a proportioning pump capable of a volume mixing ration of 4:1 shall be used. Standard ancillary equipment should include minimum 10 gallon (38 liters) hoppers, 2 each static mixers, 25 ft. max x 1/4" (7.6 m x 6.3 mm) whip hose, and mastic gun with a 23 to 31 thou (0.58 mm - 0.80 mm) tip. Part A should be heated to 100°F-120°F (38°C-49°C) and Part B should be heated to 90°F-110°F (32°C-43°C). Hose bundle shall be set at 100°F-120°F (38°C-49°C). A single-leg, airless spray unit shall be used with the 88% solids version. On the single-leg airless unit, it shall be a minimum of 68:1 airless pump. When using an airless unit, the Archco™ 453HTP should not be thinned more than 5% with Archco™ 400E Thinner (3 lbs/1.4 kg per 5 gal/19 liters kit).

A wet-on-wet spray technique should be used to achieve a minimum thickness of 20 to 40 mils (508 to 1016 microns) DFT in one coat with nothing over 60 mils (1524 microns) DFT, unless approved by Denso. The coating thickness should be measured using a wet-film thickness gauge. The equipment settings are only guidelines and may vary based on equipment and specific application.



Archco™ 453HTP Epoxy

TECHNICAL DATA

PROPERTIES	AIRLESS - VALUE	PLURAL - VALUE
Solids Content By Volume	88%	100%
Base Component — unmixed @ 77°F (25°C)		
Specific Gravity	1.7	1.8
Viscosity	10,000 cP	31,000 cP
Colour	White	White
Hardener — unmixed @ 77°F (25°C)		
Specific Gravity	1.1	1.1
Viscosity	5,000 cP	12,000 cP
Colour	Amber	Amber
Mixed Material — mixed @ 77°F (25°C)		
Specific Gravity	1.5	1.6
Viscosity	8,000 cP	25,000 cP
Colour	Off White	Off White
Mixing Ratio (A/B) by Volume	4:1	4:1
by Weight	6.2:1	6.5:1
Cure Times		
Pot Life @ 77°F (25°C)	120 minutes	80 minutes
Pot Life @ 97°F (36°C)	45 minutes	35 minutes
Time to Dry @ 50°F (10°C)	10-12 hours	8-10 hours
Time to Dry @ 77°F (25°C)	2-3 hours	1-2 hours
Cure for Immersion (crude oil)		
@ 35°F (2°C)	32 hours	24 hours
@ 75°F (24°C)	16 hours	12 hours
Theoretical Coverage	53.5 ft ² /30 mils/gallon (1.3 m ² /0.76 mm/liter)	80 ft ² /20 mils/gallon (2.0m ² /0.50 mm/liter)
Thickness per Coat	20-40 mils (508-1016 microns)	20-60 mils (508 -1524 microns)
Holiday Detection – based on min. thickness	100 volts/mil (3937 volts/mm)	100 volts/mil (3937 volts/mm)
Hardness (ASTM D2240-02)	Shore D 82	Shore D 82
Adhesion to Steel	3,200 psi (22 MPa)	3,200 psi (22 MPa)
Application Temperature	50 to 100°F (10 to 38°C)	35 to 100°F (2 to 38°C)
Service Temperature	35 to 325°F (2 to 163°C)	35 to 325°F (2 to 163°C)
Substrate Temperature	50 to 140°F (10 to 60°C)	41 to 140°F (5 to 60°C)

STORAGE: Minimum 24 months when stored in original containers @ 40°F (4°C) to 105°F (41°C). On job site where temperatures are below 50°F (10°C) product should be kept warm to allow for easy transfer into storage hoppers for warming to proper spraying temperatures.

CLEANING: Clean equipment with MEK or equivalent solvent cleaner, such as Archco™ 400E Thinner.

HEALTH AND SAFETY: Wear protective clothing and ensure adequate ventilation. Avoid contact with skin and eyes. See safety data sheet for further information.

PACKAGING: 5 gallon (19 liters), 25 gallon (95 liters) kits. Other sizes available upon request.



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