PRODUCT DATA SHEET

Archco 453HT Epoxy

Internal Epoxy Phenolic-Novolac Lining for Tanks and Pipes

Description

Archco 453HT Epoxy is a two-part, high-temperature resistant, epoxy phenolic-novolac system designed for internal tank and 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 tanks and internal pipes in a variety of industries. The coating will protect tanks and 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 H_2S gases
- Excellent temperature resistance (up to 325°F / 165°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. Surfaces shall be free from projections, sharp edges, high points and fillets must be ground smooth including all corners. 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. Vacuum tank floor to remove grit prior to coating.

To spray the 100% solids version of Archco 453HT 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 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 453HT 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 mils (508 microns) DFT. 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. Please refer to the spray application specification for more complete information.

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Archco 453HT Epoxy

Technical Data

Properties	Airless - Value	Plural - Value
Solids Content By Volume	88%	100%
Base Component — unmixed @ 77°F (25°C)		
Specific Gravity	1.4	1.4
Viscosity	26,000 cP	13,000 cP
Color	White	White
Hardener — unmixed @ 77°F (25°C)		
Specific Gravity	1.1	1.1
Viscosity	3,000 cP	3,000 cP
Color	Amber	Amber
Mixed Material — mixed @ 77°F (25°C)		
Specific Gravity	1.4	1.4
Viscosity	20,000 cP	12,000 cP
Color	Off White	Off White
Mixing Ratio (A/B) by Volume	4:1	4:1
by Weight	5.7:1	5.8:1
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	10-40 mils (254-1016 mircons)	10-60 mils (254-1524 microns)
Holiday Detection – based on min. mil.	125 volts/mil (4921 volts/mm)	125 volts/mil (4921 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 140°F (10 to 60°C)	50 to 140°F (10 to 60°C)
Service Temperature	35 to 325°F (2 to 163°C)	35 to 325°F (2 to 163°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 material 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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