TECHNICAL DATA SHEET

Archco 453HTP™ Epoxy

Abrasion-Resistant, Epoxy Phenolic-Novolac, Internal 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 as a 100% solids systems for plural-component spray applications. The coating will protect piping against crude oil, seawater, wastewater, fuels, solvents, and lubricants up to 325°F (163°C).

Uses

- Storage tanks
- Tank pipelines
- Structural steel
- Internal pipe lining

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

Surface Prep

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 a rust inhibitor.

Mixing

Material is supplied in five containers as a unit. Always use a complete unit in the proportions supplied.

1. Agitate all four base containers (Part A) and the catalyst container (Part B

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individually with a power agitator.

2. Once thoroughly mixed, transfer Part A and Part B material into the appropriate plural-spray unit feed hoppers and bring to designated temperature with mixing.
3. 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).

Application

Airless Spray: 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 wet-on-wet spray technique should be used to achieve a 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. For additional guidance, refer to the Archco 453HTP Spray Application Specification.

Storage

Minimum 18 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 & Safety

Wear protective clothing and ensure adequate ventilation. Avoid contact with skin and eyes. See Safety Data Sheet (SDS) for further information.

Packaging

Standard kit - 25 gallon (95 liters) and 275 gallon (1,040 liters) kits.
Other sizes available upon request.

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Technical Data

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

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DENSO, INC.

HOUSTON:
9710 Telge Road,
Houston, Texas,
U.S.A. 77095
Tel: 281-821-3355
Fax: 281-821-0304

TORONTO:
90 Ironside Crescent,
Unit 12, Toronto,
Ontario, Canada M1X1M3
Tel: 416-291-3435
Fax: 416-291-0898

www.densona.com

info@densona.com

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