

PRODUCT DATA SHEET

ARCHCO™ 453 EPOXY

Two-Part Epoxy for Industrial Storage and Process Tanks and Pipelines

Description

Archco 453 is a 70% solids, two-part, epoxy phenolic-novolac system designed to produce a lining with excellent chemical and temperature resistance over a wide range of temperatures and pressures.

Uses

Corrosion protection for industrial storage and process chemical tanks and pipelines, high pressure crude oil pipes and separation tanks. Also used as a protective coating for highly corrosive environments. Provides exceptional resistance over a wide range of temperatures and pressures.

Features

- 10 to 12 mils (0.25 - 0.30 mm) thickness DFT, if applied in a two coat system
5 to 6 mils (0.13 - 0.15 mm) per coat.
- Does not require baking to cure
- Excellent chemical resistance under ambient cure conditions
- Exceptional resistance to a wide variety of chemicals and solvents
- High gloss provides easy cleaning

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 (0.08 - 0.13 mm) anchor profile. Vacuum tank floor to remove grit prior to coating.

To spray the Archco 453 Epoxy, a plural-component airless spray unit with a proportioning pump capable of a volume mixing ratio of 4:1 or single-leg airless unit can be used. Standard ancillary equipment should include minimum 10 gallon (38 L) hoppers, 2 each static mixers, 25 ft. max x 1/4" (7.6m x 6.4 mm) whip hose, and mastic gun with a 23 to 27 thou (0.58 - 0.68 mm) tip. Part A should be heated to 100-120°F (38 - 49°C) and Part B should be heated to 90-110°F (32 - 43°C). Hose bundle shall be set at 100-120°F (38 - 49°C). On the single-leg airless unit, it shall be a minimum of 68:1 airless pump. A wet-on-wet spray technique should be used to achieve a thickness of 10 - 12 mils (0.25 - 0.03 mm) DFT. Total thickness should not exceed 25 mils (0.50 mm) 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. Thinning not required or desirable but at lower temperatures a small amount of Archco 400 E Thinner (5% or less) can be added.

For complete application instructions, please refer to Archco 453 Epoxy application specifications.



Archco™ 453 Epoxy

TECHNICAL DATA

PROPERTIES	VALUE
Solids Content	
By Weight	85%
By Volume	70%
Base Component — unmixed @ 77°F (25°C)	
Specific Gravity	1.7
Viscosity	15,000 cP
Color	Blue
Hardener — unmixed @ 77°F (25°C)	
Specific Gravity	1.0
Viscosity	100 cP
Color	Amber
Mixed Material — mixed @ 77°F (25°C)	
Specific Gravity	1.6
Viscosity	10,000 cP
Color	Blue
Mixing Ratio (A/B) by Volume	4 Parts Base: 1 Part Hardener
by Weight	7 Parts Base: 1 Part Hardener
Cure Times	
Pot Life @ 77°F (25°C)	3 hours
Pot Life @ 97°F (36°C)	1 hour
Time to Dry @ 50°F (10°C)	20 hours
Time to Dry @ 77°F (25°C)	7 hours
Recoat Window	
@ 77°F (25°C)	30 days
Theoretical Coverage	80 ft ² /20 mils/gallon (2.0 m ² /0.48 mm/Liters)
Thickness per coat	10 to 12 mils (0.25 - 0.30 mm) DFT, if applied in a two coat system 5 to 6 mils (0.13 - 0.15 mm) per coat.
Holiday Detection – based on min. mil.	100 volts/mil (3936 volts/mm)
Hardness (ASTM D2240-02)	Shore D 82 +/-2
Adhesion to Steel	3,200 psi (22.1 MPa)
Application Temperature	50-130°F (10-54°C)
Service Temperature	35-300°F (2-149°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: 25 gallon (95 Liters) and 5 gallon (19 Liters) kits. Other sizes available upon request.



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