

High Temperature Resistance Sealant & Coating



SELECTION & SPECIFIC DATA

Generic Type

Cycloaliphatic Amine-Cured Novolac Epoxy

Description

DX-5400 is a densely cross-linked, 100% solids, novolac epoxy coating with excellent chemical and temperature resistance against organic acids, caustics and petroleum based products. DX-5400 is widely used for floors, secondary containment, fume ducts, piping, and bulk storage tanks. DX-5400 is the ideal, long term protection coating and sealant for the pipe industry and is also perfect for, secondary containment and storage tanks. DX-5400 offers excellent, long term heat resistance up to continuous 450°F (232°C) and intermittent 500°F (260°C).

Product Features & Benefits

- *Resistant to wide range of acids and caustics*
- *Low permeation rate for tank lining service*
- *Solvent free – 100% solids*
- *Plural or single leg application*
- *Quick return-to-service – 24 hours at 77°F (25°C) for hydrocarbon immersion service*

Recommended Uses

- *Process floors and trenches*
- *Secondary containment areas*
- *Tube sheets*
- *Equipment supports and pads in acid service*
- *Heat exchangers*
- *Internal pipeline and vessel linings*

Color/Part #

Light Gray, Dark Gray

Finish

Gloss

Primer

Self-priming

Dry Film Thickness

2 – 3 coats at 10 – 12 mils each

3 – 4 coats at 10 – 12 mils each for high temperatures or severe chemical service

Solids Content

By Volume 100%

Theoretical Coverage

1604 ft² at 1 mil, 106 ft² at 15 mils, 64 ft² at 25 mils

Dry Temp. Resistance

Continuous: 450°F (232°C)

Intermittent: 500°F (260°C)

Under Insulation, Continuous: 300°F (149°C)

Discoloration and loss of gloss occurs above 200°F (93°C) but does not affect performance.

Coverage per gallon

80 sq. ft. @ 20 mils thickness

Flash Point

> 250°F (121°C)

Container Size

1 gallon kits, 5 gallon kits, 55 gallon drums

Specific Gravity

Resin: 1.51 Hardener 0.95

Weight per gallon

13 lbs.

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SUBSTRATES & SURFACE PREPARATION

- All** Surfaces must be clean, dry and free of contaminants.
- Steel** **Immersion:** SSPC-SP10 Near-White Metal Blast with angular profile of 2.5 – 3.5 mils.
Non-immersion: SSPC-SP6 1.5 – 3.0 mils SSPCSP2 or SP3 are suitable cleaning methods for mild environments.
- Concrete/CMU** Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing. Mortar joints should be cured a minimum of 15 days.
- * *Dynesic DX-1100 primer must be applied prior to application on concrete surfaces.*
 * *For previously painted surfaces contact Dynesic Technical Service Department.*

CHEMICAL RESISTANCE

Ammonium Hydroxide	Hydrochloric Acid to 100%	Phosphoric Acid to 100%
Aromatic & Aliphatic Solvents	Hydrofluoric Acid to 35%	Potassium Hydroxide
Black Liquor	Hydrogen Sulfide	Salts
Butyl Acetate	MEK	Sodium Hypochlorite to 50%
Butyl Carbitol	MSEA	Sulfides
Chlorinated Solvents (except Methylene Chloride)	Mineral Acids	Sulfuric Acid up to 98%
Chlorides	Nitric Acid up to 30%	White Liquor
Chromic Acid up to 30%	(Many) Organic Acids	Water - Fresh, waste, non-potable
	Phosphates	

MIXING & THINNING

- Mixing** Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.
- Thinning** **Spray:** Up to 6.5 oz/gal (5%) w/ Acetone or Xylene
Brush: Up to 12.8 oz/gal (10%) w/ Acetone or Xylene
Roller: Up to 12.8 oz/gal (10%) w/ Acetone or Xylene
- * *Use of thinners other than those supplied or recommended by Dynesic may adversely affect product performance and void product warranty, whether expressed or implied.*
- Ratio** 3:1 Ratio (A to B) by Volume
- Pot Life** 30 minutes at 75°F (24°C), shorter at higher temperatures.
- * *Do not keep the blended coating in the original container unless immediate use is planned. Otherwise, exothermic heat created during the curing process will considerably shorten the pot life. Pour the coating into a rolling tray or large aluminum-basting pan. Try to keep the depth of the coating in the tray below 3/8".*

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General)

This is a 100% solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Airless Spray Plural Component

- Tip Size:** 0.027 – 0.029 in reversible type
- Diameter of Part A Fluid Line:** 1/2 in ID
- Diameter of Part B Fluid Line:** 3/8 in ID
- Spray Line:** 1/2 in ID x 50 feet maximum
- Diameter of Whip:** 1/4 – 3/8 in ID
- Length of Whip:** 20 ft

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Power Pump Ratio: 56:1 or greater

Static Mixer: 2 x 1/2 in ID x 12 in long behind mixing valve

Part A Temperature: 130°F – 135°F (54°C – 57°C) in reservoir tank

Part B Temperature: 90°F – 95°F (32°C – 35°C) in reservoir tank

Airless Spray Single Leg or Hot Pot

Pump Size: 56:1 or greater

Hose Length/Diameter: 50 ft x 3/8"

Whip Length/Diameter: 10 ft x 1/4"

Tip Size: 0.027 in – 0.029 in

Output: 5600 – 7000 psi filter removed

** Part A resin and Part B hardener should be heated individually to 75 – 85°F before mixing so product will atomize properly in delivering paint to the substrate. Mixed product should be sprayed within 20 minutes after mixing.*

Brush & Roller (General)

Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie in within 10 minutes at 75°F (24°C).

Brush Use a medium bristle brush.

Roller Use a short-nap synthetic roller cover with phenolic core.

CLEANUP & SAFETY

Cleanup Use MEK or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety Read and follow all caution statements on this product data sheet and on the SDS for this product. Wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

PACKAGING, HANDLING & STORAGE

Shelf Life Part A: 12 months at 75°F (24°C)
Part B: 12 months at 75°F (24°C)

** When kept at recommended storage conditions and in original unopened containers.*

Shipping Weight (Approximate) 1 Gallon Kit: 13 lbs (6kg)
4 Gallon Kit: 55 lbs (25 kg)
200 Gallon Drums Kit: 2,560 lbs (1,164 kg)

Storage Temperature & Humidity 40° – 110°F (4° – 43°C)
0 – 100% Relative Humidity

Storage Store in a dry, well-ventilated area, indoors. Maintain products in original packaging and sealed until ready for use. Avoid exposure to direct sunlight or extreme temperatures.

PERFORMANCE DATA

TEST METHOD	SYSTEM	RESULTS
Adhesion ASTM D4541 Dry	Blasted Steel 1 ct.	>2,500 psi
Adhesion ASTM D4541 Wet 5 days 70°C water	Blasted Steel 1 ct.	>2,500 psi
Abrasion Resistance ASTM D4060	Blasted Steel 1 ct.	17 mg loss per 1000 cycles, CS17 wheel 1000 g load 0.1 mil loss per 1000 cycles
Compressive Strength ASTM C109	Blasted Steel 1 ct.	10,000 – 13,000 psi
Hardness ASTM D2240	Blasted Steel 1 ct.	84 Shore "D"

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CURE SCHEDULE & RE-COAT WINDOW

<u>TEMPERATURE</u>	<u>MINIMUM RE-COAT</u>	<u>MAXIMUM RE-COAT</u>	<u>RETURN TO SERVICE</u>
10°C (50°F)	8 hours	24 hours	7 days
25°C (77°F)	3 hours	12 hours	24 hours
60°C (140°F)	30 minutes	30 minutes	4 hours

DRY TO TOUCH: 4 hours at 25°C (77°F)

* *Return to service - aqueous/hydrocarbon immersion*

DYNESIC TECHNOLOGIES

produces exceptional chemically engineered coatings, adhesives and sealants offering premium corrosion protection, while being safe for the environment and user friendly. Dynesic Technologies can be found protecting steel, ductile and concrete substrates worldwide.



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