HP-410 Novo

High-Performance Epoxy Coating System

Description

Advanced FRP Systems' **HP-410 Novo** is a 100% solids, high-performance epoxy novolac coating engineered specific for immersion in hydrocarbons and aggressive solvents like benzene, acetone, and methanol. Capable of withstanding hot crude oil and other hydrocarbons up to 400 °F, **HP-410 Novo** provides an excellent all-around, corrosion-prevention solution for refineries and other applications with aggressive solvents and elevated temperatures.

Product Advantages

- Zero VOC Coating system
- Outstanding adhesion to concrete, steel, masonry, wood and composites
- Highly blush-resistant formulation
- Excellent overall chemical resistance
- Easy to apply, low viscosity epoxy
- Ambient Cure Formulation
- Cures at temperatures as low as 60 °F

Suggested Application

Designed specifically for hydrocarbons storage, elevated temperature services and aggressive solvents. **HP-410 Novo** can withstand hot crude oil, can protect refinery equipment like tanks and heat exchangers, and provides an excellent all around solvent resistant coating material. Excellent coating system for chemical transport via ISO vessels or barges.

Performance Data

	Test Method	Results
Abrasion Resistance	ASTM D4060; CS17 wheel, 1 Kg	71.0 mg loss/1000 cycles
Adhesion to Steel	ASTM D4541	>3000 psi
Heat Distortion Temperature	ASTM D648	298 °F
Direct Impact Resistance	ASTM D2794	26 in lbs
Immersion Resistance	Fresh and Salt water; 1 year	No rust, no blistering, no loss of adhesion
Humidity Resistance	ASTM D4585; 10,000 hours	No rust, no blistering, no cracking, no loss of adhesion
Dry Heat Resistance	ASTM D2485	400 °F (204 °C)

Product Characteristics

Finish: High Gloss

Color: Red or Grey

Volume Solids: 100%

Mix Ratio (by wt.): 3.4:1

Mix Ratio (by vol.): 2.5:1

Density: 1.32 g/mL

Approx. Coverage: 80 sqft/gallon at 20 mils

Maximum Film Build: 30 mils per coat

Working Time: 35 minutes at 75 °F

Application Temperatures: 60 - 105 °F

HP-410 Novo is sold in ½. 1, 2, and 4 gallon units. Other unit sizes may be available.

Sold FOB Weymouth, MA

Cure Schedule

Cures for Application	50 °F (10 °C)	75 °F (24 °C)	100 °F (38 °C)
Dry to Touch	9 hours	6 hours	4 hours
Dry Hard	18 hours	12 hours	8 hours
Overcoat Window	9 - 120 hours	6 - 72 hours	6 - 60 hours

Cures for Service	50 °F (10 °C)	75 °F (24 °C)	100 °F (38 °C)
Atmospheric	36 hours	24 hours	12 hours
Water Immersion	48 hours	36 hours	24 hours
Full Chemical Resistance	168 hours	96 hours	48 hours

Contact Advanced FRP Systems for elevated temperature post-cure information. Elevated temperature cures will increase chemical resistance and reduce return to service time.

Application Information

All Advanced FRP Systems products should be installed by a certified applicator or with direct oversight by Advanced FRP Systems, Inc. This data sheet provides general application guidelines for HP-410 Novo.

Contact Advanced FRP Systems for more information if your project has detailed coating specifications.

Ensure air and substrate temperatures are between 60 - 105 °F and relative humidity is below 95%. Follow surface preparation guidelines below prior to coating.

Pour all of Part A – Hardener into Part B – Base and mix with low speed power agitator for 2-3 minutes. Using a paint stick or spatula, thoroughly scrape sides and bottom of unit. Mix with power mixer for an additional 2 minutes. Do not dilute Advanced FRP products.

HP-410 Novo can be applied via brush, roller, conventional airless spray equipment or plural component, airless spray equipment. Consult Advanced FRP Application Guidelines for information on spraying **HP-410 Novo**.

Stripe coating of all crevices, weld seems, corners and sharp angles is an essential part of good coating practices and should be done for all immersion services. Heavily pitted areas should be filled with **FRP Repair Putty** or other Advanced FRP resurfacing material prior to coating.

HP-410 Novo should be applied at 10 – 30 mils per coat in 1 – 3 coats according to the specification for your project. Hydrocarbon immersion generally requires 20 – 30 mils DFT in two coats while distilled and deionized water requires 50 – 60 mils DFT.

After the coating system has cured, the dry film thickness should be measured by non-destructive dry film thickness gauges to verify minimum application thickness. The coating system should be free of all pinholes and holidays which can be tested through high voltage spark testing. The cured film should be essentially free of runs, sags, inclusions, and other defects. All coating deficiencies should be repaired and allowed to cure prior to return to service.

Surface Preparation

Steel (Immersion Service): Remove all oil and grease from surface with an SSPC-SP 1 Solvent Wipe prior to blasting. Abrasive Blast to an SSPC-SP 10 Near white metal blast with a sharp angular profile of 2 – 3 mils (50 – 75 microns).

Steel (Atmospheric Corrosion): Remove all oil and grease from surface with an SSPC-SP 1 Solvent Wipe. Minimum surface preparation of SSPC-SP 2 Hand Tool Cleaning must be performed. For enhanced performance, an SSPC-SP 6 Commercial Blast Cleaning with an angular surface profile of 1.5+ mils should be used.

Concrete (Immersion/Secondary Containment): Refer to SSPC-SP 13/NACE No. 6, Section 4.3.1 or ICRI No. 310.2, CSP 1-3 for concrete preparation guidelines. Surface should be thoroughly cleaned and dry. Concrete and mortar must be cured at least 28

days @ 75 °F. Surface must be free of laitance, concrete dust, dirt, form release, curing aids and other foreign material. **Advanced FRP Sealer 200** should be applied prior to coating at 3-5 mils to increase adhesion and reduce outgassing.

Concrete (Atmospheric Corrosion): Refer to SSPC-SP 13/NACE No. 6, Section 4.3.1 or ICRI No. 310.2, CSP 1-3 for concrete preparation guidelines. **Advanced FRP Sealer 200** is not required but recommended for improved adhesion and aesthetics.

Previously Coated Surfaces: Consult with Advanced FRP to ensure previous coating is compatible. If compatible and previous coating is in good condition, remove all loose coating and foreign materials. Brush blast or grind all glossy areas to a uniform dull finish. Remove dust, oil and debris with SSPC-SP 1 Solvent Wipe prior to coating.

Storage and Shelf Life

HP-410 Novo must be stored between 45 – 110 °F, out of direct sunlight. If stored in these conditions, the product will have a 24-month shelf life.

Safety Precautions

Please consult up-to-date Safety Data Sheets (SDS's) prior to use. An SDS should be available on site whenever Advanced FRP products are being used.

Warranty Information

Advanced FRP Systems, Inc. warrants that our products are free of manufacturing defects in accordance with applicable Advanced FRP quality control parameters. Liability for products proven defective, if any, is limited to replacement of defective product or refund of purchase price as determined by Advanced FRP Systems. Additional warranties and protection are available. Contact Advanced FRP for more information.

Disclaimer

The information and recommendations set forth upon this data sheet are based on years of laboratory and field analysis. This information is intended to be used as guidance only as many factors affect the performance of polymeric systems. Actual exposure conditions are the best test of suitability and Advanced FRP Systems will generally provide complimentary samples for field testing.

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