Novocoat™ EP3900 Machinable Paste

SELECTION & SPECIFICATION DATA

Type Epoxy Paste

Description Novocoat EP3900 Machinable Paste is a composite rebuild material for metal parts and surfaces. It has a smooth, spreadable consistency that makes it easy to apply.

Features
- No VOCs
- Machinable
- Kits include tools
- Excellent UV stability
- Excellent impact and corrosion resistance
- AWWA C210 compliant

Uses
- Metal repair and restoration
- Pitted steel repair
- Rebuild tube sheets, shafts, bearing housings, etc.

Color Dark gray

CHEMICAL RESISTANCE

Acetic Acid up to 10%
Ammonium Hydroxide*
Aromatic & Aliphatic Solvents
Black Liquor
Butyl Acetate
Butyl Carbitol
Chlorides
Hydrogen Sulfide
Isopropyl Alcohol
Mineral Acids
Nitric Acid up to 30%
Mild Organic Acids
Phosphoric Acid
Potassium Hydroxide*
Sodium Hydroxide*
Sulfides
Sulfuric Acid up to 80%
1,1,1-Trichloromethane
Urea Solutions
White Liquor

*Ambient temperature only

SUBSTRATES & SURFACE PREPARATION

All Substrate must be clean, dry and free of contaminants.

Steel Immersion: SSPC-SP 10/NACE 2 Near White Metal Blast with angular profile of 2.5 – 3.5 mils.

Non-immersion: SSPC-SP 6/NACE 3 Commercial Blast with angular profile of 1.5 – 3.0 mils, SSPC-SP 2 Hand Tool or SSPC-SP 3 Power Tool Cleaning are suitable for mild environments.

Self-priming on steel.

Weld Repair Use a flame to sweat out oil from deeply impregnated surfaces. Stabilize cracks by drilling the extremities. Long cracks should be drilled, tapped and bolted every few inches. Vee-out all cracks using a file. Degrease using clean rags.

MIXING & THINNING

Mixing Do not mix partial kits. For small kits, transfer the entire contents of the resin and hardener onto the plastic mix board. For large kits, completely empty the hardener container into the resin container, scraping it clean. Mix together thoroughly until color of material is uniform and free of streaks.

Thinning Do not thin.

Pot Life 40°F (4°C) 1 hour and 20 minutes
75°F (24°C) 50 minutes
92°F (33°C) 20 minutes

Pot life is shorter at higher temperatures. A larger volume of mixed material will have a shorter pot life than a smaller volume.

Cleanup MEK or Acetone

APPLICATION GUIDELINES

Conditions Substrate surface temperature 50°F – 140°F (10°C – 60°C) and at least 5°F (3°C) above the dew point and rising. If surface temperature is above 140°F (60°C), consult Armor Technical Service for guidance.

Application Apply directly onto the prepared surface with the spreader or mixing knife provided. Press down firmly to remove entrapped air, fill all cracks, and ensure maximum contact with the surface. Use reinforcement cloth over holes and cracks. Fully machinable using conventional tools once cured.

Brush & Roller Brush or roller can be used to smooth uncured surface with solvent if desired.

Top-Coating If the compound is to be coated, apply the coating within the recoat window. If this is not possible, allow the compound to cure, then brush-blast, wire-brush or sand to create a rough, angular profile on the surface before coating.

Cold Joints When it is necessary to join multiple sections of the compound to create a continuous protective layer over a large area, do not attempt to feather and overlap adjoining sections. If adjoining sections cannot be applied within the recoat window, continue the full thickness of the compound up to the joint between sections. Allow the first section to cure, then create a rough, angular mechanical profile, using one of the means listed above, on the edge that will be joined to the next section to ensure a satisfactory mechanical bond.

CURE SCHEDULE & RECOAT WINDOW

TEMPERATURE	MINIMUM RECOAT	MAXIMUM RECOAT	RETURN-TO-SERVICE (IMMERSION)
68°F (20°C)	1 hour	4 hours	5 days
86°F (30°C)	1 hour	4 hours	3 days
104°F (40°C)	30 minutes	2 hours	1 day
122°F (50°C)	30 minutes	1 hour	16 hours

Return-to-service will vary with chemical exposure. Consult with Armor Technical Service for guidance.

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PACKAGING, ESTIMATING & HANDLING

ITEM#	PRODUCT	PACKAGING
M-EP3920-QTCS-01	Novocoat EP3900 Machinable Paste, Dark Gray Case includes 1 mixing board. Each kit includes: - Part A Resin, Dark Gray - Part B Hardener - Mixing knife, spreader	4 x 2.2-lb (1 kg) Kits 1.76 lb (0.8 kg) Jar 0.44 lb (0.2 kg) Jar
M-EP3920-1GLBK-01	Novocoat EP3900 Machinable Paste, Dark Gray - Part A Resin, Dark Gray - Part B Hardener - Mixing knife, spreader, mixing board	11-lb (5 kg) Kit 8.8 lb (4 kg) Pail 2.2 lb (1 kg) Pail
M-EP3920-1GLKT-01	Novocoat EP3900 Machinable Paste, Dark Gray - Part A Resin, Dark Gray - Part B Hardener	11-lb (5 kg) Kit 8.8 lb (4 kg) Pail 2.2 lb (1 kg) Pail

Theoretical Coverage

12.8 square foot per gallon at 1/8-inch thickness
Allow for loss in mixing and application.

Storage & Shelf Life

Maintain products in original packaging and sealed until ready for use. Estimated shelf life is 12 months for when stored in a dry area at 75°F (24°C). Actual shelf life may vary with storage conditions. Do not store below 40°F (4°C) or above 110°F (43°C).

If there is any question with respect to the quality of the components, check reactivity prior to use. For assistance consult with Armor.

SAFETY

Safety

Mixes and applications of this product present a number of hazards. Read and follow the hazard information, precautions and first aid directions on the individual product labels and safety data sheets before using.

Ventilation

Provide thorough air circulation during and after application until the material has cured when used in enclosed areas.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	VALUE
Flash point	>250°F (121°C)
Pull-off adhesion test ASTM D4541	>2850 psi (20 MPa)
Coefficient of thermal expansion	1.1 x 10^{-6}/°F (2.0 x 10^{-6}/°C)
Thermal stability Weight loss after 48 hours at 300°F (149°C)	0.0003 g
Mixed density	14.7 lb/gal or 110 lb/ft^3 (1.76 kg/L or 1760 kg/m^3)
VOC	0 lb/gal (0 g/L)

SERVICE TEMPERATURE

SERVICE	MAXIMUM TEMPERATURE
Dry	390°F (199°C)
Splash/spill	293°F (145°C)
Immersion	194°F (90°C)

Temperature limitations will vary with chemical exposure. Consult Armor Technical Service for guidance.

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