

TECHNICAL DATA

Product Description

Mult-E-Prime 500RI is a high solids, high-build, epoxy primer providing outstanding corrosion inhibitive protection in extreme environments while providing superior chemical and abrasion resistance. Its tenacious adhesion and ability to be applied to tightly adhering rust and other tightly adhered previous coatings make it a versatile choice in substrate protection and an excellent option as an intermediate coat over organic zinc, inorganic zinc and catalyzed epoxy primers. Mult-E-Prime 500RI rapid recoat time makes it highly adaptable to any workflow. Mult-E-Prime 500RI is suitable for fresh water immersion and can be applied at temperatures as low as 0°F (-17.8°C), please contact Diamond Vogel Technical Service for detailed information on immersion application.

Intended Uses

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|---------------------------------|-----------------------|-------------------------------|--------------------------------|
| Apply to: | | Protects: | |
| • Interior or exterior surfaces | • Ferrous metal | • Tanks | • Equipment |
| • Previously primed surfaces | • Aluminum | • Conveyors | • Machinery |
| • Zinc rich products | • Galvanized surfaces | • Structural or support steel | • Processing plants |
| • Composites | • Shop coats | • Power generating plants | • Material handling facilities |

The above are general recommendations and not intended to limit the use of Mult-E-Prime 500RI. Test areas are always recommended to confirm results.

Physical Properties

Resin Type	Epoxy			
Finish/Sheen	Satin, 30–40 @ 60°			
Colors	Red LF-5255			
Cure (Part B)	LM-0222			
Solids by Weight	75%			
Solids by Volume	58%			
Theoretical Coverage*	930 ft ² /gal @ 1 mil			
Dry Film Thickness / Coat	4.0–6.0 mils (100–150 microns)			
Wet Film to Achieve DFT	7.0–10.0 mils (175–250 microns)			
Coverage at DFT*	155–233 ft ² /gal			
VOCs	2.8 lbs./gal (338 grams/liter) activated			
Reduction Solvents	DO NOT THIN			
Clean-up Solvents	Diamond Vogel N-4006 MEK			
Induction Time	None			
Mixing Ratio (by volume)	1 part resin to 1 part cure. Product packaged in premeasured kits.			
Pot Life**	7 hours at 70°F (21°C) and 50% Relative Humidity			
Drying Time***		At 70°F (21° C)	At 32°F (0°C)	At 20°F (-6.7°C)
ASTM D1640-83 reapproved 1989	Set to Touch:	1 hour	1 ½ hours	3 hours
	Dry Through:	5 ½ hours	24 hours	36 hours
	Recoat Minimum:	1 ½–2 hours	2½–3 hours	3½–4 hours
	Recoat Maximum:	2 months	2 months	2 months
	Recoat Maximum with Self:	12 months	12 months	12 months

* Coverage rates are estimates based on the products volume solids and make no allowance for material loss during application. Actual spread rates may vary dependent on applicator experience, surface porosity and texture.

** Extreme temperatures can dramatically shorten pot life

*** Dry times vary with surface temperature, air movement, humidity and film thickness. Finish coat selection may extend maximum recoat, please request additional information by contacting Diamond Vogel Technical Service for detailed information.

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Performance Characteristics

Multi-E-Prime 500RI meets or exceeds the following performance testing criteria:

Test Name	Test Method	Results
Abrasion Resistance	ASTM D 4060, CS-17 Wheel 1kg Load, 1000 Cycles	0.0752 wear index
Adhesion Testing	ASTM D 4541 Elcometer Pull Test	1000+ lb./sq. in.
Adhesion Testing	ASTM D 3359 Cross Hatch	4B
Impact Resistance	ASTM 2794	Direct 30 in./lbs. Reverse <5 in./lbs.
Heat Resistance	ASTM D 2485 High Temperature Service	Passes at 250°F (121°C)
Pencil Hardness	ASTM D 3363	H
Cyclic Weathering	ASTM D-5894 4,000 plus hours	No face blistering, face rust rated 10, <10 mm scribe creepage.
Corrosion Resistance	ASTM B 117-94 Salt Spray (Fog) Test 672 hours	No face blistering, face rust rated 10, <1 mm scribe creepage.

Surface Preparation

All surfaces must be clean, sound, dry and free of all dirt, dust, wax, oil, grease, chalk and any other contamination that would interfere with new coating adhesion. Bare surfaces must be properly prepared prior to the application of this product.

Ferrous Metal Surfaces: Abrasive blast new steel to SSPC-SP6, Commercial Blast Cleaning. Use proper abrasive to achieve an average of 1.5 to 2.0 mil profile. Blasted surfaces should be primed before flash rusting occurs. If blasting is not practical, remove loose rust and mill scale per SSPC-SP-2, Hand Tool Cleaning or SSPC-SP-3, Power Tool Cleaning. Treat rust free, cold rolled steel with a metal cleaning and etching solution.

Previously Painted Metal Surfaces: Power or hand washing is recommended to remove contamination. If oil or grease is present, use of a cleaner/degreaser is required. All cleaning residue must be completely rinsed from the surface. Allow to dry. Remove all loose coatings, rust and corrosion by scraping, sanding or other abrading methods as per SSPC-SP-2, Hand Tool Cleaning and SSPC-SP-3, Power Tool Cleaning, or abrasive blast according to SSPC-SP-6, Commercial Blast Cleaning. Use sandpaper to dull slick, glossy and/or non-porous surfaces.

New Galvanized & Aluminum Surfaces: Remove surface contamination or passivators by scrubbing with a cleaning and etching solution or blast per SSPC-SP-7, Brush-Off Blast Cleaning.

Weathered Galvanized & Aluminum Surfaces: Power or hand wash with detergent and rinse thoroughly. The surface must be dull and have a profile; use a cleaning and etching solution if needed.

Mildew: Remove by using a solution of one part household bleach and three parts water. Apply to mildewed area and scrub. Allow solution to remain on the surface for 3 to 5 minutes and then rinse completely and allow to dry before coating application.

Application

Part A (resin) and Part B (cure) are packaged in premeasured kits. The mixing ratio is 1 part A to 1 part B. Mix Part A and Part B separately using an explosion-proof power drill and blade type mixer. Add Part B to Part A and thoroughly mix and blend using an explosion-proof power drill and blade type mixer. Mix only the amount that can be used within the estimated pot life. For optimum application, air and surface temperatures should be from 20° to 90°F (10° to 32°C) and at least 5°F (3°C) above the dew point. Above 122°F (50°C), sagging may occur.

Airless Spray: Flush airless lines with Diamond Vogel N-4006 MEK. Equipment must be clean prior to start. Apply a wet coat in even, parallel passes with 50% overlap to avoid bare areas and pinholes. If required, crosshatch spray at right angles. Do Not Thin.

Atomizing Pressure	Tip Orifice	Material Hose ID	Manifold Filter
2800–3000 PSI	0.015" to 0.019"	1/4" or 3/8"	60 mesh

Packaging

Shipping Weight

Product	2 Gallon Kit	5 Gallon Kit	Product	1 Gallon	5 Gallon
Part A Resin	1 Gallon Pail (full filled)	5 Gallon Pail (1/2 filled)	Part A Resin	12.28 lbs. (5.57 kg)	31.57 lbs. (14.32 kg)
Part B Cure	1 Gallon Pail (full filled)	2.5 Gallon Pail (full filled)	Part B Cure	12.61 lbs. (5.72 kg)	31.59 lbs. (14.33 kg)

Storage

Two years from date of manufacture when maintained in protected area at a temperature of 40° to 100°F (4° to 38°C). Subject to inspection thereafter.

TECHNICAL DATA**Safety Precautions**

*WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

Paint products contain chemical ingredients, which are considered hazardous. Prior to use, read container label warnings and the current Safety Data Sheet for important health and safety information. Ensure these instructions are practiced during product application and cure. **Keep out of the reach of children.**

Safety Data

"Safety Data Sheets" are available from your Diamond Vogel representative or the Diamond Vogel website at www.diamondvogel.com. Prior to use of this product, obtain and review the Safety Data Sheet for health and safety information. Read and observe all precautionary notices on container labels. **NOT INTENDED FOR RESIDENTIAL USE.**

Limited Warranty

The technical data and suggestions for use contained in this document are true and correct to the best of our knowledge at the date of issuance. The statements of this document do not constitute a warranty, expressed or implied, as to the performance of these products. Since Diamond Vogel does not control the application of its products, or the condition of the surfaces to which they are applied, Diamond Vogel's liability will under no circumstances exceed replacement of the product. **All technical information is subject to change without notice.**

Additional Information

Epoxies will chalk and fade with extended exposure to sunlight. Yellowing is a normal occurrence. The use of heaters that emit carbon dioxide and carbon monoxide during application may cause excessive yellowing to occur.

Cautions and Warnings information is located on the back panel of each product label.

For current information regarding VOC regulations for specific geographical regions, please contact Technical Service at Diamond Vogel Corporate Headquarters, (Contact information is located at the bottom of the page).