

CORCHEM[®] 243 CHEMICAL RESISTANT ESTER

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| GENERIC | Advanced technology epoxy novolac vinyl ester resin, which cures by polymerization of reactive vinyl groups in the presence of peroxide catalyst. The polymer structure is extremely chemical resistant and is reinforced with laminar flake pigments. |
| DESCRIPTION | Thick film heavy-duty vinyl ester lining designed to cure at ambient temperature conditions to provide exceptional structural strength and corrosion protection for surfaces in severe chemical and physical environments. It features a fast cure and early return to service time; and is formulated to be extremely hard, tough and abrasion resistant. |
| USE | Steel and concrete storage tanks and vessels, containment walls and floors, piping and processing equipment handling petroleum products such as sour crude, industrial waste and brine waters and water solutions containing salts, detergents, most solvents, acids, alkalis, and other chemicals. Provides a high degree of protection against corrosive moisture, fumes, carbon dioxide, hydrogen sulfide and methane gases. It is also resistant to petroleum products such as kerosene, diesel, gasoline, aviation fuels, motor oils, lubrication materials, greases, hydraulic fluids, alcohols; aliphatic and aromatic hydrocarbon solvents. Self-priming to steel, concrete and most surfaces or may be used in combination with CORCHEM [®] 243 PRIMER. |
| SERVICE LIMITATIONS | Temperature resistance up to 350°F (dry) and up to 180°F (wet) depending upon the individual exposure. CONTACT CORCHEM[®] FOR SPECIFIC RECOMMENDATIONS BEFORE PROCEEDING for immersion service and exposure to corrosive chemicals, elevated temperatures and/or pressures, or use with cathodic protection systems. Avoid sudden depressurization of lining. NOTE: Exterior insulation of tanks, vessels and processing equipment is recommended to prevent "cold wall effect" if interior lining is subject to elevated temperatures. |
| COLORS | Beige & Gray. |
| FINISH | Low Gloss. |
| CAUTION! | Chalking will occur with extended exposure to sunlight. |
| VOLUME SOLIDS | 100% (Theoretical) / 85% (Practical). Contains a volatile monomer. Substantial evaporation (loss) during application and curing may result. |
| DRY COVERAGE | Theoretical (no loss): 1600 sq. ft. per gallon for one mil (.001) / Practical (no loss): 1360 sq. ft. per gallon for one mil (.001). When computing working coverage, allow for substantial monomer evaporation, in addition to application loss and for surface irregularities. |
| DRY FILM THICKNESS | Normal / standard dry film thickness of 32 – 40 mils in two or more application coats. Can be applied up to 25 mils dry per coat. Multiple applications are recommended and may be necessary to achieve the specified or desired film thickness or due to variations in design configurations, application equipment, temperature and other factors. NOTE: See HAND LAY-UP METHOD for alternative system thickness. |

| COMPONENTS | Two. Use 2 - 2½ oz. of Peroxide Catalyst to 1-gallon Base material. | | | | | | | | | | | | | | | | |
|----------------------------|--|-------------|---------|------|------|---------------------|---------|---------|---------|---------------------|----------|----------|---------|------------------------|--------|--------|--------|
| POT LIFE | <1 hour @ 70°F (one gallon mixed quantity). Pot life is <u>significantly shorter for higher temperatures or larger quantities</u> and longer for lower temperatures or smaller quantities. | | | | | | | | | | | | | | | | |
| WARNING! | Check pot life and cure time before applying. Contact CORCHEM® for complete instructions on the amount and use of Peroxide Catalyst to reduce or extend pot life and cure time. Adding too little or too much Peroxide Catalyst will lower chemical and physical resistance properties. | | | | | | | | | | | | | | | | |
| VOC CONTENT | 178 gms/l or 1.5 lbs/gal. Conforms to United States National Volatile Organic Compound Emission Standards. | | | | | | | | | | | | | | | | |
| THINNER | CORCHEM® 16 STYRENE. Thin only as required for proper application. Do not exceed applicable volatile organic compound (VOC) regulations. DO NOT USE ANY OTHER TYPE OF THINNER. | | | | | | | | | | | | | | | | |
| APPLICATION METHODS | Air or airless spray, roller, brush (small areas), and hand lay-up method. | | | | | | | | | | | | | | | | |
| TEMPERATURES | Apply at 50°F to 100°F (Air and Surfaces) and 5°F above the dew point. Sudden and/or substantial temperature change during curing process or in-service conditions can cause film defects. | | | | | | | | | | | | | | | | |
| CURING TIME | Suggested curing schedule predicated upon application conditions where the mixed product, substrate, and ambient air temperatures are the same: | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Temperature</th> <th>50°F</th> <th>70°F</th> <th>90°F</th> </tr> </thead> <tbody> <tr> <td>Minimum Recoat Time</td> <td>8 Hours</td> <td>4 Hours</td> <td>2 Hours</td> </tr> <tr> <td>Maximum Recoat Time</td> <td>24 Hours</td> <td>16 Hours</td> <td>8 Hours</td> </tr> <tr> <td>Immersion – Final Cure</td> <td>7 Days</td> <td>5 Days</td> <td>3 Days</td> </tr> </tbody> </table> | Temperature | 50°F | 70°F | 90°F | Minimum Recoat Time | 8 Hours | 4 Hours | 2 Hours | Maximum Recoat Time | 24 Hours | 16 Hours | 8 Hours | Immersion – Final Cure | 7 Days | 5 Days | 3 Days |
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| Minimum Recoat Time | 8 Hours | 4 Hours | 2 Hours | | | | | | | | | | | | | | |
| Maximum Recoat Time | 24 Hours | 16 Hours | 8 Hours | | | | | | | | | | | | | | |
| Immersion – Final Cure | 7 Days | 5 Days | 3 Days | | | | | | | | | | | | | | |
| | Curing times are <u>significantly shorter for higher temperatures or lower thickness and are longer for lower temperatures or higher thickness.</u> | | | | | | | | | | | | | | | | |
| NOTICE! | For faster curing / return to service time and lower temperature applications CORCHEM® 243 WINTER GRADE PEROXIDE CATALYST may be desired. Heat curing will increase drying speed and improve resistance properties. Contact CORCHEM® for instructions and heat cure times. | | | | | | | | | | | | | | | | |
| PACKAGING | Five gallon pre-measured package kit [Peroxide Catalyst included]. | | | | | | | | | | | | | | | | |
| SHELF LIFE | 90 days from shipment date protected between 40°F and 100°F. | | | | | | | | | | | | | | | | |
| DOT/FLASH POINT | Flammable Liquid Classification. | | | | | | | | | | | | | | | | |
| PERFORMANCE DATA | Contact CORCHEM® for desired information. | | | | | | | | | | | | | | | | |
| SURFACE PREPARATION | Round off sharp edges and rough welds. Burrs and weld spatter should be completely removed. Surfaces must be clean, dry and free of any dirt, chalk, grease, oils, salts, and deleterious materials before application is performed. Vacuum the topside of all horizontal and sloped surfaces. Fill pitted steel by troweling CORCHEM® 263 FILLER SURFACER over pits leaving them flush with surface. | | | | | | | | | | | | | | | | |
| CARBON STEEL | Immersion or Severe Exposures: SSPC-SP-5 (White Metal Blast Cleaning). Metal surfaces should have an anchor profile of <u>three mils (.003) or more.</u> | | | | | | | | | | | | | | | | |
| CHIME AREA | Apply sufficient CORCHEM® 263 FILLER SURFACER to obtain a smooth radius of 1.5 inches (or make grout by mixing 4 parts clean, dry 100 mesh silica sand with 1 part CORCHEM® 263 FILLER SURFACER). Premix base grout and activator in small quantities and hand apply with trowel. | | | | | | | | | | | | | | | | |
| NON-FERROUS METALS | SSPC-SP-7 (Brush-Off Blast Cleaning). Coatings applied to these surfaces may not achieve the same degree of adhesion and toughness. | | | | | | | | | | | | | | | | |
| WELDING | Welding should precede coating. If already coated, follow instructions in U.S.A. Standard Z49.1 Safety in Welding and Cutting. | | | | | | | | | | | | | | | | |

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| CONCRETE AND MASONRY | Concrete and masonry to cure at least 28 days. Surface and substrate must be dry. Clean surfaces by abrasive "brush-off" blast. Level protrusions and repair cavities, voids, and cracks. Apply first application coat and back roll to <u>completely wet and thoroughly penetrate surface</u> to ensure that all irregularities are filled and sealed. |
| NOTICE! | This type coating may be slippery under wet conditions. It is recommended that an aggregate be broadcast over or incorporated into the coating to provide a nonslip surface if subject to pedestrian or vehicle traffic. |
| APPLICATION MIXING | All equipment should be cleaned with Methyl Ethyl Ketone (MEK) and then flush with CORCHEM® 16 STYRENE. Strain only if required for proper application. Add Peroxide Catalyst (Component A) into Base (Component B). Do not vary proportions. Power-stir until completely mixed and continue agitation during application. <u>Do not allow catalyzed material to stand in equipment after use!</u> Clean immediately with Methyl Ethyl Ketone (MEK). |
| APPLY | In an even wet coat. Ensure seams and irregularities are completely covered. Application below minimum or above maximum suggested dry film thickness ranges might adversely affect performance. Use of a thin or "mist" coat prior to regular application may be needed to reduce pinholing and/or blistering over a rough/porous type primer or substrate. |
| HAND LAY-UP METHOD | Use two or more layers of polyester felt or glass mat or other suitable fiber reinforcement. Adjoining layers must overlap by at least 3 inches. Apply a heavy coat of CORCHEM® 243 CHEMICAL RESISTANT ESTER at a rate of 25 square feet per gallon by roller or spray. Lay sections of fiber reinforcement into wet coating and work in thoroughly with ribbed metal roller to fully wet the fiber reinforcement and remove air bubbles. Minimum film thickness should be 60 mils (.060). Apply a topcoat by spray or roller to a minimum film thickness of 20 mils (.020). The total dry film thickness for the complete laminate system is a minimum of 80 mils (.080). Ensure all seams and irregularities are completely covered. |
| RECOAT AND REPAIR | If material has reached complete cure and hardness, or if subjected to extended exposure to sunlight, uniformly abrade the surface and feather the edges. The surface must be roughened sufficiently to provide a profile adequate to ensure a mechanical bond. |
| INSPECTION | Check for desired dry film thickness and for pinholes, holidays, bare areas, etc. before placing in operating service. Use 2500 - 3000 voltage spark detector on conductive substrates. |
| AIRLESS SPRAY | Graco or equal. Pump ratio 56:1 or higher, XTR-7 gun with fluid tip .023" or larger orifice size with Reverse-A-Clean tip, 3/8" I.D. or larger high pressure 5600 psi solvent resistant fluid line, 1/2" I.D. or larger air supply line. Continuous air source capable of 80 to 100 psi inbound pressure at pump. |
| GENERAL | Regulate pressure as required for proper application. Proportionally adjust pressure higher for smaller hose diameter and/or longer hose length and adjust pressure lower for larger hose diameter and/or shorter hose length. Select tip angles and orifice diameters according to application needs. |
| BRUSH | Short hair or natural bristle. |
| ROLLER | 3/8 inch or longer nap. Ribbed metal roller for hand lay-up application. |
| CLOTHING | Wear protective garments, shoes, goggles, and filter masks. Use protective barrier creams on exposed skin areas. |

TANKS & VESSELS

Use explosion-proof lighting and electrical equipment, non-sparking tools, clothes and shoes. Ground all structures and equipment. Use procedures that prevent static electrical sparks. Wear properly fitted appropriate NIOSH/MSHA approved fresh air respirator such as MSA or equal with 3/8" I.D. or larger air supply line connected directly to proper air source capable of producing grade D air during and after application unless air monitoring demonstrates vapor/mist levels are within safe limits. Use suction type exhaust fans and blowers with sufficient cfm capacity to keep solvent vapors below 20% of the explosive limit. **CAUTION!** Air circulation and exhausting of solvent vapors must be continued until the coatings have fully cured to insure that no potential for fire, explosion or health hazard remains.

SAFETY INFORMATION

THIS PRODUCT CONTAINS STYRENE AND VINYL ESTER RESINS. THE CATALYST (ACTIVATOR) USED IS AN ORGANIC PEROXIDE. DO NOT USE IF YOU HAVE HAD A REACTION TO THESE MATERIALS.

WARNING! FLAMMABLE! VAPOR HARMFUL! CAUSES SEVERE EYE AND SKIN BURNS. MAY CAUSE SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES. HARMFUL OR FATAL IF SWALLOWED!

Keep away from heat, sparks, and open flame. Use only with adequate ventilation. Prevent breathing of vapor or spray mists. Wear a properly fitted appropriate respirator during application and until all vapors and spray mists are gone. Prevent contact with eyes and skin. Do not take internally. Keep closures tight and upright to prevent leakage. Keep container closed when not in use. In case of spillage, absorb and dispose of in accordance with local applicable regulations. **FIRST AID:** In case of skin contact, wash thoroughly with soap and water; for eyes, flush immediately with plenty of water for 15 minutes and call a physician. Remove and wash contaminated clothing before reuse. (Discard contaminated shoes). If inhaled, remove to fresh air. If breathing difficulty persists or occurs later, consult a physician and have label and MSDS information available. If swallowed, **CALL A PHYSICIAN IMMEDIATELY. DO NOT INDUCE VOMITING.**

IN CONFINED SPACES AND TANKS OBEY SPECIAL SAFETY AND EQUIPMENT INSTRUCTIONS!

FOR INDUSTRIAL USE BY PROFESSIONAL APPLICATORS ONLY. NOT INTENDED FOR SALE TO THE GENERAL PUBLIC. This product should not be sold or delivered to any person under 18 years of age. KEEP OUT OF THE REACH OF CHILDREN! IF, FOR ANY REASON, ADDITIONAL PRODUCT AND SAFETY INFORMATION, INSTRUCTIONS OR EXPLANATIONS ARE NEEDED, CONTACT CORCHEM® IMMEDIATELY!

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Technical and application information is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and CORCHEM® CORPORATION makes no claim these tests or any other tests, accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating.

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