



ICI Devoe Coatings is a member of the ICI Paints World Group

BAR-RUST™ 235

Multi-Purpose Epoxy Coating

Cat. # 235KXXXX

PRODUCT DESCRIPTION

Generic: Advanced Technology Epoxy

General Description: A high performance, multi-purpose, surface tolerant, two-component chemically-cured epoxy semi-gloss coating.

Typical Uses: For use on properly prepared steel or masonry surfaces including immersion (non-potable water) service. Also for concrete floors, interior primed drywall, plaster, and wood surfaces. Ideal for structural steel, piping, storage tanks, machinery, and equipment in petroleum refineries, pulp and paper mills, chemical and fertilizer plants, and sewage treatment plants. Can also be used in the hard service areas of food processing plants, dairies, schools, restaurants, and general industrial buildings & structures.

Special Qualifications: Performance alternate for Federal Specifications TT-C-550 and TT-C-545, Mil-P-24441-Type I & II, Mil-C-22750D-Type I, and Mil-P-23377E-Type I, Mil-P-23236B-Type I & IV, Class 2, and Mil-P-24647B. Meets AWWA D102.

Suitable for use on structural surfaces or surfaces where there is a possibility of incidental food contact in commercial food preparation establishments, food processing plants and federally inspected meat and poultry plants. USDA no longer requires or furnishes product certification letters.

FEATURES

Advantages:

- Exceptional corrosion protection
- Suitable for salt & fresh water immersion
- Low temperature cure to 0°F (-18°C)
- Surface tolerant – abrasive blasting not required in most applications
- Excellent adhesion to tight rust
- Good adhesion to damp surfaces
- Self-priming for steel & masonry substrates
- Abrasion & chemical resistance is excellent
- **High solids – high film build**
- Low VOC

Limitations of Use: Exterior exposure will cause a color change, early dulling, and loss of gloss, but this does not affect protective properties. Epoxy coatings may yellow during application and cure if exposed to the combustion by-products of improperly vented fossil fuel burning heaters. Commonly finished with ICI Devoe Coatings DEVTHANE™ Urethane Enamel for maximum exterior color & gloss retention. Do not use for fuel or solvent immersion.

SPECIFICATION DATA

Color: Off White, ready-mixed and custom colors

Finish: Semi-Gloss

Reduction Solvent: T-10 Thinner. For application over aged alkyds use T-5 Thinner or Xylene.

Clean-up Solvent: T-10 Thinner

Weight/Gallon: 11.0 lbs./gal. (1.3 kg/L) – varies with color

VOC (EPA 24): 2.40 lbs./gal. (292 g/L) – varies with color

Solids By Volume (ASTM D 2697 – 7 days): 68%

Theoretical Coverage at 1.0 Mil (25 microns) Dry: 1091 sq. ft./gal. (28.0 m²/L)

Recommended Film Thickness: 4.0-8.0 mils (100-200 microns) dry – 5.9-11.7 mils (147-293 microns) wet. (Make allowances for loss due to overspray & irregular surfaces.)

Systems: Please consult the appropriate system guide, the particular job specification or your ICI Devoe Coatings' Industrial Coatings Specialist for proper systems using this product. Systems must be selected considering the particular environment involved.

Service Temperature Limits: 250°F (121°C) dry

Minimum Dry Time (ASTM D 1640): At 5 mils (125 microns) DFT

Substrate Temperature	20°F (-7°C)	40°F (4°C)	60°F (16°C)	80°F (27°C)
Minimum Recoat Dry Hard	28 Hours 46 Hours	11 Hours 18 Hours	6 Hours 9 Hours	3 Hours 5 Hours
Maximum Recoat				
Self	30 Days	30 Days	30 Days	30 Days
Devthane Urethane	7 Days	6 Days	5 Days	5 Days
229H	7 Days	6 Days	5 Days	5 Days

Warning: The above table provides general guidelines only. Always consult your ICI Devoe Coatings Specialist for appropriate recoat windows since the maximum aged recoat time of this product may be significantly shortened or lengthened by a variety of conditions, including, but not limited to humidity, surface temperature, and the use of additives or thinners. The use of accelerators or force curing may shorten the aged recoat of individual coatings. The above recoat windows may not apply if recoating with a product other than those listed above. If the maximum aged recoat window is exceeded, please consult your ICI Industrial Coatings Specialist for appropriate recommendations to enhance adhesion. Failure to observe these precautions may result in intercoat delamination.

Shelf Life: Over 24 months at 77°F (25°C) – unopened

Hardness (ASTM D 3363, 7 day cure @ 77°F (25°C): 3H

Mix Ratio By Volume: 4(base):1(converter) – see mixing instructions.

Induction: 15 minutes @ 77°F (25°C) – see mixing instructions.

Pot Life: 4.5 hours @ 77°F (25°C) & 50% R.H.

PERFORMANCE DATA

Adhesion: (ASTM D 4541) – Excellent

Salt Spray Resistance: (ASTM B 117) – Excellent

Direct Impact Resistance: (ASTM D 2794) – Very Good

Abrasion Resistance: (ASTM D 4060) – Excellent

Humidity Resistance: (ASTM D 2247) – Excellent

Water Immersion: (ASTM D 1308) – Excellent

Chemical Resistance: (ASTM D 1308 – 24 hr. contact) Excellent. Resists splash and spillage of alkalis, salts, moisture, oils, greases, foodstuffs and detergents, 50% Sodium Hydroxide, 28% Ammonia, 5% Trisodium Phosphate, 25% Citric Acid, 25% Lactic Acid, 10% Sulfuric Acid, Crude Oil, 10% Hydrochloric Acid, 20% Tannic Acid, 5% Sodium Chloride, 10% Ammonium Hydroxide, sewage.

GENERAL SURFACE PREPARATION

Surfaces must be dry, clean, free of oil, grease, form release agents, curing compounds, laitance, other foreign matter and be structurally sound. Remove all loose paint, mortar spatter, mill scale, and rust. All direct to metal coatings provide maximum performance over blasted surfaces. There are situations and cost limitations which preclude blasting. BAR-RUST 235 was designed to provide excellent protection over less than ideal surface preparation. The minimum standard for non-immersion service is SSPC-SP2 (SSI-St2); for immersion service the minimum standard is SSPC-SP3 (SSI-St3). **These minimum surface preparation standards apply to steel that has been previously abrasive blasted, coated and deteriorated.** Where very rusty surfaces still remain after cleaning use PRE-PRIME 167™ Sealer before application of BAR-RUST 235 Coating.

New Surfaces: Steel – New steel surfaces should be initially blasted to near-white metal surface cleanliness in accordance with SSPC-SP10 or SSI-Sa2 1/2 for immersion service or commercial blast cleanliness in accordance with SSPC-SP6 or SSI-Sa2 for non-immersion service. Blast profile on steel should be 1 1/2 to 2 1/2 mils (38-63 microns) in depth and be of a sharp, jagged nature as opposed to a “peen” pattern (from shot blasting). **Concrete Block** – Remove loose aggregate and repair

voids. Fill with this product, Tru-Glaze® 4010 or DEVTRAN® 265BHF. **Concrete Floors, Poured Concrete** – Cure at least 30 days. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Prime with PRE-PRIME 167 or this coating thinned with T-10 Thinner in a 4 to 1 ratio. **Drywall** – Prime with a premium acrylic latex vapor barrier primer sealer. **Interior Wood** – Prime with this product thinned 10% with T-10 Thinner. **Exterior Wood** – Not recommended over this surface. **Galvanized Steel** – Remove dirt and oils by solvent cleaning or with DEVPREP® 88 Cleaner followed by a thorough water rinsing. Prime with DEVTRAN 205 Epoxy Primer for non-immersion. For immersion or severe moisture condition, abrasive blasting is recommended before priming with DEVTRAN 201 Epoxy Primer.

Previously Painted Surfaces: Old coatings should be tested for lifting. If lifting occurs, remove the lifted coating. Otherwise scuff sand glossy areas and aged epoxy coatings. Clean aged epoxy or urethane coatings with DEVPREP 88 Cleaner. Remove cracked and peeling paint. Prime bare areas with primer specified under **New Surfaces**. If thinning is required, thin with T-5 Thinner or Xylene only when used over aged alkyd coatings.

DIRECTIONS FOR USE

Tinting: Tint only with CHROMA-CHEM 844 colorants. (Do not use water based colorants). Add colorants to only the base portion. Mix thoroughly before adding the Converter portion.

Thinning: Thinning is not normally required or desired. However, at extreme environmental conditions, small amounts (10% or less by volume) of the solvents on the reverse page can be added depending on local VOC and air quality regulations. When using BAR-RUST 235 over aged alkyds, use Devco Coatings T-5 Thinner. Any solvent addition should be made after the two components are thoroughly mixed.

Mixing: BAR-RUST 235 Coating is a two component product supplied in 5 gallon and 1 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. Power mix the base portion first to obtain a smooth, homogeneous condition. After mixing the base portion, add the converter slowly with continued agitation. After the converter add is complete, continue to mix slowly. Allow the mixed material to stand 15 minutes at 60-80°F (16-27°C) before use. Always restir before use. Mixed material is usable for 4.5 hours; if it thickens, do not add thinner, but discard and mix fresh material. Higher temperatures will reduce working life of the coating; lower temperatures will increase it. Surfaces coated with this product may become slippery when wet. For additional slip resistance in areas of pedestrian traffic, add one pound per gallon of coarse pumice or other texturing material.

Application: Spray is preferred for appearance and film build control. For air spray application, use a “Mastic” gun, a fluid tip of .070" or larger and an air cap with good break-up. The fluid pressure should be kept low, with just enough air pressure to get good break-up of the coating. Excessive air pressure can cause overspray problems. Where airless equipment is used, an airless

spray pump capable of 3,000 psi (207 bars) and .021" to .025" tip size will provide a good spray pattern. Ideally, fluid hoses should not be less than 3/8" ID and not longer than 50 feet to obtain optimum results. Longer hose length may require an increase in pump capacity, pressure, and/or thinning. Viscosity control best achieved using in-line heaters. BAR-RUST 235 Coating may also be applied by brush or roller. Care should be taken that proper and uniform thicknesses are obtained. For roller work use a clean synthetic roller with 1/4"-1/2" nap. New rollers should be thoroughly wet with the specified thinner and spun vigorously to remove loose fibers. Brushing and rolling may require multiple coats to achieve correct film thickness and/or hiding.

Spreading Rate: Apply at 130-250 sq.ft. per gallon (3-6m²/L) depending on surface texture and porosity. Make allowance for any losses due to overspray or surface irregularities.

Ventilation: It is very important for the safety of the applicator and the proper performance of the BAR-RUST 235 Coating that good ventilation with dry, fresh air be provided in enclosed areas to remove all solvent vapors. Since all solvent vapors are heavier than air, ventilation ducts should reach to the lowest portions of the enclosed areas as well as into any structural pockets. Ventilation should be provided throughout the cure period.

Topcoats: Can be used as a finish for interior areas. Accepts a variety of topcoats. In interior or exterior areas, DEVTHANETM Urethane Enamels could be used as a finish to enhance performance and/or appearance.

Dry Time: At 70°F (21°C) & 50% R.H., dries to recoat with epoxy or urethane in 5 hours and hard in 7 hours.

Clean-up: Use T-10 Thinner.

PRECAUTIONS

DANGER! COMBUSTIBLE LIQUID AND VAPOR. CAUSES EYE AND SKIN BURNS. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. HARMFUL IF INHALED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DIZZINESS, HEADACHE OR NAUSEA. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC SKIN AND RESPIRATORY REACTION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. OVEREXPOSURE MAY CAUSE BLOOD, LIVER, KIDNEY DAMAGE. CONTAINS CRYSTALLINE SILICA WHICH CAN CAUSE LUNG CANCER AND OTHER LUNG DAMAGE IF INHALED. CONTAINS MICA WHICH MAY CAUSE PNEUMOCONIOSIS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN.

NOTICE: Products in this series may contain solvents. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. For emergency information call (800) 545-2643. For additional safety information, refer to the Material Safety Data Sheet for this product. Keep away from heat, sparks and flame. **Do not smoke.** Vapors may ignite. Extinguish all flames, burners, stoves, heaters and pilot lights and disconnect all electrical motors and appliances before use and until all vapors are gone. If sanding is done, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID:** In case of skin contact, wash off **quickly** with plenty of soap and water, remove contaminated clothing. For eye contact flush **immediately** with large amounts of water, for at least 15 minutes. **Obtain emergency medical treatment.** If swallowed, **obtain medical treatment immediately.** If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs, **get medical help.** **Note: These warnings encompass the product series. Prior to use, read and follow product specific MSDS and label information.**

DS238-0999

SHIPPING

Freight Classification:	Paint	
Flash point:	100°F (38°C)	
Packaging:	1 gallon kit (3.785L)	5 gallon kit (18.925L)
	0.80 gallon base	4.00 gallon base
	0.20 gallon converter	1.00 gallon converter

Shipping Weight:	4 - 1 gallon kits - 45 lbs. (20.4 kg)
	5 gallon kit - 56 lbs. (25.4 kg)

235KXXX (3/00)
Ad Stock #68637D



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