

Surface Tolerant Epoxy

PRODUCT DESCRIPTION An ultra low VOC, high performance, multi-purpose, surface tolerant, two-component chemically-cured epoxy semi-gloss coating.

INTENDED USES A high performance, multi-purpose, surface tolerant, two-component chemically-cured epoxy semi-gloss coating for industrial applications. For use on properly prepared steel or masonry surfaces..

Performance alternate for Federal Specifications TT-C-550, TT-C-535B.

Ideal for use on structural steel, piping and tank exteriors. Also for equipment used in chemical, fertilizer and mining operations, power plants, petroleum refineries, pulp and paper mills and water and sewage treatment plants.

PRACTICAL INFORMATION FOR BAR-RUST 231LV

Color	White, Buff, Haze Gray, Red Oxide
Gloss Level	Semi-gloss
Volume Solids	67% ± 2%
Typical Thickness	4-8 mils (100-200 microns) dry equivalent to 6-12 mils (149-299 microns) wet
Theoretical Coverage	179 sq.ft/US gallon at 6 mils d.f.t and stated volume solids 4.50 m ² /liter at 150 microns d.f.t and stated volume solids
Practical Coverage	Allow appropriate loss factors
Method of Application	Airless Spray, Roller, Air Spray, Brush

Drying Time

Temperature	Touch Dry	Hard Dry	Overcoating Interval with recommended topcoats	
			Minimum	Maximum
41°F (5°C)	*1	48 hours	20 hours	18 days ²
59°F (15°C)	*1	18 hours	10 hours	16 days ²
77°F (25°C)	*1	9 hours	5 hours	14 days ²

¹ * not applicable

² Where overcoating is with self or other epoxy finishes, the maximum overcoating interval is 90 days.

REGULATORY DATA **Flash Point (Typical)** Part A 109°F (43°C); Part B 70°F (21°C); Mixed 99°F (37°C)

Product Weight 12.2 lb/gal (1.46 kg/l)

VOC 0.30 lb/gal (36 g/l) EPA Method 24

See Product Characteristics section for further details

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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 231LV was designed to provide excellent protection over less than ideal surface preparation. The minimum standard for non-immersion service is SSPC-SP2 or ISO8501-1:2007 St2; for immersion service the minimum standard is SSPC-SP6 or ISO8501-1:2007 Sa2. 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 231LV. All direct to metal coatings provide maximum performance over near-white blasted surfaces.

New Steel Substrates

Blast to near-white metal surface cleanliness in accordance with SSPC-SP10 or ISO8501-1:2007 Sa2½ for immersion service, or commercial blast cleanliness in accordance with SSPC-SP6 or ISO8501-1:2007 Sa2 for non-immersion service. Blast profile on steel should be 1.5 to 2.5 mils (38-62 microns) in depth and be of a sharp, jagged nature as opposed to a "peen" pattern (from shot blasting). Surfaces must be free of grit dust.

Concrete - New Concrete Block:

Remove loose aggregate and repair voids. Fill with Bar-Rust 231LV or Tru-Glaze-WB 4015 blockfiller.

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 Bar-Rust 231LV

Galvanized Steel

Remove dirt and oils by solvent cleaning or with Devprep 88 Cleaner or other suitable cleaner followed by a thorough water rinsing. Prime with Devran 203 or Devran 205 epoxy primers for non-immersion. For immersion or severe moisture condition, abrasive blasting is recommended before priming with this product or Devran 201H epoxy primer.

Previously Painted Surfaces

Old coatings should be tested for lifting. If lifting occurs, remove the 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 appropriate primer. If thinning is required, use T-5 Thinner only when used over aged alkyd coatings.

APPLICATION

Mixing	Material is supplied in two containers as a unit. Always mix a complete unit in the proportions supplied. Once the unit has been mixed it must be used within the working pot life specified.		
	(1)	Agitate Base (Part A) with a power agitator.	
	(2)	Agitate Curing Agent (Part B) with a power agitator.	
	(3)	Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.	
	Allow the mixed material to stand 15 minutes before use.		
Mix Ratio	4 part(s) : 1 part(s) by volume		
Working Pot Life	41°F (5°C)	59°F (15°C)	77°F (25°C)
	8 hours	6 hours	5 hours
Airless Spray	Suitable	Tip Range 19-25 thou (0.48-0.63 mm) Total output fluid pressure at spray tip not less than 3000 psi (211 kg/cm ²)	
Air Spray (Conventional)	Suitable	See Product Characteristics section for further details	
Brush	Suitable		
Roller	Suitable		
Thinner	T-0 Thinner (or #800 solvent)	See Product Characteristics section for further details	
Cleaner	T-0 Thinner (#4267 Low VOC Cleaning Thinner)		
Work Stoppages	Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with T-0 Thinner (or #4267 thinner). Once units of paint have been mixed they should not be resealed and it is advised that after prolonged stoppages work recommences with freshly mixed units.		
Clean Up	Clean all equipment immediately after use with T-0 Thinner (or #4267 thinner). It is good working practice to periodically flush out spray equipment during the course of the working day. Frequency of cleaning will depend upon amount sprayed, temperature and elapsed time, including any delays. All surplus material and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.		

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PRODUCT

Advantages:

CHARACTERISTICS

- Excellent corrosion protection
- Suitable for salt & fresh water immersion
- Cold weather cure – Use cold weather additive for application down to 25°F (-4°C)
- Surface tolerant
- Excellent adhesion to tight rust
- Self-priming on steel or masonry

Application at low temperatures: For substrate temperatures between 25°F (-4°C) and 41°F (5°C), one pint container of DC060A0000 may be added to a 5 gallon kit of Bar-Rust 231LV. Thoroughly mix the DC060A0000 additive into the Part B (converter) with a power mixer. It should be noted that use of the cold weather additive will shorten the pot life.

For air spray application:

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. Use a fluid tip of 0.070" (1.78mm) or larger, a professional grade conventional gun 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.

In common with all epoxies, Bar-Rust 231LV will chalk and discolor on exterior exposure. However, these phenomena are not detrimental to anti-corrosive performance. Bar-Rust 231LV may yellow during application and cure if exposed to the combustion by-products of improperly vented fossil fuel burning heaters.

Where a durable cosmetic finish with good gloss and color retention is required, overcoat with recommended topcoats.

In the South Coast Air Quality Management District, if thinning is required then small amounts, 5% or less by volume, of T-0 Thinner (or 15% or less by volume of #800 VOC Compliant Reducer) may be added. Any solvent addition should be made after the two components are thoroughly mixed.

VOC when thinned:

<100g/l (0.83 lbs/gall) when thinned with T-0 Thinner or #800 VOC compliant reducer.

Note: VOC values are typical and are provided for guidance purpose only. These may be subject to variation depending on factors such as differences in color and normal manufacturing tolerances.

Low molecular weight reactive additives, which will form part of the film during normal ambient cure conditions, will also affect VOC values determined using EPA Method 24.

SYSTEMS COMPATIBILITY

Bar-Rust 231LV is normally applied directly to blast cleaned steel; however, it can be applied over the following primers when required:

Cathacoat 305

The following topcoats are approved for use with Bar-Rust 231LV:

Devthane 378H
Devthane 379H

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ADDITIONAL INFORMATION

Further information regarding industry standards, terms and abbreviations used in this data sheet can be found in the following documents available at www.international-pc.com:

- Definitions & Abbreviations
- Surface Preparation
- Paint Application
- Theoretical & Practical Coverage

Individual copies of these information sections are available upon request.

SAFETY PRECAUTIONS

This product is intended for use only by professional applicators in industrial situations in accordance with the advice given on this sheet, the Material Safety Data Sheet and the container(s), and should not be used without reference to the Material Safety Data Sheet (MSDS) which International Protective Coatings has provided to its customers.

All work involving the application and use of this product should be performed in compliance with all relevant national, Health, Safety & Environmental standards and regulations.

In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation.

If in doubt regarding the suitability of use of this product, consult International Protective Coatings for further advice.

PACK SIZE	Unit Size	Part A		Part B	
		Vol	Pack	Vol	Pack
	1 US gal	0.8 US gal	1 US gal	0.2 US gal	1 US quart
	5 US gal	4 US gal	6 US gal	1 US gal	1 US gal
For availability of other pack sizes contact International Protective Coatings					
SHIPPING WEIGHT (TYPICAL)	Unit Size	Part A		Part B	
	1 US gal	11 lb		2.4 lb	
	5 US gal	53.8 lb		13.4 lb	
STORAGE	Shelf Life	24 months minimum at 77°F (25°C). Subject to re-inspection thereafter. Store in dry, shaded conditions away from sources of heat and ignition.			

Disclaimer

The information in this data sheet is not intended to be exhaustive; any person using the product for any purpose other than that specifically recommended in this data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at their own risk. All advice given or statements made about the product (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability at all for the performance of the product or for (subject to the maximum extent permitted by law) any loss or damage arising out of the use of the product. We hereby disclaim any warranties or representations, express or implied, by operation of law or otherwise, including, without limitation, any implied warranty of merchantability or fitness for a particular purpose. All products supplied and technical advice given are subject to our Conditions of Sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is liable to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to check with their local representative that this data sheet is current prior to using the product.

This Technical Data Sheet is available on our website at www.international-marine.com or www.international-pc.com, and should be the same as this document. Should there be any discrepancies between this document and the version of the Technical Data Sheet that appears on the website, then the version on the website will take precedence.

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