Bar-Rust® 235

Surface Tolerant Epoxy

PRODUCT DESCRIPTION

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

INTENDED USES

For use on properly prepared steel or masonry surfaces including immersion (non-potable water) service. Ideal for structural steel, piping, storage tank exteriors, machinery, and equipment in petroleum refineries, pulp and paper mills, chemical and fertilizer plants, and sewage treatment plants.

Performance alternate for Federal Specifications TT-C-550 and TT-C-545. Meets AWWA D102

PRACTICAL INFORMATION FOR BAR-RUST 235

Color	Off White, custom and ready-mix colors
Gloss Level	Semi-gloss
Volume Solids	68% ± 2%
Typical Thickness	4-8 mils (100-200 microns) dry equivalent to 5.9-11.8 mils (147-294 microns) wet
Theoretical Coverage	182 sq.ft/US gallon at 6 mils d.f.t and stated volume solids 4.53 m²/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

			Overcoating Interval with recommended topcoats	
Temperature	**Touch Dry**	**Hard Dry**	*Minimum*	*Maximum*
23°F (-5°C)	*[1]	46 hours	28 hours	7 days[2]
41°F (5°C)	*[1]	18 hours	11 hours	6 days[2]
59°F (15°C)	*[1]	9 hours	6 hours	5 days[2]
77°F (25°C)	*[1]	5 hours	3 hours	5 days[2]

[1] * not applicable
[2] Where overcoating is with self or other epoxy finishes, the maximum overcoating interval is 30 days.

REGULATORY DATA

Flash Point (Typical)	Part A 100°F (38°C); Part B 100°F (38°C); Mixed 100°F (38°C)	
Product Weight	11.0 lb/gal (1.32 kg/l)	
VOC	2.43 lb/gal (292 g/lt)	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 235 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 235. All direct to metal coatings provide maximum performance over near-white blasted surfaces.

New Surfaces:

Steel
New steel surfaces should be initially abrasive blasted to near-white metal surface cleanliness in accordance with SSPC-SP10 or ISO8501-1:2007 Sa2.5. Blast profile on steel should be at least 2.5 mils (63 microns) in depth and be of a sharp, jagged nature as opposed to a “peen” pattern (typically obtained in shot blasting).

Concrete Block:
Remove loose aggregate and repair voids. Fill with Bar-Rust 235.

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 235

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 201H 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 International GTA007 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) Combine entire contents of Curing Agent (Part B) with Base (Part A) and mix thoroughly with power agitator.

Mix Ratio
4 part(s) : 1 part(s) by volume

Working Pot Life

23°F (-5°C)	41°F (5°C)	59°F (15°C)	77°F (25°C)
6 hours	5 hours	5 hours	4.5 hours

Airless Spray	Recommended	Tip Range 19-25 thou (0.48-0.63 mm) Total output fluid pressure at spray tip not less than 3000 psi (211 kg/cm²) See Product Characteristics section for further details
Air Spray (Conventional)	Suitable	See Product Characteristics section for further details
Brush	Suitable	
Roller	Suitable	
Thinner	International GTA220 or International GTA610 (International GTA007)	Not normally required See Product Characteristics section for further details
Cleaner	International GTA220 or International GTA610	

Work Stoppages
Do not allow material to remain in hoses, gun or spray equipment. Thoroughly flush all equipment with Interntional GTA220 or International GTA610. 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 International GTA220 or International GTA610. 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 materials and empty containers should be disposed of in accordance with appropriate regional regulations/legislation.

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PRODUCT CHARACTERISTICS

Advantages:

- Exceptional corrosion protection
- Suitable for salt & fresh water immersion
- Low temperature cure to 0°F (-18°C), minimum surface application temperature 20ºF (-7ºC)
- Surface tolerant
- Good adhesion to damp surfaces
- Self-priming for steel & masonry substrates
- Fast Recoat
- High solids – high film build

For airless spray application: Use an airless spray pump capable of 3,000 psi (207 bars) and .019" 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.

For air spray application: Use a fluid tip of .070" 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. Excessive air pressure can cause over-spray problems.

Bar-Rust 235 may yellow during application and cure if exposed to the combustion by-products of improperly vented fossil fuel burning heaters.

Tinting: Tint the appropriate base (Part A) with industrial colorants. Mix thoroughly before curing agent (Part B) is added.

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

Thinning is not normally required or desired; however, at extreme environmental conditions, small amounts (15% or less by volume) of International GTA220 or International GTA610 can be added depending on local VOC and air quality regulations. When using Bar-Rust 235 over aged alkyds, use International GTA007. Any solvent addition should be made after the two components are thoroughly mixed.

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.

SYSTEMS COMPATIBILITY

The following primers are recommended for Bar-Rust 235:

Bar-Rust 235	Cathacoat 302H
Cathacoat 302HB	Devran 201H
Devran 203	Pre-Prime 167

The following topcoats are recommended for Bar-Rust 235:

Devthane 349	Devthane 359H
Devthane 379	Devthane 379H
Interthane 870	Interthane 990
Interthane 990V	

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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 Safety Data Sheet and the container(s), and should not be used without reference to the Safety Data Sheet (SDS).

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 AkzoNobel 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 AkzoNobel.

SHIPPING WEIGHT (TYPICAL)

Unit Size	Part A	Part B
1 US gal	9 lb	2.2 lb
5 US gal	44.7 lb	11.2 lb

STORAGE

Shelf Life	24 months minimum at 77ºF (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.

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