



AMERON
INTERNATIONAL

Performance Coatings & Finishes

Amercoat® 431

Moisture cured zinc rich polyurethane primer with MIO

Product Data/ Application Instructions

- Single component zinc rich primer
- Contains micaceous iron oxide
- Tolerant of damp, cold, humid, or foggy application conditions
- Excellent corrosion resistance
- Cures down to 20°F

Typical Uses

Amercoat 431 is a moisture cured zinc rich polyurethane primer for use on steel cleaned by wet or dry abrasive blasting. It is compatible with damp substrates. With suitable topcoats Amercoat 431 can be used for the protection and maintenance of:

- Steel structures in the chemical and petrochemical industry, power plants, tank farms, waste treatment plants;
- Bridges and related structures

Systems Using Amercoat 431

Amercoat 431 is normally applied as a shop or field-applied primer in a multi-coat moisture cured polyurethane system. Topcoats should not be applied until Amercoat 431 is cured. For topcoats, use recommended polyurethane or epoxy. Should bubbling be encountered, apply a first coat of material reduced as permitted with recommended thinner, and then follow with a second normal coat.

Primer	Intermediate Coat	Finish Coat
Amercoat 431	Amercoat 433	Amercoat 434
Amercoat 431	Amercoat 370	V40 or V41, 450HS PSX1001

Physical Data

Finish	Flat	
Color	Gray	
Components	1	
Volume solids	61% ± 2%	
Dry film thickness per coat	3-4 mils (75-100 microns)	
Coats	1	
Theoretical coverage	ft ² /gal	m ² /L
3 mil (75 microns)	326	7.9
VOC	lb/gal	g/L
unthinned	2.8	340
thinned (¾ pt/gal)	3.2	383
Temperature resistance	°F	°C
continuous	325	163
intermittent	375	191
Flash point (SETA)	°F	°C
Amercoat 431	75	24
Amercoat 915	75	24
Amercoat 65	78	27
Amercoat 101	145	63
Amercoat 12	2	-17

Application Data

Applied over	Prepared steel
Surface preparation	SSPC-SP6, 10, or 12
Method	Airless or conventional spray, brush or roller

Environmental conditions

Temperature	°F	°C
air	20 to 120	-7 to 50
surface	20 to 120	-7 to 50
Relative humidity	40% minimum	

Drying time ASTM D1640 @ 50% RH(hours)

	F/°C				
	90/32	70/21	50/10	30/-1	20/-7
touch	1	2	4	8	12
hard	4	6	12	18	24

Note: At relative humidities below 40%, drying will be retarded.

recoat

minimum (hours)	4	6	12	18	24
maximum (months)	2	2	2	2	2

Roughen surface if maximum recoat time is exceeded

Thinner	Amercoat 65, 101, or 915
Equipment cleaner	Thinner or Amercoat 12

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities. This mixed product is photochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.

Surface Preparation

Coating performance is proportional to the degree of surface preparation. Surface must be cleaned, undamaged and free of all contaminants, including salt deposits. Round off all rough welds and sharp edges, remove all weld spatter. For wet blasting, contact Ameron representative on compatible inhibitors to protect the steel for a limited period against flash rust prior to the application of the primer. Amercoat 431 can be applied on damp substrates at high humidities. Do not apply over wet surfaces or puddles of water.

Steel – Clean steel by dry abrasive blast cleaning to SSPC- SP6 or better

Blast to achieve a 1½ to 2½ mils (38 to 63 microns) anchor profile as indicated by a Keane-Tator Surface Profile Comparator, Testex Tape or similar device. Remove abrasive residue or dust from surface. Previously blasted steel may be ultra-high pressure water jetted to SSPC/NACE WJ-2/SC-2. The wet surface can be dried by blowing with dry compressed air giving special attention to horizontal surfaces and recesses. A damp substrate is acceptable.

Application Equipment

The following equipment is listed as a guide and suitable equipment from other manufacturers may be used.

Adjustments of pressures and change of tip size may be needed to obtain the proper spray characteristics.

Airless spray – Standard airless spray equipment such as Graco, DeVilbiss, Nordson-Bede, Speeflo, or others having a 30:1 or higher pump ratio and a **fine finish fluid tip** with a 0.017- to 0.021-inch orifice.

Conventional spray – Industrial spray equipment such as DeVilbiss 510 gun with 704 air cap and 0.55 to 0.73 fluid tip. Separate air and fluid pressure regulators, mechanical pot agitator and moisture and oil trap in the main air supply line are recommended.

Brush – Natural bristle. Maintain a wet edge.

Roller – Industrial solvent-type. Level any air bubbles with a bristle brush. Short nap rollers (no greater than ¾ in.) will help minimize bubbling.

Application Procedure

1. Clean all equipment with Amercoat 12 or thinner.
2. If thinning is necessary for workability, thin with up to ¾ pt of Amercoat 65, 101, or 915 per 1 gal of Amercoat 431.
3. Spray on heavy wet coat, making even parallel passes overlapping each pass 50%. Follow with a 'cross spray' pass at right angles to first pass. Give special attention to angles, corners, rough spots, edges, etc. to avoid pinholes, bare areas and holidays.
4. The application of a wet film thickness of 5 mils (125 microns) will normally provide 3 mils (75 microns) of dry film thickness. Avoid application of wet film thickness in excess of 7 mils, as bubbling may result.
5. Check dry film with non-destructive dry film thickness gauge, such as Elcometer or Mikrotest. If less than 3 mils (75 microns), add material to bring film thickness up to requirements.
6. To repair or touch up bare areas, pinholes or holidays, simply apply additional materials.
7. In confined areas ventilate with clean air during application and drying until all solvents are removed.
8. Clean all equipment with thinner or Amercoat 12 immediately after use or at least after each working day or shift.

Shipping Data

Packaging units	1-gal	3-gal
Shipping weight (approx)	lb	kg
1-gal	24.8	11.3
3-gal	73.4	33.4

Shelf life when stored indoors at 40 to 85°F (4 to 29°C)
12 months from manufacture date

Safety Precautions

Read the material safety data sheet before use. Safety precautions must be strictly followed during storage, handling and use.

CAUTION – Improper use and handling of this product can be hazardous to health and cause fire or explosion.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep spray mists and vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. Ameron makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which Ameron is unaware and over which it has no control.

If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.

Note: Consult Code of Federal Regulations Title 29, Labor, parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

This product is for industrial use only. Not for residential use.

Warranty

Ameron warrants its products to be free from defects in material and workmanship. Ameron's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Ameron's option, to either replacement of products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by Buyer to Ameron in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify Ameron of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

Ameron makes no other warranties concerning the product. No other warranties, whether express, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall Ameron be liable for consequential or incidental damages.

Any recommendation or suggestion relating to the use of the products made by Ameron, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

Limitation of Liability

Ameron's liability on any claim of any kind, including claims based upon Ameron's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or part thereof which give rise to the claim. **In no event shall Ameron be liable for consequential or incidental damages.**



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