

Mil-DTL-24441 Type III

Multi-purpose epoxy

Product Data/ Application Instructions

- Qualified to Mil-DTL-24441
- Multi-purpose high build epoxy
- Primer for durable systems with a wide range of topcoats; including polyurethanes and acrylics
- Suitable for immersion service

Physical Data

Finish	Flat	
Colors		
Formula 150	Green Primer	
Formula 151	Haze Gray	
Formula 152	White	
Formula 153	Dark Gray RO 1.8	
Formula 154	Dark Gray RO 3.6	
Formula 155	Dark Gray RO 6.0	
Formula 156	Red	
Components	2	
Curing mechanism	Solvent release and chemical reaction between components	
Volume solids (ASTM D2697 modified)	60% ± 3%	
Dry film thickness per coat	4 to 8 mils (100 to 200 microns)	
Coats	1, 2, or 3	
Theoretical coverage	ft ² /gal	
Mil-DTL-24441		
1 mil (25 microns)	962	
4 mils (100 microns)	240	
VOC	lb/gal	g/L
(EPA method 24)		
Mil-DTL-24441 mixed	<2.8	<340
Temperature	Dry	
	°F	°C
continuous	200	93
intermittent	250	121
Flash point (SETA)	°F	°C
cure	100	37
resin	100	37
Amercoat 65	81	27
Amercoat 101	145	63

Application Data

Applied over substrates	Steel, aluminum, galvanizing		
Primer	Formula 150		
Method	Airless, conventional spray, brush or roller		
Mixing ratio (by volume)	1 part resin to 1 part cure		
Pot life (hours)	°F/°C		
	90/32	70/21	50/10
	3	6	7
Induction Time	°F		
	90°F	70°F	50°F
	30 min	1 hour	2 hours

Environmental conditions

Temperature	°F	°C
air and surface	40 to 120	5 to 49

Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation.

Drying time (ASTM D1640) @ 6 mils, DFT (hours)

	°F/°C			
	90/32	70/21	50/10	40/5
through	10	16	24	48

Topcoat or recoat time

minimum	°F/°C			
	8	12	18	24

Topcoat or recoat time

(days) (maximum)	°F/°C			
	90/32	70/21	50/10	
	5	7	10	

Drying times are dependent on air and surface temperatures as well as film thickness, ventilation and relative humidity. Maximum recoating time is highly dependent upon actual surface temperatures - not simply ambient air temperatures. Surface temperatures should be monitored, especially with sun-exposed or otherwise heated surfaces. Higher surface temperatures shorten the maximum recoat window.

Time before service @ 8 mils (hours)

	°F/°C			
	90/32	70/21	50/10	40/5
immersion (days)	5	7	10	14
non-immersion (hours)	12	24	36	72

Thinners (up to ½ pt)

above 70°F (21°C)	Amercoat 101
below 70°F (21°C)	Amercoat 65

In confined areas thin with Amercoat 101

Equipment cleaner Thinner or Amercoat 12

Adhere to all application instructions, precautions, conditions and limitations to obtain the maximum performance. When used over recommended primers, refer to application instructions for the specific primer being used for surface preparation data and application and drying procedures. For conditions outside the requirements or limitations described, contact your PPG representative.

Surface Preparation

Coating performance is proportional to the degree of surface preparation. Refer to specifications for the specific primer being used. Prior to coating, primed surface must be clean, dry, undamaged and free of all contaminants including salt deposits. Round off all rough welds and remove all weld spatter.

Steel – Remove all loose rust, dirt, grease or other contaminants by one of the following depending on the degree of cleanliness required: SSPC-SP2, 3, 6 or 7. For more severe service and immersion, clean to SSPC-SP10. SSPC-SP12 (WJ-2L) is also acceptable over a previously blasted surface. The maximum soluble salt content for saltwater immersion should be 3 µg/cm². The choice of surface preparation will depend on the system selected and end-use service conditions.

Blast to achieve a dense, angular anchor profile of 2.0-4.0 mils (50-100 microns) as indicated by a Keane-Tator Surface Profile Comparator or Testex Tape. Increase coating thickness if profile greater than 3 mils.

Galvanizing – Remove oil or soap film with neutral detergent or emulsion cleaner; then use zinc treatment such as Galvaprep® or equivalent or blast lightly with fine abrasive.

Aluminum – Remove oil, grease or soap film with neutral detergent or emulsion cleaner; treat with Alodine® 1200, Alumiprep® or equivalent or blast lightly with fine abrasive.

Repair – Prepare damaged areas to original surface preparation specifications, feathering edges of intact coating. Thoroughly remove dust or abrasive residue before touch up.

Application Equipment

Airless spray – Standard equipment such as Graco Bulldog or larger with a 0.15- to 0.021- in. (0.38 to 0.53 mm) fluid tip.

Conventional spray – Industrial equipment such as DeVilbiss MBC or JGA spray gun with 78 or 765 air cap and “E” fluid tip, or Binks No. 18 or 62 gun with a 66 x 63PB nozzle set up. Separate air and fluid pressure regulators, and a moisture and oil trap in the main air supply line are recommended.

Power mixer – Jiffy Mixer powered by an air or an explosion-proof electric motor.

Brush – Natural bristle. Maintain wet edge.

Roller – Use industrial roller. Level any air bubbles with bristle brush.

Application Procedure

Mil-DTL-24441 consists of two components which must be mixed together before use. It is packaged in the proper portions in 2- or 10-gallon units.

1. Flush equipment with thinner or Amercoat 12 before use.
2. Stir each component thoroughly, then combine resin and cure and mix until uniform.
3. Thin only if necessary for workability, add Amercoat 65 up to ½ pint (approximately 6%) per gallon of Mil-DTL-24441. Use Amercoat 65 when faster drying is desired. Use only PPG recommended thinners.
4. Do not mix more material than will be used within pot life. Pot life is shortened by higher temperatures.
5. For conventional spray, use adequate air pressure and volume to ensure proper atomization.
6. Apply a wet coat in even, parallel passes; overlap each pass 50 percent. If required, cross-spray at right angles to avoid holidays, bare areas and pinholes.
7. Normal recommended dry film thickness per coat is 4 to 6 mils. However, if greater thickness is applied in local areas because of overlapping, no runs or sags will normally occur at a dry film thickness up to 10 mils for Mil-DTL-24441.
8. A wet film thickness of 7 mils (175 microns) normally provides 4 mils (100 microns) of dry film.
9. When using brush or roller application method, additional coats may be required to achieve proper film thickness.
10. When a pinhole-free film is required, check film continuity of material with a nondestructive holiday detector such as Tinker and Razor Model M-1. Apply additional Mil-DTL-24441 to areas requiring touch up.
11. Clean all equipment with thinner or Amercoat 12 immediately after use.



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