Aeroglaze® M1433 Elastomeric Coating

Description

Aeroglaze® M1433 elastomeric coating is a gray, two-component polyurethane coating designed for protecting radomes, antennae and leading edges of aircraft. Aeroglaze M1433 elastomeric coating functions exceptionally well in abrasive environments and is qualified to Military Specification MIL-PRF-85322.

Features and Benefits

Durable – provides excellent resistance to abrasion, erosion and impact; flexible over a wide temperature range; conforms to ASTM D-16 Type IV classification.

Easy to Apply – can be applied by pressure pot or HVLP spray equipment; builds thick films easily with one application of multiple coats.

MIL-PRF-85322 Compliant – meets requirements of Military Specification MIL-PRF-85322.

Topcoat Compatible – can be topcoated with a wide variety of aliphatic moisture-cure or two-component polyurethane coatings, including Aeroglaze and Chemglaze® coatings.

Application

Surface Preparation – Solvent wipe the composite surface with Aeroglaze 9958 thinner to remove all oil, grease and dirt. Lightly sand the surface using an emery cloth or 320-500 grit sandpaper. Solvent wipe the surface a second time to remove dirt and dust.

- Reclaiming a Coated Composite Surface
  If wash primer was used prior to coating application, cured coating can be removed by cutting the coating with a sharp blade then covering the area with clean rags that have been soaked in Aeroglaze 9958 thinner or MEK. The solvents will dissolve the wash primer permitting easy removal of the cured coating.

Mixing – Mix ratio of Aeroglaze M1433 coating is 3:1, M1433A component to M1433B component by volume. Thoroughly stir Aeroglaze M1433A component before use. While stirring, add Aeroglaze M1433B component. Thoroughly mix the coating until uniform in color and consistency.

Note: Both Aeroglaze M1433A and M1433B components are sensitive to atmospheric moisture, especially M1433B component. Only open Aeroglaze M1433B component when ready to use.

Typical Properties*

	M1433A Component	M1433B Component
Appearance	Gray Liquid	Light Yellow to Deep Burgundy Liquid
Viscosity, cps @ 25°C (77°F) ASTM D 2196-86, Brookfield LVT Spindle 3, 30 rpm	700-1500	water thin
Density ASTM D 1475-85		
kg/L	1.04-1.05	0.83-0.90
(lb/gal)	(8.65-8.8)	(6.9-7.53)
Solids Content by Weight, % ASTM D 2369-87 modified	70.8-74.8	24.3
Flash Point (Seta), °C (°F) ASTM D 3278-82, Closed Cup	18 (66)	43 (110)
Volatile Organic Content (VOC) ASTM D 3960-87		
g/L	297.2	636
(lb/gal)	(2.48)	(5.31)

*Data is typical and not to be used for specification purposes.

Applying – Apply primer and coatings by pressure pot or HVLP spray equipment. In many instances, a pressure pot spray gun was found to work better than a HVLP spray gun for the elastomeric coating application.

- Primer
  Apply Aeroglaze 9924, Aeroglaze 9924V or Aeroglaze 9947 wash primer to the substrate surface. For maximum adhesion of Aeroglaze M1433 elastomeric coating to the substrate, the dry film thickness of Aeroglaze wash primer should be 7.6-12.7 micron (0.3-0.5 mil).

  Allow primer to thoroughly dry before applying elastomeric coating. For further details on the use of Aeroglaze wash primers, refer to the appropriate data sheet.

- Aeroglaze M1433 Midcoat
  Apply Aeroglaze M1433 elastomeric coating at ambient substrate and surface temperature of at least 10°C (50°F), with substrate temperatures at 3°C (5°F) above the dew point. Spray apply coating using multiple passes to obtain a dry film thickness of 203-356 micron (8-14 mil). Feather the elastomeric coating toward the trailing edge. Allow Aeroglaze M1433 elastomeric coating to cure a minimum of 3-4 hours at 23.9°C (75°F) before topcoating.

- Topcoat
  Aeroglaze M1433 elastomeric coating is not a cosmetic coating; it will change color and chalk when exposed to UV. Apply an aliphatic urethane topcoat, such as an Aeroglaze or Chemglaze aliphatic moisture-cure or two-component polyurethane coating, or comparable coating.

  Topcoat application must be applied before the elastomeric coating has cured for 24 hours. Refer to the appropriate data sheet for details.

Curing – Cure begins immediately once Aeroglaze M1443A and M1443B components are mixed. Aeroglaze M1433 elastomeric coating cures by reacting with moisture in the air. Cure rate is dependent on the temperature, relative humidity and amount of air circulation needed to remove the solvent.

The applied elastomeric coating must be cured above 10°C (50°F) and 60% relative humidity. If the percent relative humidity drops between 30-40%, moisture should be supplied by steam or water to the curing environment.

Typical Properties* of Mixed Coating

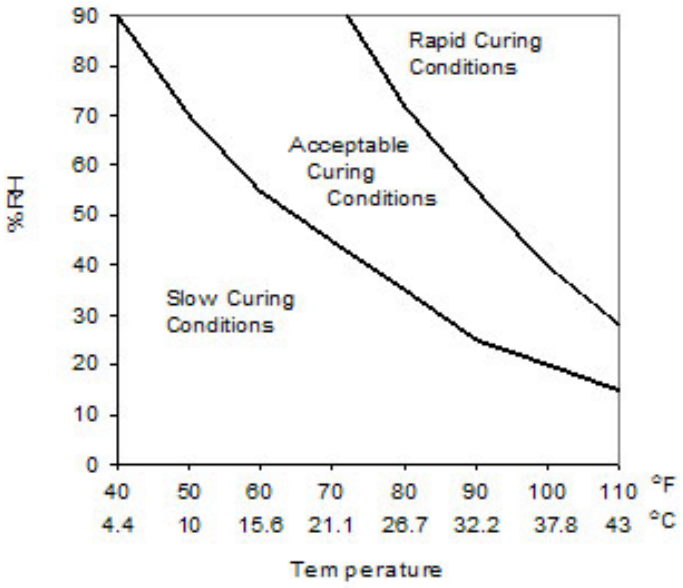
Mix Ratio, A Component to B Component	
by Volume	3:1
by Weight	3.74:1
Mixed Appearance	Gray
Viscosity, cps @ 25°C (77°F) ASTM D 2196-86, Brookfield LVT Spindle 3, 30 rpm	200-600
Density, kg/L (lb/gal) ASTM D 1475-85	0.98 (8.2)
Solids Content by Weight, % ASTM D 2369-87 modified	58
Volatile Organic Content (VOC), g/L (lb/gal) ASTM D 3960-87	419.4 (3.5)
Working Life, hr @ 23°C (73°F)	2
Dry Film Coating Weight, gm/ft^2 0.5 mil thickness	2.69

*Data is typical and not to be used for specification purposes.

Under the acceptable curing conditions (see Temperature/Relative Humidity Graph), the coating will set to touch in 15-30 minutes, surface dry in 1-2 hours, and dry hard in 4-6 hours. Lower temperatures and humidities will retard cure.

Cleanup – Use Aeroglaze 9958 thinner or methyl ethyl ketone (MEK) to clean equipment. Clean spray equipment immediately after use since the coating will cure inside guns, filter screens and hoses. Circulate solvent through the hoses for at least 15 minutes to help flush and clean the hoses.

Temperature/Relative Humidity Graph



Typical Cured Properties*

Hardness Shore A	95
Tensile Strength, MPa (psi) ASTM D 882-83 Method A	34.5 (5000)
Elongation at Break, % ASTM D 882-83 Method A	500

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Shelf Life/Storage

Shelf life is six months from date of shipment when stored in a dry environment at 16-24°C (60-70°F) in original, unopened container. If the storage temperature drops below 10°C (50°F), Aeroglaze M1433B component may crystallize. Allow material to return to recommended storage temperature for two days to remove crystallization before using. Do not mix or use material until crystallization is removed.

Cautionary Information

Before using this or any SOCOMORE product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Values stated in this technical data sheet represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact SOCOMORE.

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Since 1972, SOCOMORE has been creating, manufacturing and commercializing expert solutions for the preparation, protection, treatment and control of metallic and composite materials. Our commitment goes beyond the technical performance of our products. Our technical and commercial teams have an in-depth knowledge of the technology used by our clients, their work methods, the complexity of their processes and their constraints. Our experienced teams work with our clients to provide solutions to their problems, contribute to their technical specifications, and jointly develop new products. Located worldwide, we offer our customers a complete personalized service, with advice both before and after sales.

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