



Aeroglaze® M1433 Elastomeric Polyurethane Rain Erosion Coating

Typical Properties* of Aeroglaze M1433 Coating

| | Aeroglaze M1433A | Aeroglaze M1433B | Mixed |
|---|------------------|------------------|-----------|
| SOLIDS CONTENT, ASTM D 2369-87 modified | | | |
| % by weight | 71 | 9.0 | 58 |
| % by volume | 65 | | 50 |
| DENSITY ASTM D 1475-85 | | | |
| kg/liter | 1.04 | 0.8 | 0.98 |
| lb/gallon | 8.65 | 7.0 | 8.2 |
| VISCOSITY ASTM D2196-86, Brookfield LVT 30 RPM @ 25°C (77°F) | | | |
| N's/m ² | 0.8-1.2 | | 0.2-0.6 |
| cP | 700-1500* | water thin | 200-600** |
| FLASH POINT ASTM D 3278-82, Seta Flash, Closed Cup | | | |
| °C | 18.9 | 43.3 | --- |
| °F | 66 | 110 | --- |
| VOLATILE ORGANIC CONTENT (VOC), ASTM D 3960-87 | | | |
| g/liter | 300 | 766 | 420 |
| lb/gallon | 2.5 | 6.4 | 3.5 |
| THEORETICAL COVERAGE - (See Table 1) | | | |
| COATING FILM DRY WEIGHT | | | |
| gm/ft ² /mil | --- | --- | 2.69 |
| lbs/ft ² /mil | --- | --- | 0.0059 |

*Brookfield LVT, Spindle #4 @30 RPM - 25°C (77°F)

**Brookfield LVT, Spindle #3 @30 RPM - 25°C (77°F), typical

Basic Uses

Aeroglaze® M1433 elastomeric coating functions exceptionally well in abrasive environments. Inherent flexibility, corrosion resistance, and energy absorptive properties make Aeroglaze M1433 elastomeric coating highly suitable for protecting radomes, antennae, and leading edges of aircraft. **Aeroglaze M1433 elastomeric coating is qualified to Military Specification MIL-C-85322.**

Packaging - Supplied in pre-measured kits:

- One Quart Kit**
 Aeroglaze M1433A: Three 1/2 pts. in a 1 qt. can
 Aeroglaze M1433B: 1/2 pint
 Federal Stock No. 8010-01-054-7224
- Gallon Kit**
 Aeroglaze M1433A: 3 quarts in a gallon can
 Aeroglaze M1433B: 1 quart
 Federal Stock No. 8010-01-054-7228

product information

TABLE 1: Theoretical Coverage Of Aeroglaze M1433 Coating

| Wet Film | | Dry Film | | Coverage | | |
|----------|------|----------|------|-------------------|----------------------|----------------------|
| μm | mils | μm | mils | m ² /1 | m ² /gal. | ft ² /gal |
| 50.8 | 2.0 | 25.4 | 1 | 19.7 | 74.3 | 800.0 |
| 254.0 | 10.0 | 127.0 | 5 | 3.9 | 14.9 | 160.0 |
| 610.0 | 24.0 | 305.0 | 12 | 1.6 | 6.2 | 66.7 |

Features and Benefits

Heavy Duty Protection -Provides excellent abrasion, erosion and impact resistance. Flexible over a wide temperature range.

Easy Application - Can be applied by airless or conventional spray equipment. Builds thick films easily and in one application.

Topcoat Compatibility - Can be topcoated with a wide color range of weather resistant Aeroglaze or Chemglaze® aliphatic moisture curing and two package polyurethanes.

Mix Ratio

| | Aeroglaze MI 433A | Aeroglaze M1433B |
|-----------|-------------------|------------------|
| By volume | 3.0 | 1 |
| By weight | 3.7 | 1 |

Mixing

Aeroglaze M1433 elastomeric coating is packaged in pre-measured kits. Mix Part A (the pigmented part) well. Then add, while stirring, Part B. Once thoroughly mixed, the coating is ready for spraying. The mix ratio is 3:1, A:B by volume. It is imperative the mix ratios are accurate and Part A and B are thoroughly mixed. Thinning is not necessary.

Note: Both Parts A and B are sensitive to atmospheric moisture, especially Part B. If overexposed to moisture, a short pot life will result. Open Part B when ready to use.

Usable Pot Life

The mixed Aeroglaze M1433 elastomeric coating has a usable pot life of 2 hours. However, very high levels of humidity and high temperatures may shorten the usable pot life.

Application - Procedure for Coating FRP Radome

1. Surface Preparation

Solvent wipe the radome surface with Aeroglaze 9958 thinner to remove all oil, grease and dirt.

Lightly sand the surface to provide an anchor pattern. Use emery cloth or medium to very fine sandpaper (320-500 grit) then solvent wipe the surface to remove dirt and dust.

2. Application of Primer

Although the radome is plastic, Aeroglaze 9924, Aeroglaze 9924V, or Aeroglaze 9947 wash primers (metal primers) are applied to provide maximum adhesion of Aeroglaze M1433 elastomeric coating to the substrate. Additionally, applying Aeroglaze 9924, Aeroglaze 9924V, or Aeroglaze 9947 wash primers is important as it facilitates easy removal of Aeroglaze M1433 elastomeric coating when the radome needs to be repaired. Removal is best achieved in the following manner:

- Using a sharp blade, make cuts in the coating.
- Cover the area with clean rags that have been soaked in Aeroglaze 9958 thinner or methyl ethyl ketone (MEK). The solvents dissolve the Aeroglaze 9924 or 9924V wash primer permitting easy removal of the coating.

Aeroglaze 9924, Aeroglaze 9924V, or Aeroglaze 9947 wash primers are applied at 36 - 60 dry microns (0.3 to 0.5 dry mils). Consult the technical bulletin on Aeroglaze wash primers for proper mixing and application procedures.

3. Application of Aeroglaze M1433 elastomeric (rain erosion) polyurethane coating

Spray apply 959 - 1678 dry microns (8-14 dry mils) in several multiple passes. The nose portion of the radome should receive the 959 - 1678 dry microns (8-14 dry mils). Feather the elastomeric coating toward the trailing edge.

Allow Aeroglaze M1433 elastomeric coating to cure 3 to 4 hours before topcoating.

In many instances, a pressure pot spray gun was found to work better than a syphon spray gun for the elastomeric coating application.

4. Application of Topcoat

The elastomeric polyurethane rain erosion coating is not a cosmetic coating because it will change color and chalk when exposed to UV. It must be topcoated with an Aeroglaze aliphatic moisture curing or two component polyurethane.

Consult the individual product bulletins on the topcoat desired for color selection and procedure. Usually two applications of the topcoat are applied.

Recoat Time

A second coat of Aeroglaze M1433 elastomeric coating or the Aeroglaze topcoat may be applied after the Aeroglaze M1433 elastomeric coating has cured a minimum of 3 to 4 hours at 23.9°C (75°F). The elastomeric coating must be coated before it has cured 24 hours.

Curing Conditions

Once Part A and B are mixed, the curing process begins. Atmospheric moisture (humidity) reacts with Part B, starting the curing process. Then Part B reacts with Part A. At the same time, solvents evaporate from the film. Elevated temperatures and high velocity warm air speeds the removal of solvents.

Aeroglaze M1 433 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 area.

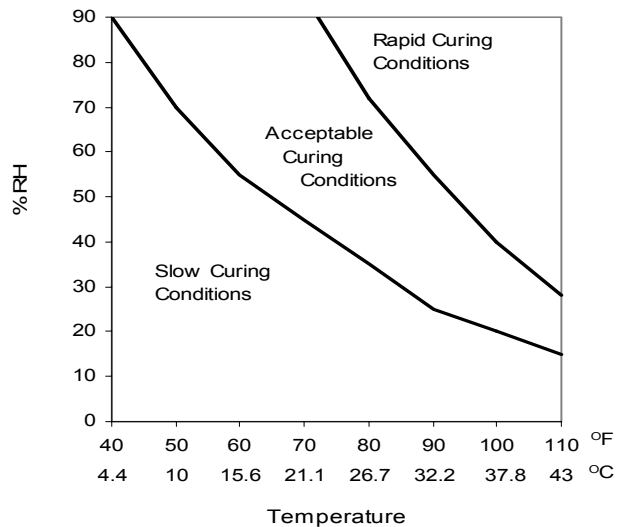
The applied elastomeric coating must be cured above 10°C (50°F) for at least 24 hours before being exposed to lower temperatures. Aeroglaze M1433 elastomeric coating cures slowly and solvents evaporate slower at

lower temperatures. Refer to Figure 1 for ideal curing conditions. Aeroglaze M1433 elastomeric coating is cured in 4 - 6 hours at ideal conditions of 23°C (75°F) and 50% Relative Humidity.

Typical Gardner dry time ranges are:

| | | |
|---------------------|--------------------|-----------------|
| <u>Set to Touch</u> | <u>Surface Dry</u> | <u>Dry Hard</u> |
| 15-30 minutes | 1-2 hours | 4-6 hours |

Figure 1
Temp/Rel. Humidity Graph



Clean-Up

Spray equipment must be cleaned immediately after spraying since the coating will cure inside guns, filter screens, and hoses. Once the elastomeric coating cures, it is almost impossible to remove.

Note: **Circulate solvent through the hoses for at least 15 minutes to help flush and clean the hoses.**

Aeroglaze 9958 thinner or MEK (methyl ethyl ketone) may be used for cleaning equipment.

Storage/Shelf Life

The shelf life of Part A and B in unopened containers is 6 months.

Containers must be stored in a dry area protected from all forms of precipitation. An ideal storage temperature would be 15.6°C (60°F). However, if the storage temperature drops below 10°C (50°F), a portion of Part A will crystallize. Should this happen, the containers should be stored at 15.6°C (60°F) for two days before using. The mixed coating should be kept at 15.6°C (60°F) minimum until applied. **Do not mix or use coating which is frozen.**

Values stated in this bulletin 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 the Customer Service Department.

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Cautionary Information

Before using this or any Lord product, refer to the Material Safety Data Sheet (MSDS) 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.

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