



# Aeroglaze® Z307

## Absorptive Conductive Polyurethane, Black

### Typical Properties\* of Aeroglaze Z307 Polyurethane

	Aeroglaze Z307
SOLIDS CONTENT ASTM D 2369-87 modified	
% by weight	22
% by volume	18
DENSITY ASTM D1475-85	
kg/liter	0.87
lb/gallon	7.78
VISCOSITY ASTM D2196-86, Brookfield LVT @ 25°C (77°F)	
cP (thixotropic)	300
GLOSS, 60°	15 max
SURFACE RESISTIVITY, ohms/in <sup>2</sup> @ .75-1.5 mils	10 <sup>2</sup> -10 <sup>5</sup>
SOLAR ABSORPTION, Gier-Dunkle Integrating Sphere	0.97
NORMAL EMISSIVITY, ASTM E408-71	0.89
OUTGASSING* (ASTM E-595-77)	
% TML	1.06
% CVCM	0.04
FLASH POINT ASTM D 3278-82, Setaflash, Closed Cup	
°C	19.3
°F	67
VOLATILE ORGANIC CONTENT (VOC), ASTM D 3960-89	
g/liter	728
lb/gallon	6.1
THEORETICAL COVERAGE	
m <sup>2</sup> /liter/25.4 μm	7
m <sup>2</sup> /gallon/25.4 μm	23.5
ft <sup>2</sup> /gallon/mil	284
COATING FILM DRY WEIGHT	
gm/ft <sup>2</sup> /mil	2.69
lb/ft <sup>2</sup> /mil	0.0059

\*40 Day Cure at Room Temperature

### Basic Uses

Aeroglaze® Z307 black absorptive conductive polyurethane coating is primarily for application to substrates used on spacecraft. These applications include those where coatings must exhibit low outgassing characteristics while providing static dissipating and high thermal absorptivity properties.

In addition, the mechanical properties required for rigorous durations in space are an integral part of the Aeroglaze Z307 coating make-up. Aeroglaze Z307 coating shows excellent performance on rigid or flexible substrates.

### Color

- Flat Black

### Packaging

- 1/2 Pint Container (0.24 Liter)
- 1 Pint Container (0.47 Liter)
- 1 Quart Container (0.95 Liter)
- 1 Gallon Container (3.8 Liter)

### Limitations - For industrial/commercial use only.

Must be applied by trained personnel only. Not to be used in residential applications. Not for consumer use.

product information

## Application

Prior to opening Aeroglaze Z307 coating, thoroughly mix for 5 minutes on a paint shaker. Open the lid carefully as the container may be under slight pressure. Stir contents with a clean paint stick to check for settling and to ensure that a homogeneous mixture is obtained. If there is some settling, stir with the paint stick and then return the closed container to the paint shaker and shake an additional 5 minutes or until no settling is apparent.

Aeroglaze Z307 coating should be applied to a properly prepared and primed surface. Individual primer technical bulletins are available which describe surface preparation, proper handling and usage of the primer. Ask your Lord Representative for additional information.

Aeroglaze Z307 coating is best applied by conventional or airless spray equipment. See Table I for suggested equipment.

A spray viscosity of 18 to 22 seconds using a Zahn #2 cup is recommended, however, the product can be sprayed as supplied. Thinning can be achieved with the addition of 15 to 20% Aeroglaze 9958 thinner. If airless spray equipment is used, thin Aeroglaze Z307 with a maximum of 10% Chemglaze 9956 thinner.

Apply Aeroglaze Z307 coating at a maximum thickness of 19.05 dry microns or ~101.6 wet microns\* (0.75 dry mils or ~4 wet mils\*) per coat. Hold the spray gun at a right angle to the surface - 8 to 12 inches from the surface. Overlap the spray pattern 50% as the coating is being applied. A light mist coat should be applied and followed by a full wet coat of 76.2 - 101.6 wet microns (3 to 4 wet mils).

Clean all equipment immediately after use with Aeroglaze 9958 thinner.

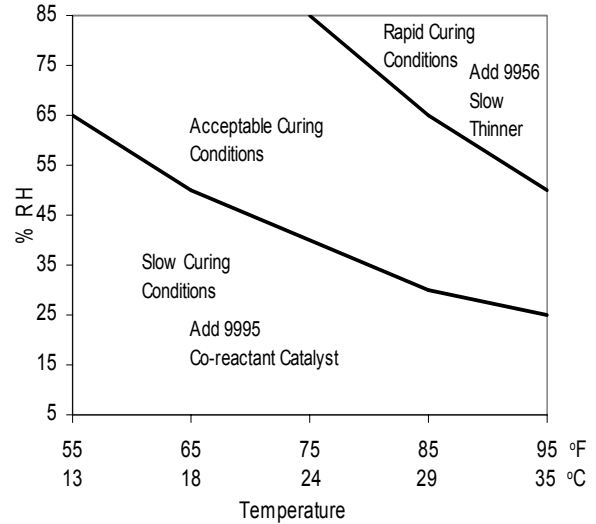
Aeroglaze Z307 coating is best applied between 12.8°C and 35°C (55°F and 95°F). THE SUBSTRATE TEMPERATURE MUST BE LEAST 2.8°C (5°F) ABOVE THE DEW POINT. Aeroglaze Z307 coating cures by reacting with moisture in the air. The speed of cure is dependent on the temperature, relative humidity and amount of air circulation needed to remove the solvent.

\*Values based on volume solids prior to thinning.

## Curing Conditions

Aeroglaze Z307 coating is best applied between 13°C (55°F) and 35°C (95°F). The substrate temperature must be at least 2.8°C (5°F) above the dew point. Aeroglaze coatings cure by reacting with moisture in the air. The speed of cure is dependent on the temperature, relative humidity, and amount of air circulation needed to remove the solvent.

Figure 1  
Temp/Rel. Humidity Graph



Tack free in 2-3 hours at 25°C (77°F) and 50% relative humidity. Room temperature cure times of 12 hours permit handling, 36-48 hours permit normal usage.

Under the acceptable curing conditions, Aeroglaze Z307 coating will develop its ultimate properties in about 7 days. Refer to the Temperature/Relative Humidity Graph (see Figure 1). Lower temperatures and relative humidities retard cure while higher temperatures and relative humidities can cause bubbling.

## Recoat Time

Minimum recoat time is three to four hours at 25°C (77°F) with adequate moisture and good air circulation to remove solvent. The maximum recoat time is 24 hours. In high temperature and humidity conditions, recoat within eight hours to prevent intercoat adhesion failure. If the recoat time is exceeded, scuff sand with minimum 80 grit paper before recoating.

## Clean-Up

Use Aeroglaze 9958 thinner. Refer to Bulletin DS107425.

## Storage/Shelf Life

The shelf life of Aeroglaze Z307 coating is one (1) year from date of shipment when stored in the original, unopened container. Store inside away from heat, sparks, and open flames.

## 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.

**TABLE I: SUGGESTED SPRAY EQUIPMENT AND CONDITIONS**

	<b>Binks</b>	<b>DeVillbiss</b>	<b>Graco</b>
<b>SIPHON FEED</b>			
Gun	62	JGA 502	208-615
Fluid Tip	66 (.070")	AV-1 1 15-EX (.070")	172-041 (.070")
Needle	365	JGA-402-DEX (.070)	208-483 (.070)
Air Cap	66 SH	No. 30 (MB-4039-30)	208-765
Atomizing Pressure	276-345 N/mm <sup>2</sup> 40-50 psi	276-345 N/mm <sup>2</sup> 40-50 psi	276-345 N/mm <sup>2</sup> 40-50 psi
<b>PRESSURE POT</b>			
Gun	62	JGA-502	208-477
Fluid Tip	63B	AV-1 1 15-FX (.0425")*	208-481 (.0425")
Needle	363A	JGA-402-FX (.0425")	172-039 (.0425")
Air Cap	63PB	770 (AV- 1239-770)	169-877
Fluid Pressure	15-25 psi	102-172 N/mm <sup>2</sup> 15-25 psi	102-172 N/m m <sup>2</sup>
Atomizing Pressure	30-50 psi	241-345 N/mm <sup>2</sup> 30-50 psi	241-345 N/mm <sup>2</sup> 30-50 psi
<b>AIRLESS SPRAY</b>			
Gun	No. 700 9-1860	JG B-51 0 or JGN-502	205-591 or 208-663 163-415 (13"Fan, .013",.015" tip)
Fluid Tip	(13 1/2" Fan.018") 9-1540 (8" Fan.013", .015") 9-1580 (15" Fan, .013", .015")	Tip 0815 (8" Fan.013", .015" tip)	163-614 (12" Fan .0 14" tip) 163-616 (12" Fan.016" tip)
Pump	Model No. 98-901 Falcon 3A 30:1 or Model 98-903 Hawk 4B 30:1	Model QFA 32:1	28:1, 30:1 President or 30:1 Bulldog
Air Pressure	448-669 N/mm <sup>2</sup> 65-100 psi	Depending on viscosity 448-669 N/mm <sup>2</sup> 65-100 psi	Depending on viscosity 448-669 N/mm <sup>2</sup> 65-100 psi

\*Depends upon viscosity of material to be sprayed. Higher viscosity readings require larger tip and needle combinations.

NOTE: A light mist (tack) coat should be applied and followed with a full wet coat of 3-4 mils wet. Thicker films will cause bubbling.

**NOTE:** Consult Technical Bulletin DS1 0-7430: Aeroglaze Z307 Absorptive Conductive Polyurethane and the Material Safety Data

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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For additional information, contact Lord Corporation at: 814/868-3611 ext. 3277, FAX: 814/864-3452 or write: Lord Corporation, 2000 West Grandview Blvd., P.O. Box 10038, Erie, PA 16514-0038.