

Chemglaze V047 is a moisture-curing, aliphatic polyurethane coating designed for product finishing applications on polyvinyl chloride (PVC) and other plastics where maximum abrasion resistance and flexibility are needed. Chemglaze V047 can also be used as a protective coating for vinyl, Mylar®, ABS, FRP, and Noryl®.

Features & Benefits

- **Versatile:** provides excellent flexibility range and can be applied to many plastic substrates. Durable high gloss finish can be adjusted to semigloss or lusterless by adding Chemglaze V175 flattening concentrate.
- **Excellent Adhesion:** provides superior adhesion to many plastics.
- **Durable:** provides excellent resistance to impact and abrasion; exhibits low Taber weight loss values.
- **Environmental Resistance:** provides excellent resistance to corrosion; provides extremely UV-stable and long-term weathering resistance properties.
- **Chemical Resistance:** cures to a hard surface that is resistant to many chemicals, stains, and solvents.
- **Easy to Clean:** produces urethane topcoated substrates that are more easily cleaned and maintained than the uncoated product.

Mylar is a trademark of DuPont Teijin Films.
Noryl is a trademark of SABIC Innovative Plastics.

DIRECTIONS FOR USE

Surface Preparation

Thoroughly clean surfaces to remove all dust, oil, and grease. Before coating substrates, apply test patches of Chemglaze V047 to determine if adhesion is adequate, or if scuff sanding or using a primer will be required. Contact your Socomore representative for an appropriate recommendation.

Mixing

Before mixing Chemglaze V047, scrape the container bottom with a clean stir stick to loosen and reincorporate settled pigments. Mechanically stir or agitate the coating until it is uniform in consistency. Proceed to the next steps for instructions on catalyzation, thinning, or gloss adjustment (if desired) of Chemglaze V047 coating.

Catalyst

A catalyst must be added to cure Chemglaze V047. For faster cure at 25°C (77°F) or higher temperatures, add Chemglaze 9995 co-reactant catalyst at a ratio of 3-8% by weight (4-12 oz/gal) of Chemglaze V047. Alternatively, for longer working life, add Chemglaze 9986 catalyst at a ratio of 1-6% by weight (1-9 oz/gal) of Chemglaze V047. Thoroughly mix coating after the addition of the catalyst.

The working life is dependent on the amount of catalyst used, solids content, solvent losses, ambient

temperature, and relative humidity exposure. The working life of Chemglaze V047 mixed with Chemglaze 9995 catalyst is 1-3 days. The working life of Chemglaze V047 mixed with Chemglaze 9986 catalyst is indefinite when stored in a nitrogen purged, moisture-proof container.

Thinner

Depending on the application method, Chemglaze 9951 thinner can be added to Chemglaze V047 to adjust the viscosity. Do not use solvents containing alcohol or glycol ether. Thoroughly mix the coating after addition of Chemglaze 9951.

Gloss Adjustment

Chemglaze V047 will dry to a high gloss finish without coating modification. The gloss can be adjusted to a semigloss or lusterless finish by adding Chemglaze V175 flattening concentrate. To adjust the gloss to semigloss, add 30-50% Chemglaze V175 concentrate by volume of Chemglaze V047 (not including catalyst or thinner volume). To adjust the gloss to lusterless, add equal parts by volume of Chemglaze V175 concentrate to Chemglaze V047.

The resulting gloss appearance is affected by application method, drying conditions, and the amount of Chemglaze V175 concentrate used. Do not exceed 100 parts Chemglaze V175 concentrate to 100 parts Chemglaze V047 coating, as coating performance will be impaired.

When Chemglaze V175 concentrate is added to the high gloss coating, the flattening concentrate must be catalyzed for proper cure. Select the Chemglaze catalyst which will best match the curing conditions.

Thoroughly stir Chemglaze V175 concentrate before use. Once added to Chemglaze V047, mechanically mix the material again. Failure to thoroughly mix will result in non-uniform gloss or film whitening.

Application

Apply coating by spray, brush, or roller application methods. Chemglaze V047 is best applied at temperatures between 13-35°C (55-95°F), with substrate temperatures at least 2.8°C (5°F) above the dew point.

Spraying

Apply coating using conventional or HVLP spray equipment. Dilute Chemglaze V047 coating 5-25% by volume with Chemglaze 9951 thinner. Apply a light (tack) coat, followed by a full wet coat.

Brushing/Rolling

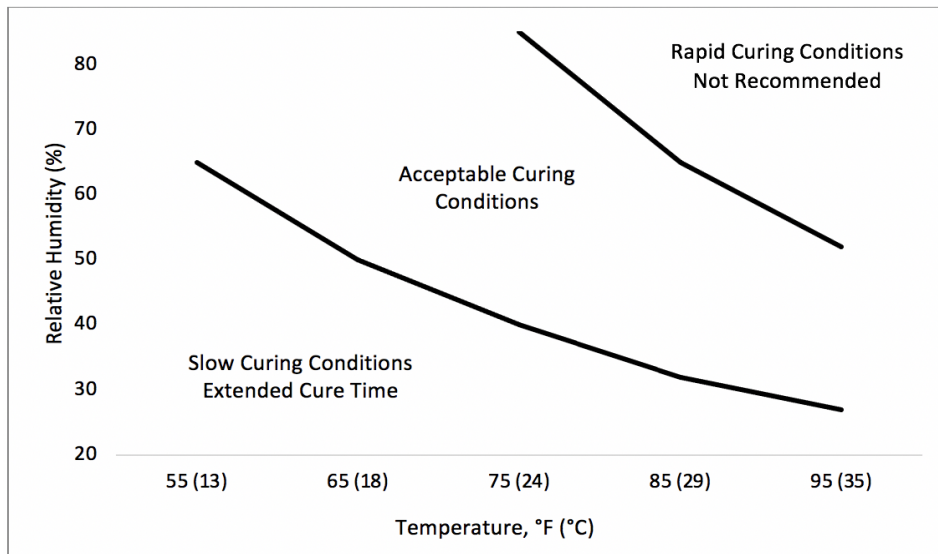
Thinning is typically not required for brush or roller application, but diluting up to 5% by volume with Chemglaze 9951 thinner may provide more optimal application properties.

Depending on surface characteristics, the optimum dry film thickness is 38.1-50.8 micron (1.5-2.0 mil). Dry film thicknesses above 50.8 micron (2 mil) in a single coat can cause bubbling. The coverage rate is 6.8-8.6 m²/L (275-350 ft²/gal).

Curing

Chemglaze V047 cures by reacting with moisture in the air. The cure rate is dependent on the temperature, relative humidity, and amount of air circulation needed to remove the solvent. Under the acceptable curing conditions, the coating will develop its ultimate properties in approximately 14 days. Lower temperatures and humidities will slow the cure rate, while higher temperatures and humidities

will increase the cure rate. Higher temperatures and humidities may cause bubbling. Refer to the following psychrometric chart for appropriate cure temperatures and corresponding humidity.



Chemglaze V047 cures to a tack-free surface in 2-18 hours at room temperature depending on the application thickness, catalyst, and relative humidity. Faster handling times can be achieved by using one of the following cure cycles:

- 10-30 minutes at 93-121°C (200-250°F)
- 2-5 minutes at 121-149°C (250-300°F)
- 1-4 minutes at 149-194°C (300-375°F)

Chemglaze V047 may be recoated after the first application within 2 hours minimum and 24 hours maximum at temperatures of 25°C (77°F) and 50% relative humidity. The recoat time is dependent on temperature and humidity. High temperatures and humidities promote fast cure while low temperatures and humidities slow down the cure. For maximum intercoat adhesion, recoat within 24 hours.

Clean-Up

Use Chemglaze 9951 thinner, xylene, methyl ethyl ketone (MEK), or methyl isobutyl ketone (MIBK) to clean equipment immediately after application. Do not use lacquer thinners, water, or solvents containing alcohols.

TECHNICAL CHARACTERISTICS

Typical Properties*

Property	Value
Appearance	Clear Liquid
Viscosity, cps ASTM D 2196, Brookfield LVT Spindle 2, 30 rpm	1900-2500
Density, kg/L (lb/gal) ASTM D 1475	0.98-1.02 (8.21-8.51)

Solids Content by Weight, % ASTM D 2369 modified	56.5-62.5
Flash Point (Seta), °C (°F) ASTM D 3278, Closed Cup	26 (80)
Volatile Organic Content (VOC), g/L (lb/gal) ASTM D 3960	390 (3.26)

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

PRECAUTIONS FOR USE AND STORAGE

The shelf life is one year from date of shipment when stored at 10-32°C (50-90°F) in the original, unopened container. Store indoors away from heat, sparks, and open flames.

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. Not for immersion service. Do not apply to wet or damp substrates. Spray only in properly ventilated areas with specified respiratory protection.

Manufactured for SOCOMORE by: LORD Corporation, Saegertown, PA

This technical data sheet replaces and cancels the previous one.

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