



POLYCRYL CORPORATION
Earthguard Resins and Gel Coats

Data Sheet

**POLYCRYL
CORPORATION**

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EG 4500 LPR *EarthGuard 4500 Low Profile Tooling Resin*

The EarthGuard 4500 LPR Tooling Resin has been formulated as a low profile additive modified vinylester tooling resin for producing composite molds with minimal, if any, shrinkage and dramatically improved surface profile. This resin has been developed for mold making and tooling applications and designed to cure at room temperature conditions. These applications include molds for marine, automotive, aerospace, the military, and various other FRP hand layup and spray processes.

CHARACTERISTICS

- Shrink controlled for near perfect mold replication
- Pre-thixed and pre-accelerated for ease of use
- Rapid build with low exotherm
- Excellent glass wet out
- Room temperature cure
- Superior mechanical properties

PROPERTIES OF THE LIQUID RESIN

-Gel Time (150 grams @77°F) 1.50 % United Initiators 925H or Akzo Nobel L50a	30-35 minutes
-Peak Exotherm (150 grams @77°F) 1.50 % United Initiators 925H or Akzo Nobel L50a	380° F
-Appearance	Amber Liquid
-Solids Content	60-62%
-Gallon Weight	9.0
-Shelf Life	3 Months @77°F or less (Always agitate before use)

DISCLAIMER: The data on this sheet represents typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Polycryl assumes no obligation or liability for use of this information. UNLESS POLYCRYL AGREES OTHERWISE IN WRITING, POLYCRYL MAKES NOT WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. POLYCRYL WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option.

MECHANICAL PROPERTIES, (4 layer of 1.5oz chopped strand mat)

Flexural Strength	29,000 psi
Flexural Modulus	1,040,000 psi
Elongation	2.1
Tensile Strength	22,000 psi
Tensile Modulus	1,470,000 psi
Heat Distortion Temp	280°F
Barcol	50
Glass Content	40%

APPLICATION RECOMMENDATIONS

Gel Coat Application: Apply a minimum of 30 mils of vinylester tooling gel coat to the master. (EarthGuard Diamondback Tooling Gel Coat is recommended)

Skin Coat Application: Apply a minimum of two 1.5 ounce layers of chopped strand mat using a vinylester skin coat resin. (EarthGuard 2500 or 3000HT is recommended)
Make sure all air is removed, especially in tight radii. Allow the skin coat to cure sufficiently.

CAUTION

The EG4500 LPR is formulated to be used at temperatures between 65 and 85°F, (Ideally 70-80°F). Deviations may negatively impact the cure and phasing of the LPA and resin resulting in loss of surface profile and mechanical properties.

It is important to thoroughly mix the resin prior to each use in order to avoid any settling that may occur.

Please use 1.50% catalyst level, United Initiators 925H or Akzo Nobel L50a, no substitutes.

HAND LAY UP

- Apply a layer of catalyzed EG-4500 LPR on the surface with a brush.
- Apply 4 layers of 1.5 ounce chopped fiberglass mat with the EG-4500 LPR wetting out and rolling each layer to ensure that no air is trapped in the laminate.
- Wait approximately 1 to 2 hours for the laminate to completely turn white & for the surface to cool down & return to room temperature.
- Repeat this process until the desired thickness is achieved.
- The whitening of the laminate ensures the product is reacting properly.**

SPRAY UP

-Spray a catalyzed layer of the EG-4500 LPR resin (no glass) on the back side of the initial skin coat.

-Follow this initial layer of resin with resin and chopped glass using several passes building up to the desired thickness. Immediately roll the air out of the resin and glass and check to make sure you are within the following parameters.

(A minimum of 0.150 inches and a maximum of 0.300 inches)

-Wait approximately 1 to 2 hours for the part to completely turn white & for the surface to cool down & return to room temperature.

-Repeat this process until the desired thickness is achieved.

-The whitening of the laminate ensures the product is reacting properly.

PACKAGING

Available in 45# pails or 495# drums.

STORAGE CONDITIONS AND HANDLING

-Storage Life: 90 days from the date of manufacture @ 77°F or less.

-This product should be stored under controlled conditions between 60 and 80°F.

-Avoid exposure to heat sources such as direct sunlight.