REICHHOLD

PRODUCT BULLETIN

May 2008

POLYLITE® 33542-25

Shrink Control Tooling System

DESCRIPTION

POLYLITE® Profile 33542-25 is a **pre-promoted, pre-filled** unsaturated laminating resin suitable for the construction of FRP tools. This resin is formulated for room temperature cure using standard MEK peroxide catalyst such as Superox® 46709-00.

POLYLITE® Profile 33542-25 meets MACT requirements listed below for marine and non-marine shrink-controlled tooling resin systems.

POLYLITE® Profile 33542-25 must be well stirred prior to its use to ensure even filler distribution. A "bunghole" mixer is not an acceptable mixer. A "gear driven agitator" or similar agitator/mixer for a 55 gallon drum is needed to properly mix POLYLITE® 33542-25 before use.

APPLICATION

- FRP tooling
- Other applications which require dimensional stability and high-quality surface

FEATURES	BENEFITS

• MACT Compliant Shrinkage Control Tooling System
  ➢ 40 CFR Part 63, Subpart WWWW, Section 63.5935
  ➢ Less than 0.3% linear shrinkage required
  ➢ Typically 0.1% linear shrinkage per ASTM D-2556
• Marine MACT Compliant
  ➢ 40 CFR Part 63, Subpart VVVV, Table 2
  ➢ Atomized or non- atomized application
	• Complies with MACT Regulation for Shrink Control Resins
	• Tools reproduce master exactly
	• Resulting tools are stress-free
	• Print-through and surface distortion eliminated
	• Minimized potential for pre-release
	• Reduced post-finishing time

• Reduces tool-building time up to 80%	• Significant labor cost reduction • Prototype tools can be made quickly and economically • Tools can go into production sooner
• Rapid Barcol development • Changes color during cure • Pre-filled with 50% ATH	• Tools can be demolded earlier • Quality control indicator • Increased composite stiffness • Improved heat transfer
• Manufactured using statistical process and quality controls	• Consistent performance, batch to batch

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TYPICAL PROPERTIES

PHYSICAL DATA IN LIQUID STATE AT 25°C / 77°F

Properties	Unit	Value	Test Method
Non-Volatiles, NV	%	73	18-001/B070
Viscosity - Brookfield, LVF, #3 at 60 rpm	cps/ mPa·s	950	18-021/ASTM D 2196-86
Thix Index		2.7	
Gel time by 1.25% (by weight) Superox® 46709-00	minutes	25	18-050
Gel to Peak	minutes	14	
Peak Exotherm	°C / °F	140 / 284	
Weight per Gallon	lbs	12.3	
Color		Opaque / white-gray	
Shelf life, minimum	months	3	

HANDLING AND APPLICATION

To achieve the best possible profile when using the Polylite® Profile system, an ambient temperature of 24°C/ 75°F or higher should be maintained. Warming the filled resin will improve sprayabiity, but it will not compensate for a cool ambient temperature. The chopper gun slave arm should not be set beyond 1.25% initiator. (1.25% is equivalent to delivering 1.88% based on resin.) Although increasing the peroxide level may shorten the gel time, it may also retard cure.

Certain precautions are required to ensure proper secondary bond performance. Secondary bonding will be adversely affected in resin-rich areas or in laminates that have been exposed to heat or direct sunlight for an extended period of time. Contamination of the primary laminate (e.g., grinding dust, oil, moisture, waxes or release agents) will also adversely affect secondary bond performance. The laminate surface must be free of contamination prior to secondary bond application.

The type of glass reinforcement used will also affect secondary bond performance. A Reichhold representative will be happy to assist with selection of reinforcements.

STORAGE

To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 24°C/75°F and away from heat ignition sources and sunlight. Resin should be warmed to at least 18°C/65°F prior to use in order to assure proper curing and handling. All storage areas and containers should conform to local fire and building codes. Copper or copper containing alloys should be avoided as containers. Store separate from oxidizing materials, peroxides and metal salts. Keep containers closed when not in use. Inventory levels should be kept to a reasonable minimum with first-in, first-out stock rotation.

Additional information on handling and storing unsaturated polyesters is available in Reichhold's application bulletin "Bulk Storage and Handling of Unsaturated Polyester Resins." For information on other Reichhold resins or initiators, contact your sales representative or authorized Reichhold distributor.

STANDARD PACKAGING

This product is available in non-returnable 55-gallon metal drums(open head and lined, 549 lbs. net) or 42,000-44,000-lb. tank truck.

SAFETY

READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET BEFORE WORKING WITH THIS PRODUCT. Obtain a copy of the material safety data sheet on this product before use. Material safety data sheets are available from your Reichhold sales representative. Such information should be requested from suppliers of any chemical and understood before working with the material.

NEVER ADD METAL SALTS (PROMOTERS) OR PROMOTED RESINS TO A PEROXIDE. When adding organic peroxides to a resin solution, promptly and thoroughly mix the resulting product. Never add organic peroxides to a hot diluent or process. Prevent contamination with foreign materials, including without limitation, accelerators (such as dimethyl aniline, other amines or cobalt compounds), heavy-metal oxides or salts (particularly those of cobalt, iron and copper), strong acids and sanding dusts. Use clean containers made of glass, polypropylene, Teflon®, polyethylene, or ceramic to prevent contamination of organic peroxides during its handling.