REICHHOLD

PRODUCT BULLETIN

January 2016

POLYLITE® 33542-75

Low ProfileTooling Resin

DESCRIPTION

POLYLITE® 33542-75 is a pre-promoted, pre-filled, unsaturated polyester laminating resin suitable for the construction of GRP tooling. This resin is formulated for room temperature cure using MEK peroxide catalyst.

POLYLITE® 33542-75 represents advancements of the successful Polylite Profile Tooling system, maintaining all the properties the original resin, with the convenience of a single product used with a conventional catalyst.

APPLICATION

POLYLITE® 33542-75 requires stirring prior to use to ensure even filler distribution. Care must be taken to ensure that the application procedures described in the **Low Profile Tooling Bulletin** are adhered to. As with all polyesters, time and degree of cure are functions of initiator concentration and of temperature. Resin and work area temperatures should be maintained between 18 and 25°C to ensure satisfactory results. No special precautions are necessary to ensure proper secondary bond performance with POLYLITE® 33542-75. As with any laminating resin, 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. Should such conditions occur, or if greater than 48 hours has elapsed, thorough sanding and cleaning of the substrate is recommended prior to secondary laminate application. Also known to adversely affect secondary bond performance is contamination of the primary laminate (e.g. grinding dust, oil, moisture, waxes, release agents, etc.) and type of glass reinforcement used. The laminate surface should be free of contaminants prior to secondary bond application.

FEATURES	BENEFITS
• Reduced tool building time up to 80%	• Significantly reduces labour costs • Prototype tools can be made quickly and economically • Gets tools into production sooner
• Low Shrinkage	• Tools reproduce master exactly • Resulting tools are stress free • Print-through and surface distortion are eliminated
• Rapid Barcol Development • Colour change visible during cure • SPC/SQC controlled	• Tools can be demoulded sooner • Built-in quality control indicator • Batch-to-batch uniformity

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TYPICAL PROPERTIES

PHYSICAL DATA IN LIQUID STATE AT 23°C

Properties	Unit	Value	Test Method
Viscosity - Brookfield LV SP 3/6 rpm - ICI Cone and Plate	 cps cps	 4000 - 5000 350 – 450	 ASTM D 2196-10 ISO 2884-1999
Flash point	°C	32	ASTM D 3278-95
Density/Specific gravity	g/m³	1.37 ± 0,02	ISO 2811-2011
Styrene content	% weight	27 ± 2,0	B070
Gel time: 200g Sample 1.25% PEROXIDE 1	minutes	35-45	G020
Shelf life, minimum	months	4	G180

NON-REINFORCED CASTING BASE RESIN PROPERTIES

Fully post cured 24 hours at 60°C + 1 hour at 90°C + 3 hours at 120°C

Properties	Unit	Value	Test method
Tensile strength	MPa	60	ISO 527-2: 2012
Tensile elongation	%	2,5	ISO 527-2: 2012
Tensile modulus	MPa	3200	ISO 527-2: 2012
Flexural strength	MPa	110	ISO 178-2010
Flexural modulus	MPa	2900	ISO 178-2010
Heat distortion temperature	°C	115	ISO 75-1993

All POLYLITE® products are Quality Controlled with the specified catalyst. However, alternatives are available and all users should be aware that a single catalyst formulation cannot provide optimum results in all resin systems. The interaction between the catalyst and the inhibitor/accelerator systems used in our products is complex and varies from resin to resin. Consequently the gel and cure characteristics provided by alternate catalysts can vary greatly from those specified. It is, therefore, absolutely essential that the user evaluate each alternate catalyst in each product before full-scale manufacture is started.

STORAGE

To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below **23°C** and away from heat ignition sources and sunlight. Resin should be warmed to at least **18°C** 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 bulletins **"Bulk Storage and Handling of Unsaturated Polyester Resins"** and **Guideline for Stirring of Thixotropic/Filled Resins."** For information on other Reichhold resins or initiators, contact your sales representative or authorized Reichhold distributor.

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 prior to use. Material safety data sheets are available from your Reichhold sales representative. Such information should be requested from suppliers of all products and understood prior to working with their materials.

DIRECTLY MIXING ANY ORGANIC PEROXIDE WITH A METAL SOAP, AMINE, OR OTHER POLYMERIZATION ACCELERATOR OR PROMOTER WILL RESULT IN VIOLENT DECOMPOSITION