



Technical Information

PDS 0316/164

POLYLITE® 33542-75 Low Profile Tooling 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 Profile Tooling Technical Guide 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°C and 25°C to ensure satisfactory results. A minimum single layup laminate thickness of 4mm is required to obtain a proper cure. Laminates with a thickness less than 4mm in a single lay-up may result in unsatisfactory cure. POLYLITE® 33542-75 cures to an off white - beige colour.

POLYLITE® 33542-75 is unwaxed and thus exhibits good secondary bond performance, as a result the resin cures to a tacky surface. 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 the type of glass reinforcement used. The laminate surface should be free of contaminants prior to secondary bond application.

FEATURES

- Reduced tool building time up to 80%
- Low Shrinkage
- Low viscosity
- Rapid Barcol Development
- Unwaxed
- Colour change visible during cure

BENEFITS

- Significantly reduces labour costs
- Prototype tools can be made quickly and economically
- Gets tools into production sooner
- Tools reproduce master exactly
- Resulting tools are stress free
- Print-through and surface distortion are eliminated
- Improved fibre wet out and faster consolidation
- Tools can be demoulded sooner
- Multiple build up of laminate thickness
- Built-in quality control indicator

The information herein is to help customers determine whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. We request that customers inspect and test our products before using them to satisfy themselves as to contents and suitability. We warrant that our products will meet our written specifications. **Nothing herein shall constitute any other warranty express or implied, including any warranty of merchantability or fitness for a particular purpose,** nor is protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is replacement of our materials, and in no event shall we be liable for special, incidental, or consequential damages.

TYPICAL PROPERTIES

PHYSICAL DATA IN LIQUID STATE AT 23°

Properties	Unit	Value	Test Method
Viscosity			
- Brookfield LV SP 3/6 rpm	cPs	4000 - 5000	ASTM D 2196
- ICI Cone and Plate	cPs	350 – 450	ISO 2884
Flash point	°C	32	ASTM D 3278
Density/Specific gravity at 20°C	g/m ³	1.37 ± 0,02	ISO 2811
Styrene content	% weight	27 ± 2,0	B070
Gel time: 200g 1.25% M50 Butanox	minutes	35 - 45	G020
Shelf life, minimum	months	4	G180

*Butanox M50 is a product of Akzo Nobel

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
Tensile elongation	%	2,5	ISO 527
Tensile modulus	MPa	3200	ISO 527
Flexural strength	MPa	110	ISO 178
Flexural modulus	MPa	2900	ISO 178
Heat distortion temperature	°C	115	ISO 75

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 AND HANDLING	<p>To ensure maximum stability and maintain optimum resin properties, polyester resins should be stored in closed containers maintained below 25°C and away from heat 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 should conform to local fire and building codes.</p> <p>Store separate from oxidizing materials, peroxides and metal salts. Keep containers closed when not in use.</p> <p>Copper or copper containing alloys should be avoided as containers. Drum stock should be kept to a reasonable minimum with first-in, first-out stock rotation.</p> <p>Where bung-in-head containers are stored outside it is recommended that these be stored in a horizontal position to avoid the ingress of water.</p>
-----------------------------	---

STANDARD PACKAGE	Non-returnable metal drums / kegs
-------------------------	-----------------------------------

The information herein is to assist customers in determining whether our products are suitable for their applications. Our products are intended for sale to industrial and commercial customers. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute any other warranty expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is replacement of our materials, and in no event shall we be liable for special, incidental, or consequential damages. Our standard conditions of contract will apply to all sales

MATERIAL SAFETY	A Material Safety Data Sheet is available from your NCS Resins' representative. Make certain that you obtain a copy of this guide to the safe handling of unsaturated polyester resins and resin systems.
------------------------	---

WARNING	Care must be taken to avoid direct mixing of any organic peroxide (catalyst) with metal soaps, amine or any other polymerisation accelerator or promoter, as violent decomposition will result!
----------------	---

PLEASE READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET BEFORE WORKING WITH THIS PRODUCT

NCS RESINS BRANCHES AT:

**JOHANNESBURG • PRETORIA • DURBAN • CAPE TOWN • PORT ELIZABETH
• EAST LONDON**