

POLYLITE® 441 - 841
 General Purpose Ortho Polyester Resin

DESCRIPTION

POLYLITE® 441 – 841 is a medium reactive general purpose orthophthalic polyester resin

POLYLITE® 441 - 841 is thixotropic and accelerated resin. It's a standard resin with Cobalt as an accelerator gives relatively long gel time, good curing with controlled exothermic temperature and short demoulding time.

POLYLITE® 441 – 841 is extra stabilized for prolonged shelf life at elevated temperatures.

APPLICATION

- **POLYLITE® 441 – 841** is a hand lay up / spray up resin
- **POLYLITE® 441 – 841** is designed for general purpose GRP lamination for industrial and transport application.
- Recommended laminate thicknesses applied wet-on-wet: 3-6 mm

FEATURES

BENEFITS

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| <ul style="list-style-type: none"> • Excellent application properties • Medium reactivity • Statistically process and quality controlled by ISO 9000-2000 | <ul style="list-style-type: none"> • Short application time • Good fiber wetting • Higher fiber content • Good curing • Low peak • Short de-moulding time • Batch-to-batch consistency. |
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The information herein is general information designed 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 require customers to inspect and test our products before use and to satisfy themselves as to contents and suitability for their specific applications. 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 any protection from any law or patent to be inferred. All patent rights are reserved. The exclusive remedy for all proven claims is limited to replacement of our materials and in no event shall we be liable for special, incidental or consequential damages.

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PROPERTIES

PHYSICAL DATA IN LIQUID STATE AT 23°C

Properties	Unit	Value	Test method
Viscosity - Brookfield Model LVF, Spindle. 2 at 12 rpm - Cone & Plate	mPa's(cP) mPa's(cP)	1200 - 1400 210 - 240	ASTM D 2196-86 ISO 2884-1999
Gel time: 1% NORPOL PEROXIDE 1 (MEKP)	minutes	20 – 30	G 020 (winter specs)
Gel time: 1% NORPOL PEROXIDE 1 (MEKP)	minutes	35 - 45	G 020 (summer specs)
Specific gravity / Density	g/cm ³	1.10 – 1.14	ISO 2811-2001
Acid number (max.)	mgKOH/g	24	ISO 2114-1996
Styrene content	% weight	42 ± 2	B 070
Flash point	°C	32	ASTM D 3278-95
Storage stability from date of manufacture	months	6	G 180

In order to obtain rapid and reliable curing NORPOL PEROXIDE NO. 1 and corresponding MEK Peroxide is recommended for POLYLITE® PI - 9090.

TYPICAL NON-REINFORCED CASTING PROPERTIES

Fully post cured

Properties	Unit	Value	Test method
Tensile strength	MPa	50	ISO 527-1993
Tensile modulus	MPa	4600	ISO 527-1993
Tensile elongation	%	1.6	ISO 527-1993
Flexural strength	MPa	90	ISO 178-2001
Flexural modulus	MPa	4000	ISO 178-2001
Impact strength, P 4 J	mJ/mm ²	5-6	ISO 179-2001
Volume shrinkage	%	7-8	ISO 3521-1997
Heat distortion temp.	°C	62	ISO 75-1993

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RECOMMENDED PEROXIDE

All POLYLITE products are Quality Controlled with the specified Peroxide. However, alternatives are available and all users should be aware that a single Peroxide formulation cannot provide optimum results in all resin systems. The interaction between the Peroxide 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 Peroxide can vary greatly from those specified. It is, therefore, absolutely essential that the user evaluate each alternate Peroxide in each product before full-scale manufacture is started.

Through thorough laboratory work we have found that some types of Peroxide formulation (such as the acetyl acetones) can lead to distinct cured color variation. We would, therefore, strongly recommend the use of single peroxide (Norpol Peroxide No.1 / Butanox M-50) especially where consistent light colors are required for the finished articles.

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. At low temperature storage 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. Drum stock should be stored away from all sources of flame or combustion. 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.

PACKAGING FORM

- **Non-returnable 220 kg metal drums or**
- **Non-returnable 20.0 kg pails may be delivered on request**

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.

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