

**POLYLITE® 441-800 E**  
Standard Ortho Polyester Resin

**DESCRIPTION**

**POLYLITE® 441-800 E** is a medium reactive general purpose, orthophthalic polyester resin, specially designed for the production of regular GRP Panels

**POLYLITE® 441-800 E** is thixotropic and has a viscosity that ensures thorough glass fiber impregnation. Built-in accelerator system gives relatively long gel time, rapid curing combined with relatively low exothermic temperature and short de-molding time.

**POLYLITE® 441-800 E** is extra stabilized for prolonged shelf life at elevated temperature and geltime adjusted for comfortable process time even at higher ambient temperature,

**APPLICATION**

**POLYLITE® 441-800 E** is a general purpose resin designed for the construction of GRP panels with hand lay up (brush) or spray up applications

**POLYLITE® 441-800 E** is designed for marine, industrial and transport application.

Recommended laminate thicknesses applied wet-on-wet: 3-8 mm

**FEATURES**

**BENIFITS**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Excellent application properties</li> <li>• Moderate Viscosity</li> <li>• Medium reactivity</li> <li>• Extra stabilized</li> <li>• Statistically process and quality controlled by ISO 9000-2000</li> </ul> | <ul style="list-style-type: none"> <li>• Short application time</li> <li>• Good fiber wetting</li> <li>• Higher fiber content</li> <li>• Ensures fast and thorough glass fiber impregnation, reduces risk of dry patches.</li> <li>• Good curing and low Exotherm ensures quick demolding time and faster production.</li> <li>• Prolong Storage Stability and suitable for high ambient work shop temperature.</li> <li>• Batch-to-batch consistency.</li> </ul> |
|--|---|

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.

919-990-7500 • 800-448-3482 • P.O. Box 13582, Research Triangle Park, NC 27709 USA • 2400 Ellis Road, Durham, NC 27703 USA • [www.reichhold.com](http://www.reichhold.com)

Reichhold Inc. PO Box: 16911, JAFZ, Dubai, UAE. Tel. +971 4 8835215, Fax +971 4 8835887

**February 01, 2006  
POLYLITE® 441 – 800 E**

**TYPICAL PROPERTIES**

**PHYSICAL DATA IN LIQUID STATE AT 23°C**

| Properties                                 | Unit              | Value       | Test method    |
|--|-------------------|-------------|----------------|
| Viscosity<br>- Brookfield LVF sp.2/12 rpm  | mPa's (cP)        | 1300-1500   | ISO 2884-1974  |
| - Cone & Plate                             | mPa's (cP)        | 220 - 250   | ISO 2884-1999  |
| Density                                    | g/cm <sup>3</sup> | 1.10 - 1.14 | ISO 2811-2001  |
| Acid number (max.)                         | Mg KOH/g          | 24          | ISO 2114-1996  |
| Styrene content                            | % weight          | 40 ± 2      | B 070          |
| Flash point                                | °C                | 32          | ASTM D 3278-95 |
| Geltime: NORPOL Peroxide # 1 1.0%          | minutes           | 50 - 100    | G 020          |
| Storage stability from date of manufacture | months            | 6           | G 180          |

**MECHANICAL/PHYSICAL DATA IN CURED STATE**

Fully post-cured

| Properties                        | Unit               | Pure resin | Reinforced | Test method      |
|-----------------------------------|--------------------|------------|------------|------------------|
| Glass content                     | % weight           | -          | 33         | ISO 1172-1975    |
| Density                           | g/cm <sup>3</sup>  | 1.20       | 1.46       | ISO 1183-87      |
| Tensile strength                  | MPa                | 60         | 100        | ISO 527-1/2-1993 |
| Tensile modulus                   | MPa                | 4600       | 8600       | ISO 527-1/2-1993 |
| Tensile elongation                | %                  | 2.0        | 2.6        | ISO 527-1/2-1993 |
| Flexural strength                 | MPa                | 92         | 165        | ISO 178-1993     |
| Flexural modulus                  | MPa                | 4000       | 7400       | ISO 178-1993     |
| Impact strength, P 4 J            | mJ/mm <sup>2</sup> | 5.5 – 6.5  | 90         | ISO 179-1993     |
| Volume shrinkage                  | %                  | 7 - 8      | -          | ISO 3521-1976    |
| Heat distortion temp.             | °C                 | 61         | -          | ISO 75-1/2-1993  |
| Hardness Barcol                   | 934-1              | 42         | 48         | ASTM D 2583-87   |
| Water Absorption - After 24 hours | %                  |            | -          | ISO 62-1980      |
| - After 28 days                   | %                  |            | -          | ISO 62-1980      |

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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.

Safety Data Bulletin No. 1 applies to POLYLITE® 441 – 800 E.

### STORAGE

To ensure maximum stability and maintain optimum resin properties, POLYLITE® resins should be stored in closed containers at temperatures below 25°C and away from heat sources and sunlight. All storage areas and containers should conform to local fire and building codes. 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.

### PACKAGING FORM

Non-returnable 220 kg metal drums or returnable 1000 kg plastic containers, 20 kg pails may be delivered on request. ISO Road Tankers are available with approximately 24Tons supply.

### 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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