

# POLYLITE<sup>®</sup> 721-638

## SCRIMP Isophthalic Polyester Resin

### DESCRIPTION

**POLYLITE<sup>®</sup> 721-638** is a medium reactive Isophthalic acid polyester resin with good mechanical properties, impact strength in particular. The resin is specially formulated to resist water, oil and less aggressive chemicals, and is particularly suitable in the production of tanks, pipes etc.

**POLYLITE<sup>®</sup> 721-638** is pre-accelerated and non-thixotropic.

### APPLICATION

**POLYLITE<sup>®</sup> 721-638** is designed for the boat building industry for versatile application systems as injection (Resin Transfer Molding) or Vacuum Infusion Process (SCRIMP).

**POLYLITE<sup>®</sup> 721-638** is specially designed to resist water, oil, and less aggressive chemicals, and modifications of this are especially suitable for production of tanks, pipes etc, as well as marine applications and other water and sewage applications.

**POLYLITE<sup>®</sup> 721-638** is recommended only for Vacuum Infusion Process (VIP) and hence not suited for hand lay-up and spray-up application.

Recommended laminate thickness applied wet on wet: 1-6 mm.

### FEATURES

### BENIFITS

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| <ul style="list-style-type: none"><li>• Specially designed for Vacuum Infusion Process (SCRIMP) or Injection Molding (RTM)</li><li>• Good Water and Chemical Resistance</li><li>• High heat distortion temperature</li><li>• Statistically process and quality controlled by ISO 9000-2000</li><li>• Approvals</li></ul> | <ul style="list-style-type: none"><li>• Better mechanical properties compared to conventional hand and spray up application especially in the marine industry.</li><li>• Modification of this are approved for use in petrol and oil storage tanks as well as marine application.</li><li>• Retains mechanical properties at elevated temperatures.</li><li>• Batch-to-batch consistency.</li><li>• Det norske Veritas (DnV), Grade 1</li></ul> |
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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.

June 01, 2005  
**Polylite® 721 – 638**
**TYPICAL PROPERTIES**
**PHYSICAL DATA IN LIQUID STATE AT 23°C**

Properties	Unit	Value	Test method
Viscosity - Cone & Plate	mPa·s (cP)	200 – 300	ISO 2884-1999
Density	g/cm <sup>3</sup>	1.09 ± 0.02	ISO 2811-2001
Acid number (max.)	mgKOH/g	14	ISO 2114-1996
Styrene content	% weight	44 ± 2	B070
Flash point	°C	32	ASTM D 3278-95
Gel time: 1% NORPOL PEROXIDE 1	minutes	70 – 80	G020
Storage stability from date of manufacture	months	6	G180

\* Heat generation read in 5 mm mat laminate on insulating material.

**MECHANICAL/PHYSICAL DATA IN CURED STATE**

Fully post-cured

Properties	Pure resin	Reinforced	Unit	Test method
Glass content	-	33	% weight	ISO 1172-1975
Density	1.20	1.46	g/cm <sup>3</sup>	ISO 1183-87
Tensile strength	72	125	MPa	ISO 527-1/2-1993
Tensile modulus	3650	7300	MPa	ISO 527-1/2-1993
Tensile elongation	4.0	2.5	%	ISO 527-1/2-1993
Flexural strength	140	190	MPa	ISO 178-1993
Flexural modulus	3300	7200	MPa	ISO 178-1993
Impact strength, P 4 J	12	75	mJ/mm <sup>2</sup>	ISO 179-1993
Volume shrinkage	7	-	%	ISO 3521-1976
Heat distortion temp.	86	-	°C	ISO 75-1/2-1993
Hardness Barcol	40	45	934-1	ASTM D 2583-87
Water Absorption				
- After 24 hours	0.17	-	%	ISO 62-1980
- After 28 days	0.90	-	%	ISO 62-1980

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June 01, 2005  
**Polylite® 721 – 638****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 721 - 638.

**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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