



Orthophthalic based Unsaturated Polyester Resin

Polyseal -100

General Information

POLYSEAL -100 is a non-thixotropic, non-accelerated Orthophthalic based general purpose resin. It is most commonly used grade in polyester resin that provides good mechanical strength and durability in non-corrosive environment and suitable for wide range of fabrication application of wide range of FRP structures by hand lay-up. The product is designed to perform optimum combination of performance and economy.

Typical Liquid Resin Properties

<u>Properties</u>	<u>Specified Range</u>	<u>Unit</u>
Acid Value	14 – 20	mg KOH/gm of Resin
Viscosity @ 25°C Brookfield Viscometer RVDV1-M, Spindle 2, RPM-20.	450 ±50	cps
Monomer Content	36 ± 2	%
Gel Time @ 25°C With 1% of 3% Cobalt Octoate Solution 1.5% of 50% Solution of MEKP	10 ± 2	Min
Peak Exotherm	185-205	°C

Properties are tested in controlled laboratory condition, according to the method described in IS 6746-1994.

All the physical parameters can be tailored for suitability of customer's specific end application.

Strongbonds Polyseal Pvt. Ltd.

An ISO 9001 : 2015 Company
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Mechanical Properties of Cast Resin

<u>Properties</u>	<u>Unit</u>	<u>Nominal Values</u>	<u>Test Method</u>
Tensile Strength	MPa	50	ISO 527-4
Tensile Modulus	MPa	3000	ISO 527-4
Elongation at break	%	4-5	-
Flexural Strength	MPa	95	ISO 178
Flexural Modulus	MPa	3200	ISO 178
Heat Deflection Temp.	°C	75	ISO 75
Barcol Hardness	Barcol	35	ASTM D2583

(Cured for 24 hours at room temperature followed by 12 hrs at 65°C)

Features and Applications

It provides good mechanical strength and durability in non-corrosive environment.

Low water ingress, resistant towards neutral & mildly acidic salts at room temperature, insulating property is the basic features of this resin.

Peak exotherm temp. measures the high reactivity of the resin. Higher the peak temp, faster will be the curing process.

Polyseal- 100 can resist mild acidic corrosive effect of mineral acids of pH range 4-9; neutral & mildly acidic salts & chemicals with mild corrosive properties.

Its workable viscosity range suitable for **hand lay-up, spray-up, cold press, RTM process** etc. It is widely used in manufacturing FRP pipes, pipe fittings, doors and window, FRP boats, water tanks, roofing materials, Amusement slide etc.

Approvals & Certificates

The manufacturing, quality control and distribution of the product by Strongbonds Polyseal Pvt. Ltd. are complying with **ISO 9001: 2015** standard.

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Storage & Handling

Like other polyester resins Polyseal -100 is sensitive to **temperature, moisture** and **Sun light**. Hence resin containers should be stored at dry places in closed-sealed condition bellow 25°C to ensure optimum resin properties. Prolong exposure to open environment can affect liquid resin properties like viscosity and gel time etc.

Shelf Life

All the unsaturated polyester resins are of limited shelf life. Under above mentioned conditions the shelf life of the material is 90 days (3 months).Storage at higher temperature will adversely affect resin properties.

Packaging

Polyseal – 100 is supplied in 25 kg and 35 kg Jarricanes and M.S. Drums containing 225.0 Kg of resin.

Safety Information

Skin contact and vapour inhalation should be avoided during working due to presence of styrene monomer. Wear breathing mask, safety goggles, gloves and protective clothing while working. Please consult Material Safety Datasheet prior to working.

Revision Date: 08.10.2018

N.B. : All the above information is based on the results of tests carried out at our laboratory. All the information indicates general characteristics of the product.

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