



## Isophthalic Based Unsaturated Polyester Resin

## Polyseal -101

### General Information

POLYSEAL -101 is a non-thixotropic, non-accelerated Isophthalic acid based polyester resin. It is a highly reactive unsaturated polyester resin and highly suitable for corrosive environment as well as it displays excellent resistance against ultraviolet wavelengths. Its polymer structure is bigger & denser than orthophthalic resin due to which it exhibits higher molecular strength. Because of its high temperature resistance property, it can be used to manufacture different composite materials suitable for high temperature environment.

### Typical Liquid Resin Properties

| <u>Properties</u>   | <u>Specified Range</u> | <u>Unit</u>        |
|---|------------------------|--------------------|
| Acid Value  | 10-18                  | mg KOH/gm of Resin |
| Viscosity @ 25°C<br>Brookfield Viscometer<br>RVDV1-M, Spindle 2,<br>RPM- 20.                | 650 ± 150              | cps                |
| Monomer Content   | 35 ± 2                 | %                  |
| Gel Time @ 25°C<br>With 1% of 3% Cobalt Octoate<br>Solution<br>1.5% of 50% Solution of MEKP | 12 ± 3                 | Minute             |
| Peak Exotherm   | 190 ± 15               | °C                 |

Properties are tested 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  
CIN No: U51909WB1990PTC049585  
Website: [www.strongbondspolyseal.com](http://www.strongbondspolyseal.com)

P-26 C ; Block – D ; Kalyani Industrial Estate  
Nadia:741235 ; West Bengal ; India  
Tel : 033 2582 3061  
Email: [strongbondpolyseal@gmail.com](mailto:strongbondpolyseal@gmail.com)

**City Office:**  
CD- 82, Salt Lake City,  
Sector-I, Kolkata- 700064  
Tel : 033 2334-8136



## Mechanical Properties of Cast Resin

| <u>Properties</u>        | <u>Unit</u> | <u>Nominal Values</u> | <u>Test Method</u> |
|--------------------------|-------------|-----------------------|--------------------|
| Tensile Strength         | MPa         | 76                    | ISO 527-4          |
| Tensile Modulus          | MPa         | 3100                  | ISO 527-4          |
| Elongation at break      | %           | 3-4                   | -                  |
| Flexural Strength        | MPa         | 138                   | ISO 178            |
| Flexural Modulus         | MPa         | 3300                  | ISO 178            |
| Heat Deflection<br>Temp. | °C          | 92                    | ISO 75             |
| Barcol Hardness          | Barcol      | 40                    | ASTM D2583         |

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

## Features

Excellent mechanical strength with good corrosion resistance is the salient feature of this resin.

Low acid value indicates high molecular weighted resin that will form giant cross-linked structure with styrene in cured state which in turn provides more toughness & mechanical strength than normal orthophthalates.

Viscosity range is suitable for **hand lay-up, spray-up, cold press, hot press, filament winding** etc.

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

This resin can resist acid corrosive effect of mineral acids of pH range 4-9, mild acidic salts & chemicals with mild corrosive properties.

### Strongbonds Polyseal Pvt. Ltd.

An ISO 9001 : 2015 Company

CIN No: U51909WB1990PTC049585

Website: [www.strongbondspolyseal.com](http://www.strongbondspolyseal.com)

P-26 C ; Block – D ; Kalyani Industrial Estate

Nadia:741235 ; West Bengal ; India

Tel : 033 2582 3061

Email: [strongbondpolyseal@gmail.com](mailto:strongbondpolyseal@gmail.com)

### City Office:

CD- 82, Salt Lake City,  
Sector-I, Kolkata- 700064

Tel : 033 2334-8136



## Applications

It is widely used in manufacturing Chemical Storage tanks, Pipe & fittings, Poles, Electrical equipments, doors and Window frames, FRP boats, Water storage tanks, Amusement slide, Manufacturing moulds and Composite sheets for various applications.

## Approvals & Certificates

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

## Storage & Handling

Like other polyester resins Polyseal -101 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.

## 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 and shelf life.

## Packaging

Polyseal – 101 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.

### Strongbonds Polyseal Pvt. Ltd.

An ISO 9001 : 2015 Company

CIN No: U51909WB1990PTC049585

Website: [www.strongbondspolyseal.com](http://www.strongbondspolyseal.com)

P-26 C ; Block – D ; Kalyani Industrial Estate

Nadia:741235 ; West Bengal ; India

Tel : 033 2582 3061

Email: [strongbondpolyseal@gmail.com](mailto:strongbondpolyseal@gmail.com)

### City Office:

CD- 82, Salt Lake City,

Sector-I, Kolkata- 700064

Tel : 033 2334-8136