



# TECHNICAL DATA SHEET

## GENERAL PURPOSE LAMINATING RESIN LRPOL022-LR

### General Description:

**LRPOL022-LR** is a pre-accelerated, Laminating Resin is a Ortho phthalic based polyester resin, showing excellent physical and mechanical properties. Suited for marine and water applications.

### Applications and Uses:

Water applications; including boats, yachts and water tanks. Will suit all general-purpose base applications.

### Advantages

- Unsaturated Polyester Resin for boatbuilding
- Ortho phthalic-based, pre-accelerated, high thixotropic index
- Waxed for top or finish uses (prevent coats of resin from remaining sticky)
- Good mechanical properties
- Excellent wet-out of fiberglass, carbon and aramid fibers
- Laminating tanks, containers, floating equipment's, pools, ponds, modelmaking, car industry,...
- LSE (Low Styrene Emission) Polyester Resin
- With thixotropy powder HP-TH23, HDK® N20 usable for top/finish uses

### Moulding Information:

- Hand lay up
- Spray up

### Typical Properties for LRPOL022-LR :

Available viscosity ranges Viscosity at 25°C ( LV2 , Rpm 60 , 40sec)

1. 400 cps Thixotropic index 3.2
2. 450 cps Thixotropic index 2.8
3. 500 cps, Thixotropic index 2.8
4. 575 cps Thixotropic index 3.0
5. 600 cps Thixotropic index 3.5

Table 1: Specification of Liquid Resin

No.	Property	Test Method	Unit	Value
1	Density at 23°C	ISO 1675:2022	g/mL	1.1-1.16
2	Acid Value	ISO 2114:2000	mg KOH/g	<30
3	Styrene content	ISO 3251:2019	%	32%
4	Gel Time @ 25°C	ASTM D2471-99 ISO 2535:2001	Minutes	20-25
5	Gel to Peak Time		Minutes	13
6	Peak Exothermic Temperature		°C	170-190

Note :Properties can be adjusted based on the customer's requirements.

### Contacts us:

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No.	Property	Test Method	Unit	Value
1	Tensile Strength	ISO 527-1:2019 ISO 527-2: 2012	MPa	Min 75
2	Tensile Modulus		MPa	Min 3600
3	Elongation at break		%	Max 1.4
4	Flexural Strength	ISO 178:2019	MPa	Min 100
5	Flexural Modulus		MPa	Min 3900
6	Barcol Hardness	ASTM D 2583-13a (934-1)	-	Min 45
7	Heat Deflection Temperature † (1.80 MPa)	ISO 75-1:2020 ISO 75-2:2013	°C	Max. 80

**Note :** Properties can be adjusted based on the customer's requirements.

#### Shelf life and Storage:

To ensure maximum stability and maintain resin properties within the desirable range, UPR should be stored in closed containers at temperatures below 25 °C, and away from heat sources such as, but not limited to, direct sunlight, steam pipes or furnaces. Under proper storage conditions the minimum shelf-life performance is estimated at six months, provided that the product is stored in the original, unopened container. Shelf life decreases with increasing storage temperature, or when it is kept near a heat source or direct sunlight.

#### Typical Curing Characteristics and Recommendations

Resin (g)	Catalyst	Temperature °C	Gel Time minutes	Peak Exothermic
100g	Butanox M50 1.5%	25 °C	15-25	170°C - 190°C

**Note :** Properties can be adjusted based on the customer's requirements.

**LRPOL022-LR** should be processed at room temperature (18-25°C) . Lower temperature have an adverse effect om proper curing . Especially when stored in the presence of air ,there may be an increase in the gel time ,although this can be compensated for by increasing the amount of curing agent.

#### Standard Packaging:

The standard packaging available are standard intermediate bulk containers (IBC), 220 kg stainless steel drums and trailer tanks. However, UPR can be packaged in different quantities. as per the request of the customer.

**Dot Label Required: Flammable Liquid**

#### Precaution for handling:

Laffan Resin Production Factory (LRPF) maintains and regularly updates the Material Safety Data Sheet (MSDS) of all its products. All supervisory personnel and employees expected to be working with the resin must be provided with the MSDS. Due attention should be given to the precautions for handling chemicals provided in the MSDS prior to any use of this product.

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