



TECHNICAL DATA SHEET

THIXOTROPIC UNSATURATED ORTHOPHTHALIC POLYESTER RESIN LRPOL022-OTPP

General Description:

LRPOL022-OTPP is a pre-accelerated, thixotropic Ortho phthalic unsaturated polyester resin, with low styrene emission. Its rapid impregnation of glass fiber reinforcements, and low exotherm temperature, make it ideal for multi-layer laminates, in spray or hand lay applications.

LRPOL022-OTPP exhibits reduced exothermic heat on curing. This makes it suitable for the construction of thicker laminates, where exothermic heat buildup may distort the moulding or cause excessive shrinkage.

Applications and Uses:

LRPOL022-OTPP is specifically designed to deliver superior surface aesthetics and provide a proven resin system that reduces VOC emissions when compared to standard Ortho phthalic resin.

LRPOL022-OTPP is non -air inhibited and cures tack free when properly initiated ,making it ideal for use in fiber glass repair.

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

Advantages

- Low shrinkage.
- Low styrene emissions.
- Long pot life, ease of useability.
- Low wax content to ease sand ability.

Moulding Information:

- Hand lay up
- Spray up

Typical Properties for Ortho phthalic Resin:

Table 1: Specification of Liquid Resin				
No.	Property	Test Method	Unit	Value
1	Viscosity at 25°C (LV2 , Rpm 12 , 90sec)	ISO 2555:2018	mPa.s	1500-2000
2	Thi Index LV2 6/60	-	-	2.5-3.5
3	Density at 23°C	ISO 1675:2022	g/mL	1.1-1.16
4	Acid Value	ISO 2114:2000	mg KOH/g	<30
5	Non-volatile-matter content	ISO 3251:2019	%	Min 55%
6	Gel Time @ 25°C	ASTM D2471-99 ISO 2535:2001	Minutes	10-20
7	Gel to Peak Time		Minutes	6-14
8	Peak Exothermic Temperature		°C	140-210

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 70
2	Tensile Modulus		MPa	Min 3500
3	Elongation at break		%	Min 3
4	Flexural Strength	ISO 178:2019	MPa	Min 120
5	Flexural Modulus		MPa	Min 3500
6	Barcol Hardness	ASTM D 2583-13a (934-1)	-	Min 40
7	Heat Deflection Temperature † (1.80 MPa)	ISO 75-1:2020 ISO 75-2:2013	°C	Min 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 M50/60 1% - 2%	25 °C	10-20	140°C - 210°C

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

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