



TECHNICAL DATA SHEET

UNSATURATED ORTHOPHTHALIC POLYESTER RESIN LAFFAN O- 400

General Description:

LAFFAN O- 400 is a non-accelerated , non-thixotropic , fast cure, resilient polyester for use where high filler loading are needed. The raw materials used in the manufacture of this resin are listed as acceptable in FDA regulation Title 21 CFR 177.2420 for repeated use in contact with food subject to user's compliance with the prescribed limitations of that regulations.

Applications and Uses:

LAFFAN O- 400 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.

LAFFAN O- 400 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.

Moulding Information:

- Hand lay up
- Spray up
- Filament Winding

Typical Properties for LAFFAN O- 400:

Table 1: Specification of Liquid Resin				
No.	Property	Test Method	Unit	Value
1	Appearance	Visually	-	Clear, Yellowish liquid
2	Colour			
3	Storage Stability:- LRPOL022-O can be stable from date of production, when this product stored in original containers away from sunlight and heat at no more than 77°F/25°C.	-	Months	6
4	Viscosity at 25°C Brookfield viscometer LVT NO 3 RPM 50	ASTMD 2196	mPa.s	400-600
5	Density at 25 °C	ASTMD 1475	g/mL	1.0-1.2
6	Acid Value	ISO 2114:2000	mg KOH/g	<30
7	Styrene Content (1gm/110°C/1hr)	ASTMD 1644-88	%	37-41
8	Gel Time @ 25°C 100g Resin + Co 1% 1.2%+ MEKP M50 1.5%	ASTM D2471-99	Minutes	8-15
9	Curing Time		Minutes	17-27
10	Peak Exothermic Temperature		°C	Min. 150

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

Contacts us:

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Table 2: Specification of Cured Resin

No.	Property	Test Method	Unit	Value
1	Tensile Strength	ASTM D 638	Kg/cm ²	640-660
2	Flexural Strength	ASTM D 790	Kg/cm ²	Min 1223
3	Barcol Hardness	ASTM D 2583-13a (934-1)	-	40-42
4	Heat Deflection Temperature † (1.80 MPa)	ISO 75-1:2020 ISO 75-2:2013 Method A	°C	Min 67

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

Casting Preparation formula: Resin 100% + Co 1% 1.20%+ MEKP M50 1.50%

Curing cycle: 24 hrs at 25°C+6 hrs 85°C +24 hrs at 25°C

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)	Accelerator	Catalyst	Temperature °C	Gel Time minutes	Peak Exothermic
100g	Cobalt octoate 1% :- 1.2g	Butanox M50 – 1.05g	25 °C	8-15	Min.150

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

LAFFAN O- 400 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 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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