

ISOPHTHALIC FOOD GRADE RESIN

PRODUCT FEATURES & APPLICATIONS:

Isophthalic Food Grade Resin is a medium viscosity, medium reactive polyester resin based on Iso-phthalic acid. It exhibits good mechanical and electrical properties together with good chemical resistance compared to general-purpose resins. **ISO Food grade resin** is rapidly wets the surface of glass fiber in the form of cloth mat or chopped fiber to produce laminates and moldings. Its superior chemical resistance towards most mineral and organic acids, solvents and oils makes **ISO Food grade resin** an ideal choice. **For food grade applications, the laminate fabricated should be post cured as per procedure (Refer Annexure-1)**

TYPICAL APPLICATION

- ❖ Food Storage Tanks, Tanker Equipment, Piping.

PHYSICAL DATA IN LIQUID STATE AT 25°C#

[Confirm to IS 6746-1994 and BS 3532-1990]

Properties	Unit	Value	TM
Appearance	-	Pale Yellow	TM-31
Specific Gravity.	-	1.11 + 0.02	TM-11
Viscosity -Ford Cup 4 @ 30°C -Brookfield RVT model	Seconds mPa s(cP)	130 ± 20 500 – 600	TM-04 TM-05
Acid value	mgKOH/gm	15±5	TM-06
Volatile Content	%	38 – 42	TM-08
Geltime @ 25°C *	Minutes Minutes	18 – 25 * 15 – 20 °	TM-07 TM-07
Peak Exotherm Temp.	°C	140 – 160	TM-07
Stability in the Dark	Months	3	TM-32

* Using Accelerator, Co (2%) 1 ml, Catalyst, MEKP1.5ml, the gel time, cure time and Peak Exotherm measured.

TM- Test Method

USAGE & POST CURING

- ❖ The Isophthalic polyester resin performs best if the laminate is completely post cured. The quantity of catalyst and accelerator can be adjusted to get a shorter or longer geltime.
- ❖ It is recommended to mature the products for 24 hours and post curing should be done for minimum of six hours at 80 deg centigrade. This is recommended for getting the optimum properties.

PROPERTIES OF CAST RESIN LAMINATE (on base resin)

Properties	Units	Results	TS
a) Barcol Hardness	BHU	40*	ASTM D – 2583
b) Heat Distortion Temp.	°C	80	ISO- 75
c) Specific Gravity	-	1.20± 0.02	ISO-1183
d) Volume Shrinkage on cure	%	7	ISO-3521
e) Tensile Strength	N/sq.mm	60+10	ISO – 527
f) Tensile Modulus	N/sq.mm	3000 - 3200	ISO – 527
g) Elongation at break	%	2.5 – 3	ISO – 527
h) Flexural Strength	N/sq.mm	100 - 110	ISO –178
i) Flexural Modulus	N/sq.mm	3200 - 3400	ISO – 178

* Post cured results

TS- Test Standards

APPLICATION METHODS	<input type="radio"/> Optional	<input checked="" type="radio"/> Yes
Hand lay-up		<input checked="" type="radio"/>
Spray-up	<input type="radio"/>	
Filament Winding		
Continuous Laminating		
Casting		
Resin Transfer Moulding		<input checked="" type="radio"/>
Cold Press		
Hot Press (Sheet - Bulk Moulding Compound)		
Pultrusion (Profile)		
Other		

Packing: Regularly available 35 Kgs (Carboys)
220 Kgs (Drums/Barrel)

CHEMICAL STRUCTURE		<input type="radio"/> Optional	Yes
Acid	Isophthalic	Acceleration	-
Glycol	Prop. glycol	Reactivity	Medium
Modification	-	Grade/Versions	Food grade



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