

ORTHOPHTHALIC MARINE-PLAIN (IRS APPROVED)

TECHNICAL SPECIFICATION

These resins are tailor made to meet the diverse needs of the GRP/FRP industry, and help to improve end product manufacturing efficiency, performance and finish.

PRODUCT FEATURES & APPLICATIONS

Ortho Marine plain is a quick-curing superior phthalic anhydride glycol based unsaturated polyester resin for marine applications. It is neither waxed nor pre-accelerated and suitable for both hand lay-up application and gun spray application. However, gun spray-up application is preferable because it can apply the resin evenly and spreading a thin coat without any pinholes. Ortho marine-plain resin coated surface is glossy after cured. It has good mechanical properties and water resistance and is resistance to mild chemicals and ultra-violet light, thus enhancing the durability of glassfibre reinforced plastics (GRP) products.

TYPICAL APPLICATION:

Fishing Trawlers/speed boats/ sanitary molding for kitchen/bath

PHYSICAL DATA IN LIQUID STATE AT 25°C#

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

Properties	Unit	Value	TM
Appearance	-	Thixotropic	TM-31
Specific Gravity.	-	1.20 ± 0.05	TM-11
Viscosity -Ford Cup 4 @ 30°C	Seconds	50± 10	TM-04
Brookfield RVT model#	mPa s(cPs)	500 ± 100	TM-05
Acid Value	mgKOH/gm	25±3	TM-07
Volatile Content	%	30-32	TM-08
Gelttime @25°C	Minutes	15 – 20 *	TM-07
	Minutes	12 – 18 ω	TM-07
Peak Exotherm Temp.	°C	120 – 140	TM-07
Stability in the Dark	Months	2	TM-32

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

And peak exotherm measurement

• Summer ω winter TM- Test Method

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

USAGE & POST URING

* The Orthophthalic performs best if the laminate is completely post cured. The quantity of catalyst and the accelerator can be adjusted to get a shorter or longer gelttime.

* 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	Units	Results	TS
a) Barcol Hardness	BHU	35*	ASTM D – 2583
b) Heat Distortion Temp.	°C	65	ISO 75
c) Specific Gravity	-	1.20 ± 0.02	IS 6746
d) Volume Shrinkage on cure	%	7	Sp.Gr. method
e) Tensile Strength	N/sq.mm	50± 5	ISO – 527
f) Tensile Modulus	N/sq.mm	3000	ISO – 527
g) Elongation at break	%	2.5-3.5	ISO – 527
h) Flexural Strength	N/sq.mm	90	ISO – 178
i) Flexural Modulus	N/sq.mm	3050	ISO – 178

APPLICATION METHODS	O Optional	■ Yes
Hand lay-up		■
Spray-up		■
Filament Winding		
Continuous Laminating		
Casting		■
Resin Transfer Moulding		
Cold Press		
Hot Press (Sheet - Bulk Moulding Compound)		
Pultrusion (Profile)		
Other		

Revision	Description	Date
ISO- 9001- 2008 Rev-00	Orthophthalic Marine-Plain (IRS Approved)	16.08.2010

CHEMICAL STRUCTURE		O Optional	■ Yes
Acid	Orthophthalic	Acceleration	
Glycol	Standard glycol	Reactivity	Medium
Modification	-	Grade/Versions	Ortho