



Polyester Resin IK-550

Product name: IK-550 isophthalic polyester resin

Description: IK-550 is an isophthalic based polyester resin which has been specially developed for the manufacture of large GRP structures.

Properties and application: laminates prepared with this resin have excellent long term weather resistance, and their high rigidity and strength are mechanical and physical properties can be obtained merely by curing at ambient temperature for optimum properties some post curing is required. for marine applications where good heat resistance combined with long term water resistance are essential. e.g. stressed ship structures in tropical climates. IK-550 can be used with confidence application. IK-550 is suitable for use hand lay-up, spray-up injection or machine molding operations. The resin must be allowed to attain workshop temperatures before being formulated for use, the accelerator should be thoroughly dispersed in the resin, then the correct amount of catalyst should be added and stirred in to the accelerated resin just before the use.

Curing: excellent laminates can be made from IK – 550 by curing at room temperature (20°C). When optimum properties are required however a post curing (a period of three hours at 80°C or a longer period at a lower temperature) is recommended.

Typical properties of liquid resin.

Property ^{*1}	Value
Acid Value	20 ± 5 mgr KOH/gr
Appearance	Clear liquid
Solid content	63 ± 2 %
Viscosity ^{*2}	350 - 400 cps
Specific gravity	1.05 - 1.1 gr/cm ³
Gel time ^{*3}	10 – 13 min
Time to Peak	18 – 20 min
Peak exotherm	170 - 180 °C
Shelf life	6 Month



*1 : Measurement was obtained under 25°C

*2 : LVT# 3-60 rpm (@) 25°C

*3 : Cobalt 10% , 0.1 phr MEKP A 60 , 1.5% (@) 25°C

TYPICAL CLEAR CASTING PROPERTIES OF CURED

PROPERTY	ST ^{*4}	TEST METHOD
Tensile strength	60 ± 5 MPa	ASTM D638
Tensile modulus	2.4 - 2.6 Gpa	ASTM D638
Tensile elongation	2 - 4 %	ASTM D638
Flexural strength	120 – 140 Mpa	ASTM D790
Flexural modulus	4.2 – 4.4 Gpa	ASTM D790
Volume shrinkage	4 - 5 %	ASTM D2566
HDT ^{*5}	70 ± 5 °C	ASTM D648
Barcol Hardness	40 ± 5	ASTM D2583

*4 : ST values based on conversion

*5 : Cure condition for HDT 24 hours at room temperature then 2 hours at 105°C

Notice in Use:

1. If IK550 is blended with cobalt salt promoters shelf life will be shortened. promoted IK550 must be used within three months.
2. The gel time of IK550 is affected primarily by catalyst concentration and temperature. The variation of cure characteristics may be caused by the variations of catalyst. Humidity pigment fillers and other additives it is recommended that the fabricators check the cure characteristic with a small quantity resin before proceeding for bulk production.



3. IK550 contains organic solvent (styrene), keep away from heat sparks and flames.
4. IK550 is a potentially reactive chemical please store it in dark and keep away from heat and direct sunshine.
5. Containers not completely emptied must be closed immediately after use.

PACKAGE:

Standard packing is 200 kg steel drum.