



## Polyester Resin 650

### Technical Data Sheet

IK650 is a orthophthalic polyester resin, specifically formulated for use in the manufacture of FRP sheeting. It is suitable for use on an automated line or by the hand lay-up injection or machine moulding operations. It also provides good mechanical strength such as tensile and flexural while incorporated with resin forement such glass fiber. Carbon fiber or Kevlar fiber etc.

### Fabrication Methods

Can be easily applied by hand lay-up laminating spray-up. Pultrusion resin transfer molding(RTM) and filament winding. Can be used in polymer concrete costing.

Typical properties of uiquid resin.

Property <sup>*1</sup>	Value
Acid Value	38 – 40 mgr KOH/gr
Appearance	Clear liquid
Solid content	63±2 %
Viscosity <sup>*2</sup>	350 - 400 cps
Specific gravity	1.05 ± 1.1 gr/cm <sup>3</sup>
Gel time <sup>*3</sup>	10 – 13 min
Time to Peak	17 - 21 min
Peak exotherm	150 ± 5 °C
Shelf life	6 Month

\*1 : Measurement was obtained under 25<sup>0C</sup>

\*2 : LVT# 3-60 rpm (@) 25<sup>0C</sup>

\*3 : Cobalt 10% , 0.1 phr MEKP A 60 , 1.5 % (@) 25<sup>0C</sup>

### TYPICAL CLEAR CASTING PROPERTIES OF CURED

PROPERTY	ST <sup>*4</sup>	TEST METHOD
Tensile strenght	65 ± 5 MPa	ASTM D638
Tensile modulus	2.6 ~ 2.4 Mpa	ASTM D638
Tensile elongation	3 ~ 4 %	ASTM D638
Flexural strength	110 – 130 mpa	ASTM D790
Flexural modulus	3.5 – 4.5 mpa	ASTM D790
Volume shrinkage	3 – 4 %	ASTM D2566
HDT <sup>*5</sup>	75 – 85 °C	ASTM D648
Barcol Hardness	Min 42	ASTM D2583



\*4 : ST values based on conversion

\*5 : Cure condition for HDT 24 hours at room temperature then 2 hours at 105<sup>0C</sup>

#### Notice in Use :

1. If IK650 is blended with cobalt salt promoters shelf life will be shortened . promoted IK650 must be used within three months.
2. The gel time of IK650 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. IK650 contains organic solvent (styrene), keep away from heat sparks and flames.
4. IK650 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.
- 6.

#### PACKAGE:

Standard packing is 200 kg steel drum.