



Polyester Resin 121

Technical Data Sheet

Product Name : IK121 General Purpose Unsaturated Polyester Resin .

Description : Versatile rapid curing general purpose orthophthalic unsaturated polyester (UP) resin with excellent mechanical properties and good electrical performance . laminates prepared with IK-121 are resilient have high mechanical strength , good rigidity and excellent impact resistance together with low water absorption rate .

IK121 is therefore particularly suited for the manufacture of vehicle bodies , machine fairings and covers boat . building water tanks and moulds for cold curing GRP systems .

Application : IK121 is suitable for use in hand lay-up , spray – up , injection or machine moulding operation , the resin must be allowed to attain workshop temperatures before being formulated for use the accelerator should be thoroughly dispersed the resin , then the correct amount of catalyst should be added and stirred into the accelerated resin just before the use .

Curing : Excellent laminates can be made with IK 121 by curing at room temperature (20 °C) for an even better performance in terms of mechanical properties or heat and weathering resistance the laminate may be post cured minimum of 3 hours at 80 °C or 15 hours at 50 °C.

Typical properties of liquid resin.

Property *1	Value
Acid Value	30 ± 5 mgr KOH/gr
Appearance	Clear liquid
Solid content	63 ± 2 %
Viscosity *2	450 - 500 cps

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Specific gravity	1.05 - 1.1 gr/cm ³
Gel time ^{*3}	10 – 13 min
Time to Peak	25 - 30 min
Peak exotherm	100 ± 5 °C
Shelf life	6 Month

*1 : Measurement was obtained under 25⁰C

*2 : LVT# 3-60 rpm (@) 25⁰C

*3 : Cobalt 10% , 0.1 phr MEKP A 60 , 1.5 (@) 25⁰C

TYPICAL CLEAR CASTING PROPERTIES OF CURED

PROPERTY	ST ^{*4}	TEST METHOD
Tensile strenght	50 ± 5 MPa	ASTM D638
Tensile modulus	2.2 ~ 2.4 Gpa	ASTM D638
Tensile elongation	2 ~ 5 %	ASTM D638
Flexural strength	110 – 120 Mpa	ASTM D790
Flexural modulus	4.0 – 4.2 Gpa	ASTM D790
Volume shrinkage	3 – 4 %	ASTM D2566
HDT ^{*5}	65 – 70 °C	ASTM D648
Barcol Hardness	35 - 40	ASTM D2583

*4 : ST values based on conversion

*5 : Cure condition for HDT 24 hours at room temperature then 2 hours at 105⁰C



Notice in Use :

1. If IK121 is blended with cobalt salt promoters shelf life will be shortened . promoted IK121 must be used within three months.
2. The gel time of IK121 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. IK121 contains organic solvent (styrene) , keep away from heat sparks and flames.
4. IK121 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.