

Provisional Product Data Sheet

MECHSTER™ 1110NT

(Thixotropic Isophthalate Polyester Resin for Laminating Application)

Mechster™ designates a variety of unsaturated polyester resins synthesized at *Mechemco Resins Pvt. Ltd.* These resins are specially engineered to meet the most diverse needs of fibreglass reinforced plastic moulding industry. Our R & D is geared to tailor **Mechster™ Resins** for the customers' most specific end application. In fact we take pride in suitably formulating the resin to improve your production efficiency as also the field performance of the FRP product.

Mechster™ 1110NT is a high molecular weight Isophthalic acid based unsaturated polyester resin specially designed for hand layup and sprayup process for laminating application

The **Mechster™ 1110NT** is designed to have,

- fast wet out of reinforcements and easy air release
- multiple layers build up possible due to low exotherm
- lower shrinkage
- higher heat deflection temperature
- excellent performance properties

Physical Properties of Liquid Resin

Appearance	: Hazy viscous liquid
Specific Gravity @25°C	: 1.11 ± 0.01
Viscosity @ 25°C by Brookfield	
cP @ 100 rpm	: 650 ± 50
Thixotropic Index (10/100)	: > 2.5
Acid Value mg KOH/g	: 10 - 15
Volatile Content (w/w) %	: 38 - 43

Curing Behaviour of Liquid Resin

Gel time, minutes @ 25°C, 50 gm mass	: 20 - 30
1.0% Accelerator (3% Cobalt) 1.5% Catalyst (MEKP – 9% Active Oxygen)	
Peak Exotherm Temperature°C	: >150

Typical Properties of Cured Mechster™ 1110NT

	Cast
Glass Content	--
Specific Gravity @ 25°C	1.20
Tensile Strength, Mpa	75
Tensile Modulus, Mpa	3700
Tensile Elongation at Break, %	3.0
Flexural Strength, Mpa	130
Flexural Modulus, Mpa	4000
Izod Impact Strength, kJ/m ² (unnotched)	17
Heat Deflection Temperature, °C	105
Volume Shrinkage, %	< 5.0
Barcol Hardness	45
Coefficient of Linear Thermal Expansion, (0-60°C), m/m.°Cx10 ⁻⁶	110
Water Absorption, (w/w) % @ 30°C	
1 day	< 0.10
7 days	0.13

(Test methods : IS 6746-1994, ASTM and BS where IS not available.)

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Uses

Mechster™ 1110NT is suitable for lamination for high performance composite products with uniform glass to resin ratio – even with vertical surfaces. This material can be used by Hand Lay-up as well as Spray-up and Filament Winding process for FRP Parts suitable for Marine and outdoor applications.

Packing

Mechster™ 1110N(T)A is supplied in non returnable M.S. drums containing 225 kg net or 1000 kg IBCs

Storage & Handling Precautions

Mechster™ 1110N(T)A resin should be stored in a cool dry place away from sunlight, preferably below 30°C. Under these conditions, the shelf life is well over 3 months. Material must be stirred well before using.

Mechster™ 1110N(T)A has a flash point of 34°C and is classified as flammable. Containers should be kept in a cool and ventilated place away from sunlight and sources of ignition. "No Smoking" rules should be strictly enforced. In case of fire, use dry chemical, foam, carbon dioxide or water spray to extinguish the flame. Spillages may be absorbed onto sand or earth and shovelled off and disposed according to local disposal regulations.

Skin contact and vapor inhalation should be avoided during moulding because of the presence of styrene monomer. In case of irritation in the eye or skin, wash with copious amount of water. In extreme case, seek immediate medical advice. The moulding area should be sufficiently ventilated for reducing the vapour levels in the air while compounding and moulding.

Our information regarding our products, equipments and processes is based on extensive research and experience in the field of Applied Engineering and is provided as a general guidance in the application of our product. The user should verify the suitability of our product for their end use. We do not warrant or assume any liability for the information provided.