

MECHSTER™ 6300

(HET Acid Based Polyester Resin)

Mechster™ designates a variety of unsaturated polyester resins synthesized at **Mechemco Industries**. 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™ 6300 is a medium reactivity, high molecular weight HET acid based unsaturated polyester resin.

Mechster™ 6300 has unique properties of the chemical resistance coupled with heat resistance and flame retardancy due to the cyclo aliphatic halogenated backbone structure. This makes **Mechster™ 6300** as an ideal material for highly corrosive environments like chlorine and oxidizing acids. The UV stabilized **Mechster™ 6300** imparts excellent weather stability for outdoor applications.

Mechster™ 6300 is thus designed to have :

- Fast wet out of reinforcements
- Excellent surface finish
- Good weatherability
- Higher heat deflection temperature
- High gloss retention
- Good chemical and thermal resistance
- Superior flame retardancy in combination with antimony oxide

Physical Properties

Appearance : Yellow clear viscous liquid
 Specific Gravity @25°C : 1.14 ± 0.01
 Viscosity @ 25°C by
 Brookfield Viscometer, cps : 400 ± 50
 Acid Value mg KOH/g : 15 ± 2
 Volatile Content (w/w) % : 40 ± 2

Curing Behaviour

Geltime, minutes @ 25°C with
 1.0% v/w A103¹
 1.5% v/w C109² : 15 - 20
 Peak Exotherm Temperature, °C : 165

¹A103 : Cobalt Octoate Solution containing 3% Cobalt

²C109 : MEKP with 9% Active Oxygen

³Unfilled, ⁴Reinforced with fibreglass CSM

Properties of Cured Mechster™ 6300

	Cast ³	Laminate ⁴
Glass Content % (w/w)	-	30-35
Specific Gravity, @ 25°C	1.23	~1.48
Tensile Strength, MPa	40	112
Tensile Modulus, MPa	3500	9000
Elongation at Break, %	1.4	1.8
Flexural Strength, MPa	70	145
Flexural Modulus, MPa	3800	9000
Heat Deflection Temperature, °C	138	-
Barcol Hardness	40	-
Volume Shrinkage (%)	~7	-
Flammability	Low	Low

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

Uses

Mechster™ 6300 is most suitable for structural components with high corrosion resistance coupled with inbuilt fire retardancy. The applications include very high corrosive environments viz., hot wet chlorine and other highly oxidizing organic and mineral acids over a wide range of concentrations and temperatures with little or no loss in strength. **Mechster™ 6300** in combination with antimony trioxide (3 - 5%) will improve its fire retardancy rating.

Packing

Mechster™ 6300 is supplied in M.S. drums containing 210 kg net and HDPE carboys containing 30 kg net.

Storage

Mechster™ 6300 should be stored in a cool and dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is 3 months. The storage stability could be further improved by aerating the resin stored in barrels at an interval of about a fortnight.

Handling

Mechster™ 6300 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. Spillage may be absorbed onto sand or earth and shoveled 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 provide

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