

Provisional Product Data Sheet

MECHSTER™ 1110M(I)

(Isophthalate Polyester Resin for Infusion Molding)

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™ 1110M(I) is a high reactivity, preaccelerated, non-thixotropic Isophthalic acid and standard glycols based unsaturated polyester resin tailored for the Infusion Moulding (IM) process.

Mechster™ 1110M(I) is designed to have :

- fast wet out of reinforcements
- long gel times and rapid gel to demolding times
- higher heat deflection temperature
- excellent surface finish

Components moulded from **Mechster™ 1110M(I)** exhibit good hydrolytic stability, very good mechanical strength

Physical Properties

Appearance	: Bluish Green Transperant Liquid
Specific Gravity @30°C	: 1.06 ± 0.01
Viscosity @ 30°C by Brookfield Viscometer, cP	: 175 ± 25
Acid Value mg KOH/g	: < 15
Volatile Content (w/w) %	: 44 ± 3

Curing Behaviour

Gel time, minutes @ 30°C	: 25 - 45
50 gm resin in Steel Cup with 1.5% v/w A-101 ¹ and 1.5% v/w C-109 ²	
Total Time to Cure, minutes	: 40 – 80
Peak Exotherm Temperature, °C	: 150 – 170

Note:

- 1:A-101:Cobalt Octoate Solution (1% Cobalt Content)
2:C-109: Methyl Ethyl Ketone Peroxide (9% Active Oxygen)

Properties of Cured Mechster™ 1110M(I) (Unfilled Cast)

Specific Gravity @ 25°C	: 1.20
Tensile Strength, MPa	: 70
Elongation at Break, %	: 3.0
Tensile Modulus, MPa	: 3600
Flexural Strength, MPa	: 115
Flexural Modulus, MPa	: 3600
Heat Deflection Temperature, °C	: 95
Barcol Hardness	: 40

(Test methods as per relevant IS standards)

Uses

Mechster™ 1110M(I) is suitable for resin infusion moulding process for manufacturing of large size high performance FRP components.

Packing

Mechster™ 1110M(I) is supplied in non returnable M.S. drums containing 220 kg or returnable IBCs containing 1.0 MT or ISO Tanks containing ~ 20 MT net.

Storage

Mechster™ 1110M(I) 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. Resins stored in a tank need to be circulated through suitable cooling line if required.

Handling and Precautions

Mechster™ 1110M(I) 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 on to 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 molding.

The above information and recommendation are based on our extensive experience in the field and is provided only as a general guidance for application of our product. The user should verify the suitability of our product for their own specific applications. We do not warrant or assume any liability for the information provided.

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