

Provisional Product Data Sheet

MECHSTER™ 9000-15TA LSE

(Low Styrene Emission, Thixotropic, Pre-accelerated Orthophthalate Polyester Resin - Low Exotherm)

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™ 9000-15TA LSE is a thixotropic, pre-accelerated, medium reactivity, low viscosity and low styrene emission orthophthalate polyester resin. It is designed to give:

- Excellent surface finish
- Minimal sagging for vertical surface application
- Fast curing time with very low exotherm for thick laminates
- Fading dye indicator for catalyst addition
- Reduced Styrene Emission

Mechster™ 9000-15TA LSE is approved by *Lloyd's Register*.

Physical Properties

Property	Nominal Values	Test Method*
Appearance	Light Blue, Hazy, Viscous Liquid	-
Specific Gravity @ 25°C	1.08 ± 0.01	AM-103
Viscosity ⁽¹⁾ @ 25°C (cP)	900 ± 100	AM-101
Thixotropic Index (2/20)rpm	3.5 - 4.5	AM-101
Acid Value (mg KOH/g)	< 30	AM-102
Volatile Content (%)	43 ± 3	AM-106

Curing Behaviour at 25 °C: 100g Resin + 1.0% Butanox M-50⁽²⁾

Property	Nominal Values	Test Method*
Gel Time (mins)	25 - 35	AM-110
Total Time to Peak (mins)	50 - 70	AM-110
Peak Exotherm Temp (°C)	90 -110	AM-110

*Internal Test Method available upon request.

⁽¹⁾ Viscosity: LVDV-E, Sp #2, RPM 20

⁽²⁾ A101: Co Octoate Solution (1% Cobalt)

⁽³⁾ Butanox M-50: Methyl Ethyl Ketone Peroxide from Akzo Nobel

⁽⁴⁾ Post-Curing: 16 hours at 40 °C

⁽⁵⁾ Laminate with 33% Glass content - thickness built up in two sequences with a gap of more than 4 days

⁽⁶⁾ Post-Curing: 16 hrs at 40 °C + 2 hrs at 65 °C + 2 hrs at 80 °C

Caution: Mechster™ 9000-15TA LSE contains additives which form a barrier film during lamination process to reduce emission of styrene without loss of secondary bond strength. As a precaution, it is recommended to sand the base laminate before over-laminating it.

Properties of Cast of Unfilled Base Resin⁽³⁾

Property	Nominal Values	Test Method
Specific Gravity @ 25°C	1.21	ISO 1183
Tensile Strength (MPa)	65	ISO 527-2
Tensile Modulus (MPa)	3500	ISO 527-2
Elongation at Break (%)	3	ISO 527-2
Flexural Strength (MPa)	105	ISO 178
Flexural Modulus (MPa)	3200	ISO 178
Intermaninar Shear Strength ⁽⁵⁾ (MPa)		ISO 14130
Heat Deflection Temperature ⁽⁶⁾ (°C)	60	ISO 75-2
Barcol Hardness	40	ASTM 2583
Volumetric Shrinkage, %		ISO 3521

Uses

Mechster™ 9000-15TA LSE is a versatile orthophthalate polyester resin suitable for many applications primarily for moulding FRP components. It is suitable for making thick FRP laminates having vertical surfaces using open mould processes at ambient temperatures.

Packing

Mechster™ 9000-15TA LSE is supplied in non returnable M.S. drums containing 220 kg or returnable IBCs containing 1.0 MT and ISO Tanks containing ~ 20 MT net

Storage and Handling

Mechster™ 9000-15TA LSE should be stored in a cool and dry place away from sunlight, preferably below 25°C. Under these conditions, the shelf life is 4 months. The storage stability could be further improved by aerating the resin stored in barrels at an interval of about a fortnight.

Mechster™ 9000-15TA LSE has a flash point of 32°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.

Mechster™ is Registered Trade Mark of Mechemco

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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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