

Mechster™ 9000S(ES)

(Resin for Engineered Stone Casting)

Mechster™ designates a variety of unsaturated polyester resins synthesized at **Mechemco Industries**. These resins are specially engineered to meet the most diverse needs of moulding / casting 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 product.

Mechster™9000S(ES) is a specially tailored high temperature curable unsaturated polyester resin for engineered stone.

Mechster™ 9000S(ES) is designed to have :

- Excellent color and surface finish after cure
- Easy dispersion of pigments and fillers
- Excellent air release properties
- Uniform & complete curing

Products made out of **Mechster™ 9000S(ES)** are :

- Dimensionally stable
- Water resistant
- Resistant to normal house-hold chemicals
- Good stain resistant
- Machinable and easily repairable

Products made from **Mechster™9000S(ES)** exhibit excellent surface finish with reproducible patterns. These products can be machined to cut, shape and give a finish to any design. These materials are ideal replacement for wood, natural marble and granite. Excellent durability of these products is due to less porosity, water resistance and weathering resistance.

Physical Properties

Appearance	: Clear pale yellow color
Specific Gravity @25°C	: 1.12 ± 0.01
Viscosity @25°C by Brookfield Viscometer, cP	: 650 ± 100
Acid Value mg KOH/g	: 23 ± 2
Volatile Content (w/w) %	: 33 ± 2

Curing Characteristics

Gel time, minutes @ 25°C, 50 gm mass	: 8 - 12
1.0 % A101 ¹ and 2.0% C109 ²	
Time to Peak Temperature, minutes	: 20 - 24
Peak Exotherm Temperature°C	: 160 - 180
Gel time, minutes @ 140°C, 50 gm mass	: 2 - 3
2.0 % TBPB	
Time to Peak Temperature, minutes	: 3 - 4
Peak Exotherm Temperature°C	: 220 - 240

1: A101 - Cobalt Octoate Solution (1% Co Metal)

2: C109 - Methyl Ethyl Ketone Peroxide (9% Active Oxygen)

Typical Properties of Cured Mechster™9000S(ES)

Property	ASTM	Value	
Specific Gravity @ 25°C	D792	1.23	
Volume Shrinkage, (%)	---	~7	
Tensile Strength, MPa	D638M	65	
Tensile Modulus, MPa	D638M	3400	
Tensile Elongation at Break, %	D638M	2.0	
Flexural Strength, MPa	D790M	115	
Flexural Modulus, MPa	D790M	3700	
Heat Deflection Temperature, °C	D648	70	
Barcol Hardness	D2583	45	
Water Absorption at 25°C, % (w/w)	D 570	1 day	< 0.10
		7 days	0.17

Uses

Mechster™9000S(ES) is highly suitable for engineered stone type applications where in it is mixed with filler materials and subjected to hot press curing..

Packing

Mechster™9000S(ES) is supplied in M.S. drums containing 220 kg net. We can also offer bulk 1 MT IBC packing

Storage

Mechster™9000S(ES) 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 Precautions

Mechster™9000S(ES) 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.

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