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AUSTRALIA
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Erapol EME85/50A

HIGH PERFORMANCE POLYESTER BASED URETHANE ELASTOMER

TECHNICAL DATASHEET

Erapol EME85/50A is a 2 component system based on MDI-POLYESTER which when reacted can give a hardness of 50 Shore A.

Erapol EME85/50A has some clear performance advantages over some of the more traditional high performance polyurethane elastomers. The polyurethane elastomers exhibit excellent physical properties, including good tensile strength, high resilience and excellent wear characteristics. There are also clear advantages in terms of processing, including low viscosity at processing temperatures and lower chemical hazards when handling the prepolymers and curatives.

Product Specification

	ISOCYANATE PREPOLYMER (A)	POLYOL CURATIVE (B)
% NCO	6.4 ± 0.2	-
Specific Gravity at 77°F (25°C)	1.13	1.18
Viscosity (cps)	1000 – 2000 at 176°F	300 – 500 at 140°F
Appearance	Milky, white translucent	Hazy liquid at 140°F White solid at 77°F

Mixing and Curing Conditions

Isocyanate Prepolymer (A)	(pbw)	100
Polyol Curative (B)	(pbw)	65
Recommended % Theory		95
Erapol Temperature	°F (°C)	167 – 185 (75 – 85)
Curative Temperature	°F (°C)	131 – 149 (55 – 65)
Pot Life	(mins)	3 – 5
Demould time at 230°F (110°C)	(mins)	20 - 25
Post Cure Time at 230°F (110°C)	(hrs)	16

Results based on a 200g sample moulded in a rectangular slab. Demould time will depend on the size and shape of the cast part, the mould temperature and the curing temperature.

Physical Properties

Properties presented below are to be used as a guide and not intended for specification purposes.

		Erapol EME85/50A	TEST METHOD
Hardness	(Shore A)	50	ASTM D2240
Tensile Strength	psi (MPa)	3263 (22.5)	ASTM D412
100% Modulus	psi (MPa)	247 (1.7)	ASTM D412
300% Modulus	psi (MPa)	493 (3.4)	ASTM D412
Elongation	(%)	670	AS1683.11
Angle Tear Strength, Die C	pli (kN/m)	192 (33.6)	ASTM D624
Tear Strength	pli (kN/m)	90 (15.7)	AS1683.12
DIN Resilience	(%)	39	DIN 53512
DIN Abrasion Resistance 10N	(mm^3)	23	ASTM D5963
Cured Specific Gravity	(g/cm^3)	1.23	ASTM D1817

Below 59°F (15°C) **Erapol EME85A** will appear as a white wax like substance. Below 122°F (50°C) **EME85/50A Curative** will appear as a white solid. The **EME85A** can be melted overnight by placing the drum or pail in a fan forced hot box at 158-176°F (70-80°C) and the **EME85/50A Curative** similarly at 131–149°F (55–65°C). Care should be exercised in keeping moisture away from **EME85A** and **EME85/50A Curative**. Do not exceed a temperature of 176°F (80°C) when melting out the **EME85A** and **EME85/50A Curative**.

Processing Procedure

1. **Erapol EME85A** should be heated to 167 – 185°F (75 - 85°C) and thoroughly degassed at approximately -95kpa of vacuum until excessive foaming stops.
2. **EME85/50A Curative** must first be completely melted at 131 – 149°F (55 – 65°C) and then mechanically stirred prior to processing or decanting. **EME85/50A Curative** should be added to **EME85A**. After adding the curative, mix thoroughly being careful not to introduce air into the mixture.
3. Pour mixed **EME85/50A** into moulds which have been preheated to 230°F (110°C) and precoated with release agent.
4. Allow casting to cure before demoulding.

Handling Precautions

Erapol EME85A should be used in well-ventilated area. Avoid breathing in vapors and protect skin and eyes from contact.

In case of skin contact remove excess, wash with soap and water. For eye contact, immediately flush with water for at least 15 minutes. Call a physician.

If nose, throat or lungs become irritated from breathing in vapors, remove exposed person to fresh air. Call a physician.