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Sydney, NSW 2019
AUSTRALIA
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Erapol EME90A

HIGH PERFORMANCE MDI POLYESTER
ELASTOMER

TECHNICAL DATASHEET

Erapol EME90A is high performance hot castable grade, MDI polyurethane elastomer based on polyester polyols and is generally semi-solid at ambient conditions. This product is an elastomer with outstanding toughness and abrasion properties, which is characteristic of MDI systems.

Erapol EME90A can be cured with 1,4-butanediol (1,4-BDO) to produce a 90 Shore A elastomer.

Product Specification

% NCO	7.7 ± 0.2
Specific Gravity at 77°F (25°C)	1.13
Viscosity at 176°F (80°C) (cps)	950 - 1100
Colour	Milky, White translucent

Mixing and Curing Conditions

Erapol EME90A	(pbw)	100
1,4-BDO	(pbw)	7.8
Recommended % Theory		95
Erapol EME90A Temperature	°F (°C)	167 - 185 (75 - 85)
1,4-BDO Temperature	°F (°C)	68 - 95 (20 - 35)
Pot Life at 176°F (80°C)	(mins)	5 - 6
Mould Temperature	°F (°C)	230 (110)
Oven Temperature	°F (°C)	230 (110)
Demould Time at 230°F (110°C)	(mins)	25 - 35
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.



This information is of general nature and is supplied without recommendation of guarantee. It does not make claim to be free from patent infringement. Properties shown are typical and do not imply specification tolerances. Era Polymers cannot accept liability for loss or damage through use. Whilst these technical details are based on expert knowledge, practical experience and laboratory testing, successful application depends upon the nature and conditions in which the products are supplied. Users must, by comprehensive testing, evaluate this product in their own application.

Physical Properties

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

		EME90A	TEST METHOD
Hardness	(Shore A)	90	ASTM D2240
Tensile Strength	psi (MPa)	5221 (36)	ASTM D412
100% Modulus	psi (MPa)	1305 (9)	ASTM D412
300% Modulus	psi (MPa)	2611 (18)	ASTM D412
Elongation	(%)	550	AS1683.11
Angle Tear Strength, Die C	pli (kN/m)	611 (107)	ASTM D624
Trouser Tear Strength	pli (kN/m)	371 (65)	AS1683.12
DIN Resilience	(%)	44	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	33	ASTM D5963
Cured Specific Gravity	(g/cm ³)	1.24	ASTM D1817
Compression Set / 22 hr at 70°C	(%)	34	ASTM D395 – Method B

Erapol EME90A can be mixed by hand and can be machine dispensed also.

NOTE: Both **EME90A** and **1,4-BDO** are moisture sensitive. Once opened, containers should be purged with nitrogen, if they are to be stored for a period of time.

Below 59°F (15°C) Part A will appear as a white wax like substance. The **Erapol EME90A** (Part A) can be melted overnight by placing the drum or pail in a fan forced hot box at 158-176°F (70-80°C). Care should be exercised in keeping moisture away from **Erapol EME90A**. Do not exceed a temperature of 176°F (80°C) when melting out the **Erapol EME90A**.

Processing Procedure

1. Carefully weigh the correct amount of **Erapol EME90A** into a container and heat to 167 – 185°F (75 - 85°C) and thoroughly degas under vacuum at -95 kpa.
2. Carefully weight correct proportion of **1,4-BDO** into **EME90A** and mix thoroughly. Be careful not to entrap air whilst mixing. (If there are a lot of bubbles in the sample at this stage, the mixed material can be degassed again.)
3. Pour the mixed materials into moulds that have been preheated to 230°F (110°C) and pre-coated with release agent, being careful to avoid trapping air.
4. Allow casting to cure before demoulding.

Adhesion

Adhesion of Erapol based elastomers to various substrates is at best marginal if a primer is not used. Please consult Era Polymers for specific recommendations to improve adhesion.

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Handling Precautions

Erapol EME90A should be used in well-ventilated area. Avoid breathing in vapours 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 vapours, remove exposed person to fresh air. Call a physician.