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AUSTRALIA
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Erapol EMD90A

HIGH PERFORMANCE MDI ELASTOMER

TECHNICAL DATASHEET

Erapol EMD90A is a high performance hot castable grade, MDI polyurethane elastomer based on PTMEG polyols. This product is an elastomer with outstanding toughness and abrasion properties, which is characteristic of MDI systems. **Erapol EMD90A** is normally cured with 1,4 Butane Diol (BDO) to produce a 90 Shore A elastomer.

Application

This product has been specifically designed for the rebound properties and high hardness for skateboard wheels.

Product Specification

	EMD90A (A)	1,4-BDO (B)
% NCO	7.8 ± 0.25	-
Specific Gravity at 25°C	1.02 – 1.08	1.017
Viscosity at 80°C (cps)	1000 – 1800	71.5
Appearance	Milky White translucent liquid	Clear Liquid

Mixing and Curing Conditions

EMD90A (A)	(pbw)	100
1,4-BDO (B)	(pbw)	7.9
Recommended % Theory		95
EMD90A Temperature	(°C)	70 – 80
1,4-BDO Temperature	(°C)	25 – 30
Mixing Time	(mins)	1 – 2
Pot Life at 80°C	(mins)	4 – 6
Mould Temperature	(°C)	100
Oven Temperature	(°C)	100
Demould Time at 110°C	(mins)	60
Post Cure Time at 110°C	(hrs)	16



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.

		EMD90A/1,4-BDO	TEST METHOD
Hardness	(Shore A)	90 ± 3	AS1683.15
Tensile Strength	(MPa)	35	AS1683.11
50% Modulus	(MPa)	6.0	AS1683.11
100% Modulus	(MPa)	7.9	AS1683.11
200% Modulus	(MPa)	11.6	AS1683.11
300% Modulus	(MPa)	16.0	AS1683.11
Elongation	(%)	520	AS1683.11
Angle Tear Strength, Die C	(kN/m)	106	AS1683.12
Trouser Tear Strength	(kN/m)	30	AS1683.12
DIN Resilience	(%)	63	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	48	AS1683.21
DIN Abrasion Resistance 5N	(mm ³)	24	AS1683.21
Cured Specific Gravity	(g/cm ³)	1.1	AS1683.4
Compressive Stress, 10% deformation	(MPa)	2.5	AS2498.3 / ASTM
Compression Set 70°C – 22 hours	(%)	14.9	AS1683.13 1992

Erapol EMD90A can be mixed by hand and can be machine dispensed also.

NOTE: Both Part A and Part B components are moisture sensitive. Once opened, containers should be purged with nitrogen, if they are to be stored for a period of time.

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

Processing Procedure

1. Carefully weigh the correct amount of **part A** into a container and heat to 70-80°C and thoroughly degas under vacuum at -95 KPa.
2. Carefully weight correct proportion of the **1,4 Butane Diol** into **part A** 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 110°C and pre-coated with release agent, being careful to avoid trapping air.
4. Allow casting to cure before demoulding.

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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.

Handling Precautions

Erapol EMD90A 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.