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Erapol EMC95A

HIGH PERFORMANCE MDI POLYCAPROLACTONE
ELASTOMER

TECHNICAL DATASHEET

Erapol EMC95A is high performance hot castable grade, MDI polyurethane elastomer based on polycaprolactone 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 EMC95A is normally cured with 1,4-Butane Diol to produce a 95 Shore A elastomer.

Product Specification

% NCO	9.7 ± 0.2
Specific Gravity at 25°C	1.18
Viscosity at 80°C (cPs)	200 - 700
Colour	Milky White translucent liquid

Mixing and Curing Conditions

		EMC95A / 1,4-Butane Diol	EMC95A / Eracure 210
Erapol EMC95A	(pph)	100	100
1,4-Butane Diol Level	(pph)	8.9	-
Eracure 210 Level	(pph)	-	9.9
Erapol Temperature	(°C)	75 - 85	75 - 85
1,4 Butane Diol Temperature	(°C)	20 - 35	-
Eracure 210 Temperature	(°C)	-	20 - 35
Mixing Time	(mins)	1 - 2	1 - 2
Pot Life	(mins)	4 - 7	5 - 9
Mould Temperature	(°C)	110	110
Oven Temperature	(°C)	110	110
Demould Time at 100°C	(min)	30 - 50	45 - 70
Post Cure Time at 100°C	(hrs)	16	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.

		EMC95A / 1,4-Butane Diol	EMC95A / Eracure 210	TEST METHOD
Hardness	(Shore A)	95 ± 3	93 ± 3	AS1683.15
Tensile Strength	MPa (psi)	38 (5511)	35 (5076)	AS1683.11
100% Modulus	MPa (psi)	12 (1740)	10.4 (1576)	AS1683.11
200% Modulus	MPa (psi)	17.8 (2582)	17.8 (2582)	AS1683.11
300% Modulus	MPa (psi)	26.2 (3800)	27.8 (4032)	AS1683.11
Angle Tear Strength, Die C	(kN/m)	100	79	AS1683.12
Trouser Tear Strength	(kN/m)	44	34	AS1683.12
Elongation	(%)	420	350	AS1683.11
DIN Resilience	(%)	42	31	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	63	63	AS1683.21
Cured Specific Gravity	(g/cm ³)	1.19	1.19	AS1683.4

Erapol EMC95A 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

- 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.
- 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.) **NOTE: Eracure 210 should be mechanically mixed before removing material from the drum or pail.**
- Pour the mixed materials into moulds that have been preheated to 100 – 110°C and pre-coated with release agent, being careful to avoid trapping air.
- Allow casting to cure before demoulding.

Handling Precautions

Erapol EMC95A 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.