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Erapol EMP89A

POLYETHER (PPG/PTMEG) TDI PREPOLYMER

TECHNICAL DATASHEET

Erapol EMP89A is a liquid isocyanate terminated pre-polymer based on a blend of PPG and PTMEG.

Polymers made from **Erapol EMP89A** exhibit good abrasion resistance, high load bearing capability, low heat build up and excellent low temperature flexibility.

Application

Having a PPG/PTMEG backbone means that this polymer is suitable in less demanding applications, where cost is a concern. Its performance falls between that of a PPG and a PTMEG system.

Product Specification

% NCO	4.8 ± 0.2
Specific Gravity at 25°C	1.05
Viscosity at 80°C (cps)	300 - 800
Colour	Amber

Mixing and Curing Conditions

		EMP89A / MOCA	EMP89A / Ethacure 300
Erapol EMP89A	(pph)	100	100
MOCA Level	(pph)	14.5	-
Ethacure 300 Level	(pph)	-	11.5
Recommended % Theory		95	95
Erapol Temperature	(°C)	75 - 85	65 - 75
Curative Temperature	(°C)	110 - 120	20 - 30
Pot Life	(mins)	6	5
Demould Time at 100°C	(hrs)	1	1
Post Cure Time at 100°C	(hrs)	16	16

All results are based on 100 grams of **Erapol EMP89A** at 85°C.



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.

		EMP89A / MOCA	EMP89A / Ethacure 300	TEST METHOD
Hardness	(Shore A)	90 ± 3	90 ± 3	AS1683.15
Tensile Strength	MPa (psi)	27.0 (3916)	25.0 (3626)	AS1683.11
100% Modulus	MPa (psi)	6.9 (1001)	6.0 (870)	AS1683.11
300% Modulus	MPa (psi)	12.4 (1798)	10.3 (1494)	AS1683.11
Angle Tear Strength, Die C	(kN/m)	80	70	AS1683.12
Elongation	(%)	400	390	AS1683.11
DIN Resilience	(%)	-	-	DIN53512
DIN Abrasion Resistance 10N	(mm ³)	80	-	AS1683.21
DIN Abrasion Resistance 5N	(mm ³)	27	27	AS1683.21
Compression Set / 22 hrs at 70°C	(%)	45	60	AS1683.13
Cured Specific Gravity	(g/cm ³)	1.10	1.10	AS1683.4

Processing Procedure

1. **Erapol EMP89A** should be heated to 80 ± 5°C and thoroughly degassed at -95 kpa of vacuum until excessive foaming stops.
2. The curative should be added to **EMP89A**, the MOCA must first be melted at 110 - 120°C prior to mixing the Ethacure 300 processed at room temperature. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture.
3. Pour mixed materials into moulds that have been preheated to 80 - 100°C and pre-coated with release agent.

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 recommendation to improve adhesion.

Handling Precautions

Erapol EMP89A contains small amounts of free TDI. Therefore the product should be used in well-ventilated areas. Avoid breathing in vapours and protect skin and eyes from contact.

In case of skin contact, immediately 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.

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