



**Era Polymers Pty. Ltd.**  
2-4 Green Street, Banksmeadow  
Sydney, NSW 2019  
AUSTRALIA  
www.erapol.com.au

## Erapol EMP83A

POLYETHER (PPG/PTMEG) TDI PREPOLYMER

### TECHNICAL DATASHEET

**Erapol EMP83A** is a liquid isocyanate terminated pre-polymer based on a blend of PPG and PTMEG.

Polymers made from **Erapol EMP83A** 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	3.2 ± 0.2
Specific Gravity at 25°C	1.05
Viscosity at 80°C (cps)	300 - 800
Colour	Amber

### Mixing and Curing Conditions

		EMP83A / MOCA	EMP83A / Ethacure 300
Erapol EMP83A	(pph)	100	100
MOCA Level	(pph)	10.0	-
Ethacure 300 Level	(pph)	-	8.0
Recommended % Theory		95	100
Erapol Temperature	(°C)	75 - 85	65 - 75
Curative Temperature	(°C)	110 - 120	20 - 30
Pot Life	(mins)	6	6
Demould Time at 100°C	(hrs)	1	1
Post Cure Time at 100°C	(hrs)	16	16



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## Physical Properties

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

		EMP83A / MOCA	EMP83A / Ethacure 300	TEST METHOD
<b>Hardness</b>	(Shore A)	83 ± 3	83 ± 3	AS1683.15
<b>Tensile Strength</b>	MPa (psi)	25.0 (3626)	22.1 (3205)	AS1683.11
<b>100% Modulus</b>	MPa (psi)	5.0 (725)	4.6 (667)	AS1683.11
<b>300% Modulus</b>	MPa (psi)	9.0 (1305)	7.6 (1102)	AS1683.11
<b>Angle Tear Strength, Die C</b>	(kN/m)	75	65	AS1683.12
<b>Elongation</b>	(%)	450	450	AS1683.11
<b>DIN Resilience</b>	(%)	-	-	DIN53512
<b>DIN Abrasion Resistance 10N</b>	(mm <sup>3</sup> )	80	-	AS1683.21
<b>DIN Abrasion Resistance 5N</b>	(mm <sup>3</sup> )	26	25	AS1683.21
<b>Compression Set / 22 hr at 70°C</b>	(%)	30	50	AS1683.13
<b>Cured Specific Gravity</b>	(g/cm <sup>3</sup> )	1.10	1.10	AS1683.4

## Processing Procedure

1. **Erapol EMP83A** should be heated to 80 ± 5°C and thoroughly degassed at -95kPa of vacuum until excessive foaming stops.
2. The curative should be added to **EMP83A**, 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 EMP83A** 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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