



HIGH PERFORMANCE MDI BASED ELASTOMER

#### **TECHNICAL DATASHEET**

**Erapol EMD85A** is a high performance hot castable grade, MDI polyurethane elastomer based on PTMEG polyols. This product is an elastomer with outstanding toughness, rebound and abrasion properties, which is characteristic of MDI systems. **Erapol EMD85A** is normally cured with 1,4-Butane Diol (BDO) to produce an 85 Shore A elastomer.

## **Application**

This product has been specifically designed for high rebound and properties for dynamic applications.

### **Product Specification**

	Erapol EMD85A	1,4-BDO	
% NCO	6.50 ± 0.25	-	
Specific Gravity at 77°F (25°C)	1.02 – 1.08	1.02	
Viscosity at 176°F (80°C) (cps)	1200 – 2000	71.5	
Appearance	Milky white translucent liquid	Clear liquid	

## **Mixing and Curing Conditions**

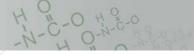
(pbw)	100	
(pbw)	6.6	
	95	
°F (°C)	158-176 (70–80)	
°F (°C)	77-86 (25 – 30)	
(min)	1 – 2	
(min)	9 - 12	
°F (°C)	230-248 (110-120)	
°F (°C)	230-248 (110-120)	
(min)	60	
(hrs)	16	
	°F (°C)	

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. Version 2





# **Physical Properties**

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

		EMD85A/BDO	TEST METHOD
Hardness	(Shore A)	85 ± 3	ASTM D2240
Tensile Strength	psi (MPa)	5065 (34.9)	ASTM D412
100% Modulus	psi (MPa)	900 (6.2)	ASTM D412
Angle Tear Strength, Die C	pli (kN/m)	588 (103)	ASTM D624
Trouser Tear Strength	pli (kN/m)	171 (30)	AS1683.12
Elongation	(%)	460	AS1683.11
DIN Resilience	(%)	67	DIN 53512
DIN Abrasion Resistance 10N	(mm³)	45	ASTM D5963
DIN Abrasion Resistance 5N	(mm³)	22	ASTM D5963
<b>Cured Specific Gravity</b>	(g/cm³)	1.1	ASTM D1817
Compressive Stress, 10% deformation	ion psi (MPa)	295 (2)	ASTM D575
Compression Set / 22 hr at 70°C	(%)	23	ASTM D395

## **Processing Procedure**

Erapol EMD85A can be mixed by hand or machine dispensed.

- 1. Heat pre-weighed amount of **Erapol EMD85A** to 158-176°F (70–80°C) and degas at -13.8psi (-95kPa) of vacuum for at least 5 minutes or until excessive bubbling stops. Containers should be unlined metal, plastic or glass and should be large enough to allow for foaming during degassing.
- Carefully weight correct proportion of the 1,4-Butane Diol into Erapol EMD85A 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 system into moulds preheated to 110°C and pre-coated with release agent, being careful to avoid trapping air.
- 4. Cure in accordance with above recommendations.

#### **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**

NOTE: Both components are moisture sensitive and care should be exercised in keeping moisture away. Once opened, containers should be purged with nitrogen if they are to be stored for a period of time. Below 15°C Erapol EMD85A will appear as a white wax like substance and can be melted overnight by placing the drum or pail in a fan forced hot box at 158-176°F (70–80°C) - do not exceed 176°F (80°C).

**Erapol EMD85A** 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.



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