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AUSTRALIA
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Erapol EMD 195 Series

HIGH PERFORMANCE POLYETHER BASED
URETHANE ELASTOMER

TECHNICAL DATASHEET

Erapol EMD 195 Series is a 3 component system based on MDI-PTMEG which when reacted can give a range of hardness varying from 85A – 75D.

It finds applications in those areas where the outstanding properties of PTMEG based materials are needed which include thermal resistance, hydrolysis resistance and good mechanical properties.

The **Erapol EMD 195 Series** has some clear advantages in terms of processing, including low viscosity of all three components at processing temperatures; and lower chemical hazards when handling the components, when compared with TDI systems.

Application

The **Erapol EMD 195 Series** is ideally suited to machine dispensing.

Product Specification

	PART A	PART B	PART C
% NCO	19.5 ± 0.2	-	-
Specific Gravity at 25°C	1.14	1.05	1.03
Viscosity at 25°C (cps)	300 - 1000	100 - 300	50 - 150
Appearance	Clear yellow liquid	Clear colourless liquid	Clear Colourless liquid



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.

Processing Procedure

The **Erapol EMD 195 Part A** is liquid at room temperature. The Part B & Part C are liquid at temperatures above 15°C.

It is recommended that Part A be processed at 40°C, Part B and Part C can be processed at 40°C.

1. **Erapol EMD 195 Part A** should be weighed into unlined metal, plastic or glass containers and heated to the recommended processing temperature 40°C and thoroughly degassed at -95kpa of vacuum until excessive foaming stops.
2. The **Part B** and **Part C** are blends of raw materials and will need to be mechanically stirred should removing material from the drum. The **Part B** should be added to the **Part A** followed by the addition of **Part C**. After adding the **Part B** and **Part C**, mix thoroughly for approximately 1 minute, being careful not to introduce air into the mixture, and degas at -95kpa for a further 1-2 minutes.
3. Pour the mixed polyurethane into moulds that have been preheated to 40-50°C and pre-coated with release agent – Salease or another appropriate release agent..
4. Post cure in a 60-80°C oven for 16 hours.

Mixing and Curing Conditions

		85A	95A	50D	75D
Part A	(ppw)	100	100	100	100
Part B	(ppw)	76.8	48.2	41.7	11
Part C	(ppw)	13.5	16.2	16.9	19.8
Recommended % Theory		95	95	95	95
Part A Temperature	(°C)	40	40	40	40
Part B Temperature	(°C)	40	40	40	40
Part C Temperature	(°C)	40	40	40	40
Mould temperature	(°C)	80	80	80	80
Oven Temperature	(°C)	40 - 50	40 - 50	40 - 50	40 - 50
Pot Life	(mins)	3 - 4	3 - 4	3 - 4	4 - 5
Demould Time at 40 - 50°C	(mins)	30	30	30	30
Post Cure Time at 60 - 80°C	(hrs)	16	16	16	16

The above results are based on 200 grams of mixed sample.

Physical Properties

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

Hardness	(Shore A)	85 ± 5	95 ± 5		
Hardness	(Shore D)			50 ± 5	75 ± 5
Tensile Strength	(MPa)	28	36	35	37
100% Modulus	(MPa)	6.6	12.6	16.4	34.6
200% Modulus	(MPa)	11.5	21.0	23.5	-
300% Modulus	(MPa)	18.8	31.2	32.3	-
Angle Tear Strength, Die C	(kN/m)	62	82	78	122
Trouser Tear Strength	(kN/m)	20	23	25	46
Elongation	(%)	375	320	320	160
DIN Resilience	(%)	36	29	30	53
DIN Abrasion Resistance	(mm ³)	57	66	76	96
Cured Density		1.09	1.14	1.14	1.16

Handling Precautions

The **Erapol EMD 195 Part A** is based on MDI and is particularly suited for applications where the use of TDI prepolymers and the generation of TDI vapours might be of a concern. Please consult the product MSDS for further information.

NOTE: The drums of Part A, B and C should be sealed after material removed with dry nitrogen to prevent moisture being stored in the material.