

#### SYDNEY

25 – 27 Green St  
East Botany, NSW 2019  
Ph: +61 2 9666 3788  
Fax: +61 2 9666 4805

#### MELBOURNE

29 Trade Place  
Vermont, VIC 3133  
Ph: 03 9872 4033  
Fax: 03 9872 4099

#### BRISBANE

Unit 6/5 Deakin Street  
Brendale, QLD 4500  
Ph: 07 3205 8510  
Fax: 07 3205 9616

#### SINGAPORE

H.K. Moey  
9 Elias Terrace  
Singapore 519772  
Ph: +65 6582 8103  
Fax: +65 6584 8100  
Mobile: +65 9751 0026



# TECHNICAL DATA

## Erapol EMD 135 BDO Series

HIGH PERFORMANCE POLYETHER BASED URETHANE  
ELASTOMER

**Erapol EMD135** is a 3 component system based on MDI-PTMEG which when reacted can give a range of hardness varying from 60A – 95A.

The **Erapol EMD135** Series has some clear performance advantages over some of the more traditional high performance polyurethane elastomers. The polyurethane elastomers exhibit excellent physical properties, including good tensile strengths, high resilience and excellent wear characteristics as well as outstanding hydrolytic stability. There are also clear advantages in terms of processing, including low viscosity at processing temperatures and lower chemical hazards when handling the components.

### APPLICATIONS

The Erapol EMD series are ideally suited to machine dispensing, especially where large mouldings are required. Typical uses for Erapol EMD elastomers are wheels and rollers, seals, gaskets, bushes, linings and marine products.

### PROCESSING PROCEDURE

The Erapol EMD135 **Part A** is liquid at room temperature. The **Part C** is liquid at temperatures above 15°C. The **Part B** must be melted at 60°C.

It is recommended that Part A and B be processed at 40-50°C, Part C processed at 25°C

1. Erapol EMD135 **Part A** should be weighed into unlined metal, plastic or glass containers and heated to the recommended processing temperature 40-50°C and thoroughly degassed at 1-5 mmHg of vacuum until excessive foaming stops.
2. The **Part B** should be added to the **Part A** followed by the addition of **Part C**. It is recommended that Part A, B all be processed at 40-50°C, Part C @ 25°C. After adding the Part B and C mix thoroughly for 1-2 minutes, being careful not to introduce air into the mixture, and degas at 1-5 mm for 1-2 minutes.
3. Pour the mixed polyurethane into moulds that have been preheated to 90-100°C and pre-coated with release agent - **Salease**.
4. Post cure in an 90-100°C oven for 16 hours.

#### Additional Catalysis

The demould times of the **EMD135** products can be reduced significantly by using catalysts. Era strongly suggests contacting the sales team for specific details. Machine processing is advised when rapid demould times are required.

### HANDLING INFORMATION

The **Erapol EMD135** Part A is based on MDI and not regulated for transport, and so are particularly suited for applications where the use of TDI prepolymers and the generation of TDI vapours might be of a concern. We strongly advise that the products MSDS be read prior to use.

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.



# Era Polymers Pty. Ltd.

A.B.N. 14 003 055 936

erapol@erapol.com.au  
www.erapol.com.au

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Processing	60A	65A	70A	75A	80A	85A	90A	95A
Part A	100	100	100	100	100	100	100	100
Part B	180	150	120	105	90	60	45	30
Part C (1,4 BDO)	5.6	7.0	8.4	9.1	9.8	11.2	11.9	12.6
% Theory	95	95	95	95	95	95	95	95
Part A Temp (°C)	40	40	40	40	40	40	40	40
Part B Temp (°C)	40	40	40	40	40	40	40	40
Part C Temp (°C)	25	25	25	25	25	25	25	25
Mould Temp (°C)	90-100	90-100	90-100	90-100	90-100	90-100	90-100	90-100
Oven Temp (°C)	90-100	90-100	90-100	90-100	90-100	90-100	90-100	90-100
Pot-life (Minutes) *	4-7	4-7	4-7	4.7	8	4-7	4-7	4-7
Demould Time @ 80-90°C (minutes)	60	45	45	45	30	30	30	30
Post Cure @ 90-100°C (hours)	16	16	16	16	16	16	16	16

\* Catalysed system.

The above results are based on 200 grams of mixed sample at 40°C

Physicals								
Hardness (shore A)	60	65	70	75	80	85	90	95
Abrasion (Din mm <sup>3</sup> )	30	21	23	21	30	34	36	44
Resilience Din 53512	70	67	66	65	64	66	62	60
Tensile strength MPa	21	26	28	31	32	34	36	36
100 % Modulus MPa	1.5	2.3	3.0	4.0	5.3	7.2	8.8	11
300 % Modulus MPa	3.8	6.1	8.0	9.8	11.0	13.8	16.3	18.3
Elongation (%)	620	615	585	578	590	608	587	550
Trouser tear (kN/m)	16	19	24	25	45	47	57	69
Angle tear (kN/m)	30	48	52	68	80	91	102	117
Cured density	1.05	1.06	1.06	1.07	1.07	1.10	1.11	1.13

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