

TECHNICAL DATASHEET

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 -95kPa 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** at 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 -95kPa 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 a 90-100°C oven for 16 hours.

Additional Catalysis

The demould times of the **EMD135** products can be reduced significantly by using catalysts. Era Polymers 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.

Processing Conditions

	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 Temperature (°C)	40	40	40	40	40	40	40	40
Part B Temperature (°C)	40	40	40	40	40	40	40	40
Part C Temperature (°C)	25	25	25	25	25	25	25	25
Mould Temperature (°C)	90-100	90-100	90-100	90-100	90-100	90-100	90-100	90-100
Oven Temperature (°C)	90-100	90-100	90-100	90-100	90-100	90-100	90-100	90-100
Pot-life* (mins)	4-7	4-7	4-7	4-7	8	4-7	4-7	4-7
Demould Time at 80-90°C (mins)	60	45	45	45	30	30	30	30
Post Cure Time at 90-100°C (hrs)	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 Properties

	60A	65A	70A	75A	80A	85A	90A	95A
Hardness (Shore A)	60	65	70	75	80	85	90	95
Abrasion DIN (mm ³)	30	21	23	21	30	34	36	44
Resilience DIN (%)	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 Strength (kN/m)	16	19	24	25	45	47	57	69
Angle Tear Strength (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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