

NEUTHANE 8001XP Series

MDI - PTMEG Ether Quasi Systems - 3 Component – Extra High Performance Published June 2024 Version 3

The NEUTHANE 8001XP series are high performance MDI - PTMEG ether quasi systems designed to produce items for use in arduous application areas.

- a very high level of physical properties
- good dynamic performance
- good hydrolysis resistance
- high resilience
- low viscosity
- low process temperatures

Typical Applications

Wheels (e.g. fork truck, pallet truck and press on bands)
In-line roller blade wheels
Mining and quarrying (e.g. screen decks, scraper blades)
Hydrocyclones
Automotive (e.g. suspension bushes)
Roll covering

Processing can be carried out by hand or by dispensing machine

- Pails or Drums must be melted and rolled so material is fully mixed before use
- Avoid moisture contamination of all materials.
- Part used containers should be flushed with dry nitrogen and resealed immediately after use
- It is vital to ensure that both components are completely liquid and thoroughly mixed prior to use
- Due to the exothermic nature of the system, larger mixes will have a shorter pot life

Storage

- It is recommended to store NEUTHANE 801 ISO XP within the temperature range of 20-30 °C. At lower temperatures can deteriorate, because of the partial crystallisation of its 4,4'-methylenediphenyl diisocyanate content. At higher temperatures above 30 °C, it is not recommended since discolouration and formation of insoluble solids (dimerization) may occur which can lead to a viscosity increase and a decrease of NCO content.
- Recovery Procedure: If partial or entire freezing occurs, it is recommended to rapidly melt out NEUTHANE 801 ISO XP at 70°C, typically for 16 hours or overnight

Hand Processing

1. Long pot life enables hand processing
2. Melt ISO component at 30-40°C, POLYOL component at 50-60° for 12-24 hours
3. Ensure components are completely liquid and thoroughly mixed prior to use
4. Bring all components to the recommended process temperature.
5. Add pigments and Antifoam (as applicable) to the polyol component whilst mixing
6. It is recommended that air be removed from the ISO component under vacuum prior to addition of the curative
7. Add all components and thoroughly mix ensuring that no unmixed material is left on the container sides (if necessary the mix can be transferred to a second clean container and mixed again)
8. Remove air under vacuum
9. Cast into moulds, preheated to the recommended temperature
10. Cure as recommended

NEUTHANE 8001XP Bespoke Pre-Catalysed system options are available, tailored to your needs and requirements.

NEUTHANE 8001XP Series (3 COMPONENT – EXTRA HIGH PERFORMANCE) MDI - PTMEG Ether Quasi System (60A – 75D)

NEUTHANE GRADE		8001/60XP	8001/65XP	8001/70XP	8001/75XP
Mix Ratio NEUTHANE 801 ISO-XP	By weight	100	100	100	100
Mix Ratio NEUTHANE 8001 POLY- XP	By weight	320	301.6	271.3	210.4
Mix Ratio NEUTHANE CA13	By weight	6.7	7.1	8.6	11.1
NEUTHANE 801 ISO-XP Operating Temperature (OT)	°C	45	45	45	45
NEUTHANE 8001 POLY- XP Operating Temperature (OT)	°C	55	55	55	55
NEUTHANE CA13 Operating Temperature (OT)	°C	45	45	45	45
NEUTHANE 801 ISO-XP Viscosity / SG (at OT)	cPs / g/cm ³	220 / 1.198	220 / 1.198	220 / 1.198	220 / 1.198
NEUTHANE 8001 POLY-XP Viscosity / SG (at OT)	cPs / g/cm ³	620 / 0.965	620 / 0.965	620 / 0.965	620 / 0.965
NEUTHANE CA13 Viscosity / SG (at OT)	cPs / g/cm ³	30 / 1.04	30 / 1.04	30 / 1.04	30 / 1.04
Recommended Mould Temperature	°C	90 – 110	90 – 110	90 – 110	90 – 110
Pot life – adjustable with catalyst	minutes	2-4	2-4	2-4	2-4
Recommended Cure Temperature / Time	°C / hrs	80-90 /16	80-90 /16	80-90 /16	80-90 /16

Hardness	ISO 48-4	Shore A	60	65	70	75
	ISO 48-4	Shore D	-	-	-	-
100% Modulus	ISO 37	lb/in ² (MPa)	289 (2.0)	354 (2.4)	467 (3.0)	580 (4.0)
300% Modulus	ISO 37	lb/in ² (MPa)	516 (3.6)	671 (4.6)	916 (6.0)	1160 (8.0)
Tensile Strength	ISO 37	lb/in ² (MPa)	3872 (26.4)	3315 (27.0)	4060 (28.0)	4785 (33.0)
Elongation at Break	ISO 37	%	687	681	594	506
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	258 (45.1)	275 (48.0)	335 (59.0)	395 (69.0)
Tear Trouser	ISO 34-1	lbf/in (kN/m)	77 (13.4)	80 (14.0)	83 (15.0)	86 (15.0)
Resilience	ASTM D 2632-92	%	69	69	62	55

Data above represents typical physical properties. Since conditions of use are beyond our control, no warranty is given or implied in respect of any recommendations or suggestions made by ourselves, nor is freedom from patent infringement inferred. **Data collected with NEUTHANE CAT059, please contact Notedome to request a suitable catalyst recommendation according to your application



NEUTHANE 8001XP Series (3 COMPONENT – EXTRA HIGH PERFORMANCE) MDI - PTMEG Ether Quasi System (60A – 75D)

NEUTHANE GRADE		8001/80XP	8001/85XP	8001/90XP	8001/95XP
Mix Ratio NEUTHANE 801 ISO-XP	By weight	100	100	100	100
Mix Ratio NEUTHANE 8001 POLY- XP	By weight	178.9	146.3	125.2	103.1
Mix Ratio NEUTHANE CA13	By weight	13.0	13.9	15.0	15.8
NEUTHANE 801 ISO-XP Operating Temperature (OT)	°C	45	45	45	45
NEUTHANE 8001 POLY- XP Operating Temperature (OT)	°C	55	55	55	55
NEUTHANE CA14 Operating Temperature (OT)	°C	45	45	45	45
NEUTHANE 801 ISO-XP Viscosity / SG (at OT)	cPs / g/cm ³	220 / 1.198	220 / 1.198	220 / 1.198	220 / 1.198
NEUTHANE 8001 POLY-XP Viscosity / SG (at OT)	cPs / g/cm ³	620 / 0.965	620 / 0.965	620 / 0.965	620 / 0.965
NEUTHANE CA13 Viscosity / SG (at OT)	cPs / g/cm ³	30 / 1.04	30 / 1.04	30 / 1.04	30 / 1.04
Recommended Mould Temperature	°C	110	110	110	110
Pot life – adjustable with catalyst	minutes	2-4	2-4	2-4	2-4
Recommended Cure Temperature / Time	°C / hrs	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)

Hardness	ISO 48-4	Shore A	80	85	90	95
	ISO 48-4	Shore D	-	-	-	-
100% Modulus	ISO 37	lb/in ² (MPa)	798 (6.0)	1015 (7.0)	1450 (10.0)	1885 (13.0)
300% Modulus	ISO 37	lb/in ² (MPa)	1668 (12.0)	2175 (15.0)	2828 (20.0)	3480 (24.0)
Tensile Strength	ISO 37	lb/in ² (MPa)	4858 (33.5)	4930 (34.0)	5583 (38.5)	6235 (43.0)
Elongation at Break	ISO 37	%	475	450	464	478
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	444 (78.0)	492 (86.0)	541 (95.0)	589 (103)
Tear Trouser	ISO 34-1	lbf/in (kN/m)	95 (17.0)	103 (18.0)	135 (24.0)	166 (29.0)
Resilience	ASTM D 2632-92	%	46	37	37	37

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NEUTHANE 8001XP Series (3 COMPONENT – EXTRA HIGH PERFORMANCE) MDI - PTMEG Ether Quasi System (60A – 75D)

NEUTHANE GRADE		8001/50D XP	8001/55D XP	8001/60D XP	8001/65D XP	8001/70D XP	8001/75D XP
Mix Ratio NEUTHANE 801 ISO-XP	By weight	100	100	100	100	100	100
Mix Ratio NEUTHANE 8001 POLY- XP	By weight	103.1	90.6	81.1	62.2	53.0	43.0
Mix Ratio NEUTHANE CA13	By weight	15.8	16.4	16.9	17.6	18.1	18.4
NEUTHANE 801 ISO-XP Operating Temperature (OT)	°C	45	45	45	45	45	45
NEUTHANE 8001 POLY- XP Operating Temperature (OT)	°C	55	55	55	55	55	55
NEUTHANE CA13 Operating Temperature (OT)	°C	45	45	45	45	45	45
NEUTHANE 801 ISO-XP Viscosity / SG (at OT)	cPs / g/cm ³	220 / 1.198	220 / 1.198	220 / 1.198	220 / 1.198	220 / 1.198	220 / 1.198
NEUTHANE 8001 POLY-XP Viscosity / SG (at OT)	cPs / g/cm ³	620 / 0.965	620 / 0.965	620 / 0.965	620 / 0.965	620 / 0.965	620 / 0.965
NEUTHANE CA13 Viscosity / SG (at OT)	cPs / g/cm ³	30 / 1.04	30 / 1.04	30 / 1.04	30 / 1.04	30 / 1.04	30 / 1.04
Recommended Mould Temperature	°C	110	115	115	115	115	115
Pot life – adjustable with catalyst	minutes	2-4	2 -4	2 -4	2 -4	2 -4	2 -4
Recommended Cure Temperature / Time	°C / hrs	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)	110 °C (0.5 h) + 90°C (16h)

Hardness	ISO 48-4	Shore A	-	-	-	-	-	-
	ISO 48-4	Shore D	50	55	60	65	70	75
100% Modulus	ISO 37	lb/in ² (MPa)	1885 (13.0)	2030 (14.0)	2683 (19.0)	3335 (23.0)	3998 (28.0)	4640 (32.0)
300% Modulus	ISO 37	lb/in ² (MPa)	3480 (24.0)	3915 (27.0)	4495 (31.0)	5075 (35.0)	5220 (36.0)	5365 (38.0)
Tensile Strength	ISO 37	lb/in ² (MPa)	6235 (43.0)	7105 (49.0)	6380 (44.0)	5655 (39.0)	5583 (39.0)	5510 (38.0)
Elongation at Break	ISO 37	%	478	453	400	344	324	304
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	589 (103)	623 (109)	712 (125)	801 (140)	950 (166)	1098 (192)
Tear Trouser	ISO 34-1	lbf/in (kN/m)	166 (29.0)	177 (31.0)	215 (38.0)	252 (44.0)	241 (42.0)	229 (40.0)
Resilience	ASTM D 2632-92	%	37	38	42	45	48	50

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