NEUTHANE 802NG Series

MDI - Ester Quasi Systems (3 Component System)

Published June 2024 Version 5

The NEUTHANE 802NG series are high performance series are high performance MDI - ester quasi systems designed to produce items for use in arduous application areas.

- a high level of physical properties
- good cut and abrasion resistance
- good chemical resistance
- higher levels of physical properties at low end of the hardness range compared to TDI systems
- low process temperatures

Typical Applications

Wheels (e.g. pallet truck)
Mining and quarrying (e.g. screen decks, scraper blades)
Oil and gas industry (e.g. gaskets, pipe pigs)
Automotive (e.g. suspension bushes)
Concrete Industry (e.g. moulds for decorative slabs and walls

Processing can be carried out by hand or by dispensing machine

- 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

Hand Processing

1. Melt ISO component at 45°C- 55°C, POLYOL components at 55°C - 60°C for 12-24 hours and NEUTHANE CA14 at 40°C - 45°C for 12-24 hours
2. Ensure components are completely liquid and thoroughly mixed prior to use
3. Bring all components to the recommended process temperature.
4. Add pigments and Antifoam (as applicable) to the polyol component whilst mixing
5. It is recommended that air be removed from the ISO component under vacuum prior to addition of the curative
6. 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)
7. Remove air under vacuum
8. Cast into moulds, preheated to the recommended temperature
9. Cure as recommended

Complete toxicity and handling information can be found on the Safety Data Sheet, available upon request.

Alternatives

Dynamic Resilience	- PTMEG ether-based systems should be considered	NEUTHANE 100 [TDI], 600 [MDI], NEUTHANE 801 [Quasi]
Humid/Wet	- PTMEG ether-based systems should be considered	NEUTHANE 100 [TDI], 600 [MDI], NEUTHANE 500 [Aliphatic]
Temperature	- PTMEG ether-based systems should be considered	NEUTHANE 100 [TDI], 600 [MDI], NEUTHANE 500 [Aliphatic]

NEUTHANE 802NG Bespoke Pre-Catalysed system options are available, tailored to your needs and requirements

NEUTHANE 802NG Series (3 COMPONENT) MDI – Ester Quasi System (55A – 95A)

NEUTHANE GRADE		802/55 NG	802/60 NG	802/65 NG	802/70 NG	802/75 NG
Mix Ratio N802 ISO-NG	by weight	100	100	100	100	100
Mix Ratio N802 POLY-NG UC	by weight	274.4	191.5	163.14	143.8	121.04
Mix Ratio NEUTHANE CA14	by weight	3.73	7.84	9.24	10.19	11.32
NEUTHANE 802 ISO-NG Operating Temperature (OT)	°C	45	45	45	45	45
NEUTHANE 802 POLY-NG UC Operating Temperature (OT)	°C	55	55	55	55	55
NEUTHANE CA14 Operating Temperature (OT)	°C	45	45	45	45	45
NEUTHANE 802 ISO-NG Viscosity / SG (at OT)	cPs / g/cm³	751 / 1.183	751 / 1.183	751 / 1.183	751 / 1.183	751 / 1.183
NEUTHANE 802 POLY-NG UC Viscosity / SG (at OT)	cPs / g/cm³	1785 / 1.149	1785 / 1.149	1785 / 1.149	1785 / 1.149	1785 / 1.149
NEUTHANE CA14 Viscosity / SG (at OT)	cPs / g/cm³	36 / 1.002	36 / 1.002	36 / 1.002	36 / 1.002	36 / 1.002
Optimum Mould Temperature	°C	90 - 100	90 - 100	90 - 100	90 - 100	90 - 100
*Pot life (250g mix adjustable with Cat 44 level)	minutes	2-4	2-4	2-4	2-4	2-4
Recommended Cure Temperature / Time	°C / hrs	90 / 16	90 / 16	90 / 16	90 / 16	90 / 16

Hardness	ISO 48-4	Shore A	55	60	65	70	75
	ISO 48-4	Shore D	-	-	-	-	-
100% Modulus	ISO 37	lb/in² (MPa)	218 (1.5)	276 (1.9)	377 (2.6)	450 (3.1)	508 (3.5)
300% Modulus	ISO 37	lb/in² (MPa)	305 (2.1)	464 (3.2)	667 (4.6)	841 (5.8)	856 (5.9)
Tensile Strength	ISO 37	lb/in² (MPa)	2610 (18)	3480 (24)	3770 (26)	3915 (27)	5220 (36)
Elongation at Break	ISO 37	%	680	680	620	610	600
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	166 (29)	240 (42)	303 (53)	337 (59)	406 (71)
Tear Trouser	ISO 34-1	lbf/in (kN/m)	46 (8)	63 (11)	103 (18)	109 (18)	109 (19)
Abrasion loss	ISO 4649	mm³	15	10	10	11	12
Resilience	ASTM D 2632-92	%	52	50	50	49	45
Specific Gravity		g / cm³	1.16	1.17	1.17	1.18	1.18

notedome™ URETHANE SYSTEMS

NEUTHANE 802NG Series (3 COMPONENT) MDI – Ester Quasi System (55A – 95A)

NEUTHANE GRADE		802/80 NG	802/85 NG	802/90 NG	802/95 NG
Mix Ratio N802 ISO-NG	by weight	100	100	100	100
Mix Ratio N802 POLY-NG UC	by weight	88.1	74.4	57.94	42.73
Mix Ratio NEUTHANE CA14	by weight	12.95	13.60	14.43	15.2
NEUTHANE 802 ISO-NG Operating Temperature (OT)	°C	45	45	45	45
NEUTHANE 802 POLY-NG UC Operating Temperature (OT)	°C	55	55	55	55
NEUTHANE CA14 Operating Temperature (OT)	°C	45	45	45	45
NEUTHANE 802 ISO-NG Viscosity / SG (at OT)	cPs / g/cm³	751 / 1.183	751 / 1.183	751 / 1.183	751 / 1.183
NEUTHANE 802 POLY-NG UC Viscosity / SG (at OT)	cPs / g/cm³	1785 / 1.149	1785 / 1.149	1785 / 1.149	1785 / 1.149
NEUTHANE CA14 Viscosity / SG (at OT)	cPs / g/cm³	36 / 1.002	36 / 1.002	36 / 1.002	36 / 1.002
Optimum Mould Temperature	°C	90 - 100	90 - 100	100 - 110	100 - 110
*Pot life (250g mix adjustable with Cat 44 level)	minutes	2-4	2-4	2-4	2-4
Recommended Cure Temperature / Time	°C / hrs	90 / 16	90 / 16	90 / 16	90 / 16

Hardness	ISO 48-4	Shore A	80	85	90	95
	ISO 48-4	Shore D	-	-	-	-
100% Modulus	ISO 37	lb/in² (MPa)	711 (4.9)	885 (6.1)	1102 (7.6)	1392 (9.6)
300% Modulus	ISO 37	lb/in² (MPa)	1421 (9.8)	1610 (11.1)	2059 (14.2)	2509 (17.3)
Tensile Strength	ISO 37	lb/in² (MPa)	6670 (46)	7685 (53)	7685 (53)	8120 (56)
Elongation at Break	ISO 37	%	600	600	590	570
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	475 (83)	526 (92)	572 (100)	664 (116)
Tear Trouser	ISO 34-1	lbf/in (kN/m)	137 (24)	149 (26)	183 (32)	246 (43)
Abrasion loss	ISO 4649	mm³	17	19	28	38
Resilience	ASTM D 2632-92	%	40	36	36	35
Specific Gravity		g / cm³	1.18	1.18	1.18	1.18

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 CAT044, please contact Notedome to request a suitable catalyst recommendation according to your application

notedome™ URETHANE SYSTEMS