NEUTHANE 813XP Series

MDI - PPG Ether Quasi Systems - 3 Component

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The NEUTHANE 813XP series of MDI - PPG ether quasi systems are designed to offer a good level of physical properties at a price advantage over MDI – PTMEG systems

- good level of physical properties
- improved hydrolysis resistance
- ease of use
- low viscosity (liquid at room temperature)
- low process temperatures

Typical Applications

Dunnage
Non dynamic roller coverings (e.g. conveyor rollers for the steel industry)
Scraper blades
Bump stops
Cable protectors
Bend stiffeners

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 803 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 803 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 and NEUTHANE CA14 at 40°C 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 813XP Bespoke Pre-Catalysed system options are available,

tailored to your needs and requirements.

NEUTHANE 813XP Series MDI - PPG Ether Quasi System

NEUTHANE GRADE		813/45XP	813/50XP	813/55XP	813/60XP	813/65XP	813/70XP
Mix Ratio NEUTHANE 803 ISO-XP	By weight	100	100	100	100	100	100
Mix Ratio NEUTHANE 813 POLY-XP	By weight	507.4	459.1	385.8	357.3	307.3	234.0
Mix Ratio NEUTHANE CA14	By weight	7.6	9.2	11.6	14.1	14.1	14.7
NEUTHANE 803ISO-XP Operating Temperature (OT)	°C	30	30	30	30	30	30
NEUTHANE 813 POLY- XP Operating Temperature (OT)	°C	40	40	40	40	40	40
NEUTHANE CA14 Operating Temperature (OT)	°C	30	30	30	30	30	30
NEUTHANE 803 ISO-XP Viscosity / SG (at OT)	cPs / g/cm³	1025/ 0.978	1025/ 0.978	1025/ 0.978	1025/ 0.978	1025/ 0.978	1025/ 0.978
NEUTHANE 813 POLY-XP Viscosity / SG (at OT)	cPs / g/cm³	686 / 1.02	686 / 1.02	686 / 1.02	686 / 1.02	686 / 1.02	686 / 1.02
NEUTHANE CA14 Viscosity / SG (at OT)	cPs / g/cm³	55 / 1.004	55 / 1.004	55 / 1.004	55 / 1.004	55 / 1.004	55 / 1.004
Recommended Mould Temperature	°C	80 – 90	80 – 90	80 – 90	80 – 90	80 – 90	80 – 90
Pot life – adjustable with catalyst	minutes	3-5	2-3	2-3	2-3	2-3	2-3
Recommended Cure Temperature / Time	°C / hrs	90 /16	90 /16	90 /16	90 /16	90 /16	90 /16

Hardness	ISO 48-4	Shore A	45	50	55	60	65	70
	ISO 48-4	Shore D	-	-	-	-	-	-
100% Modulus	ISO 37	lb/in² (MPa)	144 (0.99)	177 (1.22)	252 (1.74)	663 (4.57)	326 (2.25)	412 (2.84)
300% Modulus	ISO 37	lb/in² (MPa)	347 (2.39)	428 (2.95)	621 (4.28)	265 (1.83)	811 (5.59)	1020 (7.03)
Tensile Strength	ISO 37	lb/in² (MPa)	561 (3.87)	626 (4.32)	832 (5.74)	800 (5.51)	1144 (7.89)	1465 (10.10)
Elongation at Break	ISO 37	%	431	401	382	371	393	405
Tear Trouser	ISO 34-1	lbf/in (kN/m)	10 (1.81)	11 (1.97)	8 (1.46)	17 (3.02)	23 (3.98)	30 (5.18)
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	73 (12.7)	90 (15.7)	142 (24.8)	146 (25.5)	150 (26.3)	205 (36.0)
Resilience	ASTM D 2632-92	%	51	52	52	52	50	50
Abrasion loss	ISO 4649	mm³	n/a	n/a	160	155	144	136

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 CAT062, please contact Notedome to request a suitable catalyst recommendation according to your application

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NEUTHANE GRADE		813/75XP	813/80XP	813/85XP	813/90XP	813/95XP
Mix Ratio NEUTHANE 803 ISO-XP	By weight	100	100	100	100	100
Mix Ratio NEUTHANE 813 POLY-XP	By weight	224.5	197.0	169.8	141.6	119.2
Mix Ratio NEUTHANE CA14	By weight	16.8	17.7	18.6	19.5	20.3
NEUTHANE 803ISO-XP Operating Temperature (OT)	°C	30	30	30	30	30
NEUTHANE 813 POLY- XP Operating Temperature (OT)	°C	40	40	40	40	40
NEUTHANE CA14 Operating Temperature (OT)	°C	30	30	30	30	30
NEUTHANE 803 ISO-XP Viscosity / SG (at OT)	cPs / g/cm³	1025/ 0.978	1025/ 0.978	1025/ 0.978	1025/ 0.978	1025/ 0.978
NEUTHANE 813 POLY-XP Viscosity / SG (at OT)	cPs / g/cm³	686 / 1.02	686 / 1.02	686 / 1.02	686 / 1.02	686 / 1.02
NEUTHANE CA14 Viscosity / SG (at OT)	cPs / g/cm³	55 / 1.004	55 / 1.004	55 / 1.004	55 / 1.004	55 / 1.004
Recommended Mould Temperature	°C	80 – 90	80 – 90	80 – 90	100-110	100-110
Pot life – adjustable with catalyst	minutes	2-3	2-3	2-3	2-3	2-3
Recommended Cure Temperature / Time	°C / hrs	90 /16	90 /16	90 /16	90 /16	90 /16

Hardness	ISO 48-4	Shore A	**75**	**80**	**85**	**90**	**95**
	ISO 48-4	Shore D	-	-	-	-	-
100% Modulus	ISO 37	lb/in² (MPa)	608 (4.20)	740 (5.10)	970 (6.70)	1292 (8.91)	1740 (12.00)
300% Modulus	ISO 37	lb/in² (MPa)	1327 (9.15)	1552 (10.70)	1827 (12.60)	2248 (15.50)	2871 (19.80)
Tensile Strength	ISO 37	lb/in² (MPa)	1871 (13.0)	2233 (15.4)	2625 (18.1)	2784 (19.2)	2987 (20.6)
Elongation at Break	ISO 37	%	403	420	437	383	317
Tear Trouser	ISO 34-1	lbf/in (kN/m)	38 (6.58)	50 (8.50)	61 (10.60)	73 (12.80)	92 (16.10)
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	265 (46.3)	313 (54.7)	341 (59.7)	370 (64.7)	396 (69.3)
Resilience	ASTM D 2632-92	%	47	44	45	45	45
Abrasion loss	ISO 4649	mm³	125	117	108	108	102

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