



Technical Data Sheet: Neuthane 3100 Series

MDI – PTMEG Ether Rotational Casting Systems

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Neuthane 3100 MDI – PTMEG Ether Rotational Casting Systems (70Shore A – 70 Shore D)

Properties			Processing			Special Considerations		
<p>The Neuthane 3100 series are high performance MDI - PTMEG ether rotational casting systems designed to produce roller coverings in arduous application areas.</p> <p>They offer:</p> <ul style="list-style-type: none"> • a high level of physical properties • very good dynamic performance • good hydrolysis resistance • high resilience • non MOCA curatives • processing without moulds • room temperature curing <p>Typical Applications</p> <ul style="list-style-type: none"> • Steel mill rollers • paper mill rollers 			<p>Processing must be carried out by dispensing machine.</p> <p>Hand Processing</p> <ul style="list-style-type: none"> • Melt prepolymer at 50-70°C for 12-24 hours • Heat the prepolymer and curative to the recommended temperature • Ensure that the curative is thoroughly mixed prior to use (the storage tank on the machine should be fitted with agitation to prevent separation during use) • Degass to remove air • Dispense at 700-2000g per minute* • Adjust rotation and traverse speed until a smooth build up is achieved* • Cure as recommended <p>* This will vary depending upon diameter of roller. As a general guide the output rate, rotational and traverse speeds will all increase as the diameter of the roller increases</p>			<p>Processing</p> <ul style="list-style-type: none"> • Avoid prolonged storage of prepolymers at elevated temperatures. This will result in low hardness and lower properties of the cured material • Avoid moisture contamination of all materials • Part used containers should be flushed with dry nitrogen and resealed immediately after use • To prevent de-lamination, subsequent layers should be applied within 30 minutes <p>Alternatives</p> <ul style="list-style-type: none"> • Solvents/Abrasion/Cut resistance - Ester based systems should be considered: Neuthane 3200 [MDI rotational casting] • Cost – Ester systems will offer cost savings: Neuthane 3200 [MDI rotational casting] PPG ether systems will also offer advantages [Neuthane 3300*] <p>* Non-standard products - details are available upon request</p>		
COST	PROCESSING	ABRASION	DYNAMIC	RESILIENCE	SOLVENT	HUMID/WET	TEMPERATURE	UV STABILITY

Key

Excellent / Good

Good / Average

Average / Poor

Neuthane 3100 MDI – PTMEG Ether Rotational Casting Systems (70Shore A – 70 Shore D)

Neuthane		3100	3100	3100
Curative		3170	3175	3180
Mix Ratio: Curative per 100 Parts resin	by weight	46.0	41.0	36.0
Resin Temperature	°C	75	75	75
Curative Temperature	°C	40	40	40
Recommended Roller Temperature	°C	Room Temperature	Room Temperature	Room Temperature
Viscosity @ 100°C <i>(Viscosity vs. Temp Graphs available on request)</i>	cps	630	630	630
Pot life (on a 500g mix)	seconds	15	15	15
Recommended Cure Temperature / Time	°C / hrs	Minimum 20 / 48	Minimum 20 / 48	Minimum 20 / 48

Hardness	DIN 2240-91	Shore A	70	75	80
	DIN 2240-91	Shore D	-	-	-
100% Modulus	BS 903 Pt A2 - ISO 37	lb/in ² (Mpa)	320 (2.2)	420 (2.9)	680 (4.7)
300% Modulus	BS 903 Pt A2 - ISO 37	lb/in ² (Mpa)	790 (5.5)	820 (5.7)	1450 (10.0)
Tensile Strength	BS 903 Pt A2 - ISO 37	lb/in ² (Mpa)	3100 (21.4)	3000 (20.7)	4150 (28.6)
Elongation at Break	BS 903 Pt A2 - ISO 37	%	510	500	470
Tear Strength	BS 903 Pt A3 - ISO 34-1	lb/in (KN/m)	220 (38.5)	250 (43.8)	380 (66.5)
Specific Gravity		g/cm ³	1.06	1.07	1.07

Information contained in the data above is, to the best of our knowledge, true and accurate. 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.

Neuthane 3100 MDI – PTMEG Ether Rotational Casting Systems (70Shore A – 70 Shore D)

Neuthane		3100	3100	3100	3100D
Curative		3185	3190	3195	3170D
Mix Ratio: Curative per 100 Parts resin	by weight	31.3	26.0	21.5	22
Resin Temperature	°C	75	75	75	75
Curative Temperature	°C	40	40	40	40
Recommended Roller Temperature	°C	Room Temperature	Room Temperature	Room Temperature	Room Temperature
Viscosity @ 100°C <i>(Viscosity vs. Temp Graphs available on request)</i>	cps	630	630	630	450
Pot life (on a 500g mix)	seconds	15	15	15	15
Recommended Cure Temperature / Time	°C / hrs	Minimum 20 / 48	Minimum 20 / 48	Minimum 20 / 48	Minimum 20 / 48

Hardness	DIN 2240-91	Shore A	85	90	95	-
	DIN 2240-91	Shore D	-	-	-	70
100% Modulus	BS 903 Pt A2 - ISO 37	lb/in ² (Mpa)	890 (6.1)	1490 (10.3)	2480 (17.1)	3970 (27.4)
300% Modulus	BS 903 Pt A2 - ISO 37	lb/in ² (Mpa)	1830 (12.6)	3200 (22.1)	6700 (46.2)	-
Tensile Strength	BS 903 Pt A2 - ISO 37	lb/in ² (Mpa)	5500 (38.0)	5800 (40.0)	7000 (48.2)	5250 (36.2)
Elongation at Break	BS 903 Pt A2 - ISO 37	%	480	450	320	280
Tear Strength	BS 903 Pt A3 - ISO 34-1	lb/in (KN/m)	390 (68.3)	420 (73.5)	430 (75.3)	815 (142.6)
Specific Gravity		g/cm ³	1.08	1.09	1.09	1.14

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