NEUTHANE 3100 Series

MDI – PTMEG Ether Rotational Casting Systems

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The NEUTHANE 3100 series are high performance MDI - PTMEG ether rotational casting systems designed to produce roller coverings in arduous application areas.

- a high level of physical properties
- very good dynamic performance
- good hydrolysis resistance
- high resilience
- non MOCA curatives
- processing without moulds
- room temperature curing

Typical Applications	Steel mill rollers Paper mill rollers

Processing can be carried out by hand or by dispensing machine

- 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

1. Melt prepolymer at 50-70°C for 12-24 hours
2. Heat the prepolymer and curative to the recommended temperature
3. 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)
4. Degass to remove air
5. Dispense at 700-2000g per minute*
6. Adjust rotation and traverse speed until a smooth build up is achieved*
7. Cure as recommended

* 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

Alternatives	Solvents/Abrasion	- Ester based systems	NEUTHANE 3200 [MDI rotational casting]

Neuthane 3100 MDI – PTMEG Ether Rotational Casting Systems (85 Shore A – 70 Shore D)

NEUTHANE GRADE			3100	3100	3100	3100D
NEUTHANE 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	Curative	cPs	630	630	450	6400
Pot life (on a 500g mix)		seconds	15	15	15	15
Recommended Cure Temperature / Time		°C / Days	Minimum 20 / 48	Minimum 20 / 48	Minimum 20 / 48	Minimum 20 / 48

Hardness	ISO 48-4	Shore A	85	90	95	-
	ISO 48-4	Shore D	-	-	-	70
100% Modulus	ISO 37	lb/in² (MPa)	890 (6.1)	1490 (10.3)	2480 (17.1)	3970 (27.4)
300% Modulus	ISO 37	lb/in² (MPa)	1830 (12.6)	3200 (22.1)	6700 (46.2)	-
Tensile Strength	ISO 37	lb/in² (MPa)	5500 (38.0)	5800 (40.0)	7000 (48.2)	5250 (36.2)
Elongation at Break	ISO 37	%	480	450	320	280
Tear (Die C)	ISO 34-1	lbf/in (kN/m)	390 (68.3)	420 (73.5)	430 (75.3)	815 (142.6)
Specific Gravity		g / cm³	1.08	1.09	1.09	1.14

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