

Polyurethane Specialty Products Group

VERSATHANE® A-9

TDI-Polyester Prepolymer

Prepolymer Properties

		Specifications	Typical
NCO %		4.1 - 4.5	4.3
Viscosity (cPs)	- 70 °C	≤ 3,500	2,500 - 3,500
	- 100 °C	-	~ 700
Specific Gravity	- 100 °C	-	1.16
Appearance		-	White, Waxy Solid
Residual TDI (%)		< 0.7	< 0.5

Processing and Elastomer Properties for Multiple Curatives

MBOCA Cured

Processing Conditions

Stoichiometry (%)	95
Versathane Temperature (°C)	100
MBOCA Temperature (°C)	110 - 115
Mold Temperature (°C)	100
Pot Life (Min.) - 100 °C	7
Gel Time (Min.)	10
Demold Time (Min.)	45
Post Cure (Hrs./Temp. °C)	16/100

Typical Elastomer Properties

Stoichiometry (%)	85	90	95	100
MBOCA Level (PPH)	11.1	11.7	12.4	13.0
Hardness (A)	90	90	90	91
Modulus psi (MPa)				
100% Elongation	980 (6.8)	1,010 (7.0)	1,015 (7.0)	1,020 (7.0)
300% Elongation	1,870 (12.9)	1,960 (13.5)	2,030 (14.0)	2,040 (14.1)
Tensile Strength psi (MPa)	6,300 (43.4)	6,500 (44.8)	6,600 (45.5)	6,650 (45.9)
Elongation (%)	520	540	545	560
Tear Resistance PLI (N/mm)				
Die C	505 (88)	540 (95)	550 (96)	540 (95)
Split	290 (51)	300 (53)	320 (56)	310 (54)
Compression Set (%), Method B:				
25% deflection, 22 hrs. at 70°C	26	28	34	40
Rebound (%)	31	32	32	31
Compression Modulus psi (MPa)				
10%	435 (3.0)	450 (3.1)	460 (3.2)	450 (3.1)
25%	1,090 (7.5)	1,120 (7.7)	1,120 (7.7)	1,100 (7.6)
Specific Gravity	1.27	1.27	1.27	1.27
NBS Abrasion Index	-	158	-	-
Taber Abrasion	-	115	-	-

Versalink® MCDEA Cured

Processing Conditions

Versalink MCDEA Level, 95% Stoichiometry (%)	18.0
Versathane Temperature (°C)	80
MCDEA Temperature (°C)	100
Pot Life (Min.) - 80 °C	3
Mold Temperature (°C)	130
Demold Time (Min.)	30
Post Cure (Hrs./Temp. °C)	48/130

Typical Elastomer Properties

Hardness (A/D)	95/50
Modulus psi (MPa)	
100% Elongation	1,630 (11.2)
200% Elongation	1,835 (12.7)
300% Elongation	2,335 (16.1)
Tensile Strength psi (MPa)	8,415 (58.0)
Elongation (%)	567
Tear Resistance PLI (N/mm)	
Die C	633 (111)
Split	157 (27)
Trouser	290 (51)
Compressive Stress psi (MPa)	
5% Deflection	633 (4.4)
10% Deflection	949 (6.5)
15% Deflection	1,272 (8.8)
20% Deflection	1,674 (11.5)
25% Deflection	2,198 (15.2)
Compression Set (%), Method B:	
Under constant deflection (25%) 22 hrs. at 158°C	25
Rebound (%)	43
NBS Abrasion Index	260

Voranol® 234 - 630 Cured

Processing Conditions

Stoichiometry (%)	95
Versathane Temperature (°C)	90
Voranol Temperature (°C)	90
Mold Temperature (°C)	120
Pot Life (Min.) - 100 °C	100 - 120
Gel Time (Min.)	160 - 180
Post Cure (Hrs./Temp. °C)	16/110

Voranol 234 - 630 Cured (continued)

Typical Elastomer Properties

Stoichiometry (%)	95
Voranol Level (PPH)	8.8
Hardness (A)	58
Modulus psi (MPa)	
100% Elongation	315 (2.2)
300% Elongation	817 (5.6)
Tensile Strength psi (MPa)	4,100 (28.3)
Elongation (%)	410
Tear Resistance PLI (N/mm)	
Die C	233 (41)
Split	14 (2)
Compression Set (%), Method B:	
Under constant deflection (25%) 22 hrs. at 158 °C	8
Compression Set (%)	8
Rebound (%)	14

Trademarks and Suppliers

Voranol Dow Chemical Co.



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