

Polyurethane Specialty Products Group

VERSATHANE® A-7QM

TDI-Polyester Prepolymer

Prepolymer Properties

		Specifications	Typical
NCO (%)		2.2 - 2.6	2.40
Viscosity (cPs)	- 70 °C	≤ 5,200	3,800 - 5,200
	- 100 °C	-	~ 1,700
Specific Gravity	- 100 °C	-	1.13
Appearance		-	White, Waxy Solid
Residual TDI (%)		< 0.7	< 0.5

Processing and Elastomer Properties for Multiple Curatives

MBOCA Cured

Processing Conditions

MBOCA Level, 95% Stoichiometry (%)	6.8
Versathane Temperature (°C)	85
Pot Life (Min.) - 75 °C	13
Mold Temperature (°C)	100
Demold Time (Min.)	60
Post Cure (Hrs./Temp. °C)	16/100

Typical Elastomer Properties

Hardness (A)	70 - 72
Modulus psi (MPa)	
50% Elongation	215 (1.5)
100% Elongation	310 (2.1)
300% Elongation	500 (3.4)
Tensile Strength psi (MPa)	5,000 (34.5)
Elongation (%)	725
Tear Resistance PLI (N/mm)	
Die C	255 (39)
Split	115 (20)
Compression Modulus psi (MPa)	
10%	145 (1.0)
Compression Set (%), Method B:	
25% deflection, 22 hrs. at 70 °C	30
Rebound (%)	31
NBS Abrasion Index (%)	142
Taber Abrasion mg. loss	17
Tg, glass transition (°C)	- 30

Versalink® MCDEA Cured

Processing Conditions

Versalink MCDEA Level, 95% Stoic. (%)	10.3
Versathane Temperature (°C)	85
Mold Temperature (°C)	100
Pot Life (Min.) – 85 °C	3.5
Demold Time (Min.)	60
Post Cure (Hrs./Temp. °C)	48/130

Typical Elastomer Properties

Hardness (A)	87
Modulus psi (MPa)	
100% Elongation	800 (5.5)
200% Elongation	1,000 (6.9)
300% Elongation	1,300 (9.0)
Tensile Strength psi (MPa)	4,900 (33.8)
Elongation (%)	580
Tear Resistance PLI (N/mm)	
Die C	450 (79)
Split	110 (19)
Rebound (%)	46
NBS Abrasion Index	160

Voranol® Cured

Processing Conditions

Stoichiometry (%)	90
Versathane Temperature (°C)	100
Voranol Temperature (°C)	25
Mold Temperature (°C)	100
Pot Life (Min.) – 85 °C	120
Gel Time (Min.)	240
Post Cure (Hrs./Temp. °C)	16/120

Typical Elastomer Properties

Stoichiometry (%)	90
Voranol Level (PPH)	4.6
Hardness (A)	43
Modulus psi (MPa)	
100% Elongation	165 (1.1)
300% Elongation	360 (2.5)
Tensile Strength psi (MPa)	2,680 (18.5)
Elongation (%)	830
Tear Resistance PLI (N/mm)	
Die C	157 (27)
Split	25 (4)
Compression Set (%), Method B:	
25% deflection, 22 hrs. at 70 °C	18
Rebound (%)	33

TIPA Cured

Processing Conditions

Stoichiometry (%)	90
Versathane Temperature (°C)	100
TIPA Temperature (°C)	70
Mold Temperature (°C)	100
Pot Life (Min.) – 100 °C	13
Gel Time (Min.)	56
Post Cure (Hrs./Temp. °C)	16/100

Typical Elastomer Properties

Stoichiometry (%)	90
Voranol Level (PPH)	3.5
Hardness (A)	45
Modulus psi (MPa)	
100% Elongation	181 (1.2)
300% Elongation	380 (2.6)
Tensile Strength psi (MPa)	2,670 (18.4)
Elongation (%)	500
Tear Resistance PLI (N/mm)	
Die C	150 (26)
Split	20 (4)
Compression Set (%), Method B:	
25% deflection, 22 hrs. at 70 °C	13
Rebound (%)	31

Trademarks and Suppliers

Voranol..... Dow Chemical Co.



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Corporate Headquarters

Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18195-1501 USA

Tel: 800-345-3148
Tel: 610-481-6799 (Outside the U.S. and Canada)
Fax: 610-481-4381
www.airproducts.com/psp

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