

Polyurethane Specialty Products Group

AIRTHANE® APC-504

IPDI-PTMEG Prepolymer

Prepolymer Properties

		Typical
NCO (%)		7.6 - 8.3
Viscosity (cPs)	- 60 °C	2,700 - 3,200
	- 70 °C	~ 1,825
Specific Gravity	- 70 °C	1.08
Residual IPDI (%)		< 0.8

Processing and Elastomer Properties for Multiple Curatives

MBOCA Cured

Processing Conditions

MBOCA Level, 95% Stoichiometry (%)	23.1
Airthane Temperature (°C)	70
Curative Temperature (°C)	115
Pot Life (Min.) - 75 °C	28
Mold Temperature (°C)	100
Demold Time (Min.)	60
Post Cure (Hrs./Temp. °C)	16/100

Typical Elastomer Properties

Hardness (D)	77
Modulus psi (MPa)	
100% Elongation	4,463 (30.8)
Tensile Strength psi (MPa)	7,770 (50.1)
Young's Modulus psi (MPa)	50,900 (351)
Elongation (%)	176
Tear Resistance PLI (N/mm)	
Die C	849 (149)
Compression Set (%)	N/A
Rebound (%)	66

DETDA Cured

Processing Conditions

DETDA Level, 95% Stoichiometry (%)	15.4
Airthane Temperature (°C)	70
Curative Temperature (°C)	25
Pot Life (Min.) - 70 °C	2
Mold Temperature (°C)	100
Demold Time (Min.)	30
Post Cure (Hrs./Temp. °C)	16/100

Typical Elastomer Properties

Hardness (D)	74
Modulus psi (MPa)	
100% Elongation	3,679 (25.4)
Tensile Strength psi (MPa)	6,020 (41.5)
Young's Modulus psi (MPa)	46,400 (320)
Elongation (%)	182
Tear Resistance PLI (N/mm)	
Die C	616 (108)
Compression Set (%)	N/A
Rebound (%)	65

Ethacure[®] 300 Cured

Processing Conditions

Ethacure 300 Level, 95% Stoichiometry (%)	18.5
Airthane Temperature (°C)	70
Curative Temperature (°C)	25
Pot Life (Min.) - 70 °C	48
Mold Temperature (°C)	100
Demold Time (Hrs.)	2
Post Cure (Hrs./Temp. °C)	16/100

Typical Elastomer Properties

Hardness (D)	72
Modulus psi (MPa)	
100% Elongation	3,235 (22.3)
200% Elongation	6,660 (45.9)
Tensile Strength psi (MPa)	6,790 (46.8)
Young's Modulus psi (MPa)	43,900 (303)
Elongation (%)	202
Tear Resistance PLI (N/mm)	
Die C	665 (116)
Compression Set (%)	N/A
Rebound (%)	62

BDO/TMP Cured (80/20)

Processing Conditions

BDO/TMP Level, 95% Stoichiometry (%) (80/20 Grams and Equivalent Ratio)	7.8
Airthane Temperature (°C)	70
Curative Temperature (°C)	25
DABCO® T131 Catalyst Level (Drops)	4*
Pot Life (Min.) - 70 °C	70
Mold Temperature (°C)	100
Demold Time (Hrs.)	2
Post Cure (Hrs./Temp. °C)	16/100

* Drops per 100 grams prepolymer

Typical Elastomer Properties (BDO/TMP Cured)

Hardness (A/D)	93/51
Modulus psi (MPa)	
100% Elongation	1,126 (7.8)
200% Elongation	2,640 (18.2)
Tensile Strength psi (MPa)	5,800 (40.0)
Young's Modulus psi (MPa)	7,555 (52.1)
Elongation (%)	259
Tear Resistance PLI (N/mm)	
Die C	285 (50)
Compression Set (%), Method A:	
1,350 psi (9.3 MPa), 22 hrs. at 70 °C	1
Rebound (%)	41

BDO/TMP Cured (50/50)

Processing Conditions

BDO/TMP Level, 95% Stoichiometry (%) (50/50 Grams and Equivalent Ratio)	7.8
Airthane Temperature (°C)	70
Curative Temperature (°C)	25
DABCO® T131 Catalyst Level (Drops)	4*
Pot Life (Min.) - 70 °C	70
Mold Temperature (°C)	100
Demold Time (Hrs.)	2
Post Cure (Hrs./Temp. °C)	16/100

* Drops per 100 grams prepolymer

Typical Elastomer Properties (BDO/TMP Cured)

Hardness (D)	60
Modulus psi (MPa)	
100% Elongation	1,720 (11.9)
200% Elongation	4,849 (33.4)
Tensile Strength psi (MPa)	5,230 (36.1)
Young's Modulus psi (MPa)	7,322 (50.5)
Elongation (%)	205
Tear Resistance PLI (N/mm)	
Die C	353 (62)
Compression Set (%), Method A:	
1,350 psi (9.3 MPa), 22 hrs. at 70 °C	3
Rebound (%)	52

Trademarks and Suppliers

Ethacure Albemarle Corporation



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