

POLYCOAT PC 90-83

Material Technical Data Sheet

POLYCOAT PC 90-83 is a high molecular weight polyether diol that can be used either alone or in conjunction with other curatives to produce quality elastomers from a variety of polyether prepolymers. Used alone, most prepolymers yield durometers in the 50 to 60 Shore A range. Higher performance elastomers in a variety of durometers can be achieved from polyether TDI prepolymers by blending in various proportions with MOCA. The vulcanizates exhibit the following characteristics:

- Good tear
- Good abrasion resistance
- Variable Resilience

Curative Specifications:

Equivalent weight	813
Appearance @ 77°F	Solid
Moisture content, %	<0.09

PROCESSING

Prepolymer Temperature, °F	180 – 200
PC 90-83 Temperature, °F	150 – 160
MOCA Temperature, °F	240°F
Curative Mole Ratio (in blends)	0.1 – 1.0
Cure	1 hr@240°F
Post Cure	16 hrs@240°F

The formulation and properties shown in Table I are an example of an elastomer achieved with PC 90-83 and MOCA.

At room temperature, this curative is a waxy solid that must be melted for appropriate processing. To prepare for use, place the containers in a 158°F oven until the contents are melted.

Limited Warranty:

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Table I

Processing Conditions

Compound

Pre-Pol® PC 40-80 (3.26% NCO)	100 pts
MOCA (Mole %=70)	6.9 pts
PC 90-83 (Mole % = 30)	18 pts
% Theory	95

Calculations: MOCA – (133.5 x 3.26 x 95 x 0.70) / 4202 = 6.9 pts
 PC 90-83 – (813 x 3.26 x 95 x 0.30) / 4202 = 18 pts

Mixing and Curing

Prepolymer temperature, °F (°C)	200 (93)
MOCA temperature, °F (°C)	240 (116)
PC 90-83, °F (°C).....	158 (70)
Mold temperature, °F (°C)	212 (100)
Cure, hours at °F (°C).....	1 at 212 (100)
Postcure, hours at 158°F (70°C)	16
Working Life, minutes	15 - 20

Vulcanizate Properties

Test specimens conditioned one week at 24°C (75°F) and 50% RH before testing.

Hardness, durometer A	73
100% Modulus, psi.....	455 ± 50
300% Modulus, psi.....	790 ± 200
Tensile Strength, psi	4600 ± 300
Elongation at Break, %	525 ± 50
Tear Strength (ASTM D-470), lb/in	35 ± 5
Tear Strength (Die C), lb/in	270 ± 20
Resilience (Rebound), %	55