

AdvanSource Biomaterials ChronoFlex® C 55D Biodurable Medical Grade Polyurethane

Category : Polymer , Thermoplastic , Elastomer, TPE , Polycarbonate (PC) , Polyurethane, TP , Polycarbonate-Urethane

Material Notes:

ChronoFlex® C is a family of premium polycarbonate aromatic biodurable thermoplastic polyurethane elastomers developed by AdvanSource Biomaterials Corporation. ChronoFlex® C medical-grade elastomers are manufactured under strict GMP conditions. Polycarbonate polyurethanes have been shown to minimize surface degradation such as stress induced microfissures. Aromatic materials have good solvent resistance and limited softening in the body. Information provided by AdvanSource Biomaterials Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_AdvanSource-Biomaterials-ChronoFlex-C-55D-Biodurable-Medical-Grade-Polyurethane.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ASTM D792
Water Absorption	1.0 %	1.0 %	ASTM D570
Melt Flow	5.0 g/10 min @Load 2.17 kg, Temperature 210 °C	5.0 g/10 min @Load 4.78 lb, Temperature 410 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	55	55	
Tensile Strength, Ultimate	41.4 - 51.7 MPa	6000 - 7500 psi	Conditioned 7 days at RT/50% RH; ASTM D638
Elongation at Break	365 - 440 %	365 - 440 %	Conditioned 7 days at RT/50% RH; ASTM D638
100% Modulus	0.0128 - 0.0152 GPa	1.85 - 2.20 ksi	Secant; Conditioned 7 days at RT/50% RH; ASTM D638
300% Modulus	0.0117 - 0.0138 GPa	1.70 - 2.00 ksi	Secant; Conditioned 7 days at RT/50% RH; ASTM D638
Flexural Strength	3.79 MPa	550 psi	ASTM D790
Flexural Modulus	0.0641 GPa	9.30 ksi	ASTM D790
Coefficient of Friction, Dynamic	0.80	0.80	ASTM D1894
Abrasion	0.035	0.035	% loss/1000 cycles; ASTM D1044

Thermal Properties	Metric	English	Comments
Vicat Softening Point	26.7 °C	80.0 °F	ASTM D1525

Electrical Properties	Metric	English	Comments
Dielectric Strength	20.5 kV/mm	520 kV/in	ASTM D149

Processing Properties	Metric	English	Comments
Zone 1	216 °C	420 °F	
Zone 2	224 °C	435 °F	
Zone 3	232 °C	450 °F	
Die Temperature	238 °C	460 °F	
Melt Temperature	238 °C	460 °F	
Drying Temperature	82.2 - 116 °C	180 - 240 °F	
Dry Time	3 - 4 hour	3 - 4 hour	
Moisture Content	<= 0.10 %	<= 0.10 %	
Dew Point	-40.0 °C	-40.0 °F	

Descriptive Properties	Value	Comments
Appearance	Clear to slightly cloudy	
Class VI Biocompatibility	Passes	U.S.P. XXII
Recommended Sterilization	Gamma, E-Beam, Ethylene Oxide	

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