Quadrathane[™] ALC-80A-B30

Thermoplastic Polyurethane Elastomer (PC Based)

Biomerics, LLC

Message:

Quadrathane[™] ALC-80A-B30 is high performance aliphatic polycarbonate thermoplastic polyurethane. The polymer is loaded with 30% barium sulfate by weight, is naturally white, and supplied in small pellets for ease of processing. The material exhibits excellent mechanical properties, oxidative stability, biocompatibility, superior biostability in long term implantable devices, chemical resistance, non-yellowing during aging and softening at body temperature. The resin has consistent melt flow properties making it ideal for extrusion.

Quadrathane[™], Quadraflex[™], Quadraban[™] and Quadraplast[™] performance polymers are primarily used in life science and medical applications including vascular access devices, surgical supplies, respiratory devices, tracheotomy devices, and other medical applications. Typical end products include tubing, catheter parts, balloons, and various medical device components. These performance polymers are available in a variety of durometers, radiopacifiers, colors, and custom formulations.

General Information				
Filler / Reinforcement	Barium sulfate, 30% filler by weight			
Features	Antioxidation			
	Workability, good			
	Good liquidity			
	Good color stability			
	Good chemical resistance			
	Biocompatibility			
	aliphatic			
	Resistance			
Uses	Pipe fittings			
	Human implant			
	Surgical instruments			
	Medical/nursing supplies			
Appearance	White			
Forms	Particle			
Processing Method	Extrusion			
	Injection molding			
Physical	Nominal Value	Unit	Test Method	
Specific Gravity	1.44	g/cm³	ASTM D792	
Melt Mass-Flow Rate (MFR) (190°C/2.16				
kg)	7.5	g/10 min	ASTM D1238	
Molding Shrinkage - Flow	0.60 - 1.0	%	ASTM D955	
Hardness	Nominal Value	Unit	Test Method	
Durometer Hardness (Shore A)	80		ASTM D2240	
Mechanical	Nominal Value	Unit	Test Method	
Flexural Modulus	12.4	MPa	ASTM D790	

Tensile Stress (10% Strain) 4.14 MPa ASTM D412 Tensile Stress ASTM D412 ASTM D412 100% strain 6.21 MPa ASTM D412 300% strain 11.0 MPa ASTM D412 100% strain 37.9 MPa ASTM D412 Tensile Strength (Break) 37.9 MPa ASTM D412 Tensile Elongation (Break) 480 % ASTM D412 Tensile Elongation (Break) 6.0 - 10 hr MPa Post Cure Time (38°C) 6.0 - 10 hr MPa Injection Nominal Value Unit MPa MPa Suggested Max Moisture 54.4 °C MPa MPa Suggested Max Moisture < 30E-3 % MPa MPa Nozzle Temperature 191 °C MPa MPa MPa Nozzle Temperature 204 °C MPa MPa MPa MPa Moid Temperature 444 - 32.2 °C Modi Modi Mea <td< th=""><th></th></td<>	
100% strain6.21MPaASTM D412300% strain11.0MPaASTM D412Tensile Strength (Break)37.9MPaASTM D412Tensile Elongation (Break)480%ASTM D412ThermosetNominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CSuggested Max Moisture< 3.0E-3	
300% strain 11.0 MPa ASTM D412 Tensile Strength (Break) 37.9 MPa ASTM D412 Tensile Elongation (Break) 480 % ASTM D412 Thermoset Nominal Value Unit ASTM D412 Post Cure Time (38°C) 6.0 - 10 hr Inipection Injection Nominal Value Unit Inipection Drying Temperature 54.4 °C Inipection Suggested Max Moisture < 3.0E-3	
Tensile Strength (Break)37.9MPaASTM D412Tensile Elongation (Break)480%ASTM D412ThermosetNominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture<3.0E-3	
Tensile Elongation (Break)480%ASTM D412ThermosetNominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	
ThermosetNominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	
Post Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	
InjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	
Drying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	
Drying Time4.0hrSuggested Max Moisture< 3.0E-3	
Suggested Max Moisture< 3.0E-3%Rear Temperature177°CFront Temperature191°CNozzle Temperature196°CProcessing (Melt) Temp204°CMold Temperature4.44 - 32.2°CInjection RateSlow·C	
Rear Temperature177°CFront Temperature191°CNozzle Temperature196°CProcessing (Melt) Temp204°CMold Temperature4.44 - 32.2°CInjection RateSlow·C	
Front Temperature191°CNozzle Temperature196°CProcessing (Melt) Temp204°CMold Temperature4.44 - 32.2°CInjection RateSlow·C	
Nozzle Temperature196°CProcessing (Melt) Temp204°CMold Temperature4.44 - 32.2°CInjection RateSlow·C	
Processing (Melt) Temp204°CMold Temperature4.44 - 32.2°CInjection RateSlow	
Mold Temperature 4.44 - 32.2 °C Injection Rate Slow	
Injection Rate Slow	
Screw Compression Ratio 2.5:1.0 - 3.5:1.0	
Injection instructions	
Injection Speed: 10 g/secCooling/Hold TIme: Long, at least 50% of cycle (20 to 60 secs depending on thickness)	
Extrusion Nominal Value Unit	
Drying Temperature 54.4 °C	
Drying Time 4.0 hr	
Suggested Max Moisture< 0.030%	
Cylinder Zone 1 Temp. 171 °C	
Cylinder Zone 2 Temp. 182 °C	
Cylinder Zone 3 Temp. 188 °C	
Cylinder Zone 4 Temp. 193 °C	
Melt Temperature 193 °C	
Die Temperature 193 - 216 °C	
Back Pressure6.89 - 12.4MPa	
Extrusion instructions	

Screen Pack: 250 meshScrew Speed: Low sheer, 150 to 250 rpmWater Bath: 80 to 110°F

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

