Quadrathane[™] ALC-95A-B20

Thermoplastic Polyurethane Elastomer (PC Based)

Biomerics, LLC

Message:

Quadrathane™ ALC-95A-B20 is high performance aliphatic polycarbonate thermoplastic polyurethane. The polymer is loaded with 20% 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, 20% 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	1.35	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)	95		ASTM D2240		
Mechanical	Nominal Value	Unit	Test Method		
Flexural Modulus	68.9	MPa	ASTM D790		

Tensile StressASTM D412100% strain13.2MPaASTM D412200% strain29.0MPaASTM D412Tensile Strength (Break)48.3MPaASTM D412Tensile Strength (Break)400%ASTM D412Tensile Strength (Break)60.10hrStrength (Break)Post Cure Time (38'C)50.10hrStrength (Break)Post Cure Time (38'C)54.4"CStrength (Break)Dying Temperature54.4"CStrength (Break)Suggested Max Moisture< 3.0E-3%Strength (Break)Nozel Temperature196"CStrength (Break)Nozel Temperature196"CStrength (Break)Nozel Temperature196"CStrength (Break)Nozel Temperature204"CStrength (Break)Nozel Temperature510-3.51.0Strength (Break)Strength (Break)Strew Compresion Ratio2.51.3.51.3Strength (Break)Strength (Break)Strey Congression Ratio4.44-32.2"CStrength (Break)Strey Congression Ratio4.44Strength (Strength (Break))Strength (Break)Strey Congression Ratio4.00"CStrength (Break)Strey Congression Ratio19.4"CStrength (Break)Strey Congression Ratio6.00"CStrength (Break)Strey Congression Ratio19.4"CStrength (Break)Strey Congression Ratio19.4"CStrength (Break)Strey Congression	Elastomers	Nominal Value	Unit	Test Method
10% strain13.2MPaASTM D41230% strain29.0MPaASTM D412Tensle Strength (Break)48.3MPaASTM D412Tensle Elongation (Break)400%ASTM D412TensnosetNominal ValueUnitPost Cuer Time (B*C)6.0 - 10hrInjectionKandowVinitSuggested Max Moisture5.4.4"COping Time4.0hrSuggested Max Moisture3.06-3%Stogested Max Moisture196"CNozzie Temperature196"CNozzie Temperature196"CNozzie TemperatureSlow"CNotaci E SlowSlow"CStore Compression Ratio2.51-0"CInjection InstructionsSlow"CDrying Time4.44 - 32.2"CInjection RateSlowSlowSorger Compression Ratio2.51-0"CDrying Time4.44 - 32.2"CInjection Instructions"CSuggested Max Moisture6.000%Drying Time4.0"CSuggested Max Moisture6.000%Suggested Max Moisture19.3"CSuggested Max Moisture19.4"CCylinder Zone Temp.18.2"CCylinder Zone Temp.18.4<	Tensile Stress (10% Strain)	7.45	MPa	ASTM D412
30% strain29.0MPaASTM D412Tensile Strength (Break)48.3MPaASTM D412Tensile Elongation (Break)400%ASTM D412ThemosetNominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Timeperature54.4°CSuggested Max Moisture- 306-3%Rear Temperature196°CNozzle Temperature196°CNozzle Temperature196°CMold Temperature196°CNozzle TemperatureSlowScrew Compression RatioSlowStrew Compression RatioSlowDrying Time4.44 - 32.2°CInjection InstructionsScrew Compression RatioSlowDrying Time4.44 - 32.2CInjection InstructionsScrew Compression RatioSlowDrying Temperature4.44 - 32.2CDrying Temperature4.44 - 32.2Drying Temperature54.4°CDrying Temperature4.0hrDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture6.0030%Cylinder Zone 1 Temp.188°C	Tensile Stress			ASTM D412
Tensile Elongation (Break)483MPaASTM D412Tensile Elongation (Break)Nominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4"CDying Time4.0hrSuggested Max Moisture3.0E-3%Suggested Max Moisture177"CPront Temperature194"CNozzle Temperature196"CNozzle Temperature644 - 32.2"CNozzle Temperature244 - 32.2"CNozzle Temperature50wStrew Compression Ratio2.51.0 - 3.51.0Strew Compression Ratio54.4"CNormind ValueVintDrying Time6.0.30%Suggested Max Moisture6.0.30%Strew Compression Ratio54.4"CDrying Time6.0.30%Suggested Max Moisture6.0.30%Drying Time6.0.30%Suggested Max Moisture18"COriginder Zemp.18"CCylinder Zone 1 Temp.18"CCylinder Zone 1 Temp.18"CCylinder Zone 1 Temp.18"CCylinder Zone 1 Temp.18"CCylinder Zone 1 Temp	100% strain	13.2	MPa	ASTM D412
Tensile Elongation (Break)400%ASTM D412ThemosetNominal ValueInitPost Cure Time (B&'C)6.0 - 10In'Dig temperatureS4.4"CDying Temperature4.0In'Suggested Max Moisture< 3.0E-3	300% strain	29.0	MPa	ASTM D412
ThermosetNominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	Tensile Strength (Break)	48.3	MPa	ASTM D412
Post Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	Tensile Elongation (Break)	400	%	ASTM D412
InjectionNominal ValueUnitDrying Temperature54.4"CDrying Time4.0InSuggested Max Moisture<3.0E-3	Thermoset	Nominal Value	Unit	
r C Dying Temperature 54.4 "C Dying Time 4.0 hr Suggested Max Moisture 4.0 hr Suggested Max Moisture 4.0 % Rear Temperature 177 "C Front Temperature 191 "C Nozele Temperature 196 "C Processing (Melt) Temp 204 "C Mold Temperature 510w "C Injection Rate Slow "C Screw Compression Ratio 2.51.0 - 3.5:1.0 "C Injection Instructions Statusion on thickness) Test Statusion on thickness) Extrusion Nominal Value Unit Drying Time 4.0 "C Drying Time 4.0 "C Suggested Max Moisture 0.030 % Cylinder Zone 1 Temp. 188 "C Cylinder Zone 2 Temp. 188 "C Cylinder Zone 3 Temp. 188 "C Cylinder Zone 4 Temp. 193 "C <td>Post Cure Time (38°C)</td> <td>6.0 - 10</td> <td>hr</td> <td></td>	Post Cure Time (38°C)	6.0 - 10	hr	
Drying Time 4.0 hr Drying Time 4.0 hr Suggested Max Moisture 3.0E-3 % Rear Temperature 177 °C Front Temperature 191 °C Nozzle Temperature 199 °C Nozzle Temperature 196 °C Processing (Melt) Temp 204 °C Mold Temperature 444 - 32.2 °C Mold Temperature 5low °C Screw Compression Ratio 2.5:1.0 - 3.5:1.0 °C Injection Instructions Screw Colorg/Hold TIW- Variant Solw of cycle (20 to 60 secolarg) on thickness) Screw Colorgescolarg/Hold TIW Drying Temperature 4.44 - 32.2 °C Screw Colorgescolarg/Hold TIW Screw Compression Ratio 2.5:1.0 - 3.5:1.0 Screw Colorgescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescolargescola	Injection	Nominal Value	Unit	
Suggested Max Moisture< 3.0E-3%Rear Temperature177°CRoot Temperature191°CNozzle Temperature196°CNozzle Temperature204°CMold Temperature4.44 - 32.2°CMold Temperature5/ow°CScrew Compression Ratio2.5:1.0 - 3.5:1.0Injection InstructionsVorder Strew Colleger Hold TemperatureDroot Speed: 10 g/secCooling/Hold TemperatureVorder MarchSqueet AdamsSolowExtrusionNomina ValueDring Temperature6.030Suggested Max Moisture6.030Suggested Max Moisture188Cylinder Zone 1 Temp.188Cylinder Zone 2 Temp.193Strider Zone 4 Temp.193Die Temperature193 - 216Back Pressure589 - 12.4MarchSuggested Max MolecumentStrider Sone 4 Temp.193 - 21.6Strider Sone 4 Temp.193 - 21.6Strider Sone 4 Temperature193 - 21.6Strider	Drying Temperature	54.4	°C	
Norm Norm Rear Temperature 177 °C Pront Temperature 191 °C Nozzle Temperature 196 °C Processing (Melt) Temp 204 °C Mold Temperature 4.44 - 32.2 °C Injection Rate Slow - Screw Compression Ratio 2.51.0 - 3.51.0 - Injection instructions 2.51.0 - 3.51.0 - Injection Speed: 10 g/secCooling/Hold TIme: Jong at least 50% of cycle (20 to 60 - Sector) - Extrusion Nominal Value Unit Drying Temperature 54.4 °C Drying Time 4.0 nc Suggested Max Moisture 0.030 % Cylinder Zone 1 Temp. 188 °C Cylinder Zone 3 Temp. 188 °C Cylinder Zone 4 Temp. 193 °C Die Temperature 193 °C Die Temperature 193 - 216 °C	Drying Time	4.0	hr	
Front Temperature191"CNozzle Temperature196"CNozzle Temperature204"CMold Temperature4.44 - 32.2"CInjection RateSlow-Screw Compression Ratio2.51.0 - 3.51.0Injection instructions5.51.0 - 3.51.0Injection Instructions-Injection Speed: 10 g/secCooling/Hold TIme: Journal AlageUnitDrying Temperature54.4"CDrying Temperature4.0"CSuggested Max Moisture-0.030%Cylinder Zone 1 Temp.182"CCylinder Zone 3 Temp.182"CCylinder Zone 4 Temp.193"CMelt Temperature193"CDifferengerature193"CSugasted Max Moisture193"CCylinder Zone 4 Temp.193"CMelt Temperature193"CSugasted Max Moisture193"CSugaster 4 Temp.193"CMelt Temperature193"CSugaster 4 Temp.193"CSugaster 4 Temp.193"CSugaster 4 Temperature193"CSugaster	Suggested Max Moisture	< 3.0E-3	%	
Nozzle Temperature196°CNozzle Temperature204°CMold Temperature4.44 - 32.2°CInjection RateSlowScrew Compression Ratio2.5:1.0 - 3.5:1.0Injection instructions1.5:1.0 - 3.5:1.0Screw Compression PationNominal ValueInjection Speed: 10 g/secCooling/Hold Timetry, at least 50% of cycle (20 to 60 section thickness)Screw Compression Thickness)Injection Speed: 10 g/secCooling/Hold Timetry, at least 50% of cycle (20 to 60 section thickness)Screw Compression Thickness)ExtrusionNominal ValueUnitDrying Temperature5.4.4°COrging Time4.0rcSuggested Max Moisture6.0.30%CCylinder Zone 1 Temp.17.1°CCylinder Zone 2 Temp.188°CCylinder Zone 4 Temp.193°CCylinder Zone 4 Temp.193°CDie Temperature193 - 216°CBeck Pressure6.89 - 12.4MPa	Rear Temperature	177	°C	
Processing (Melt) Temp204°CMold Temperature444 - 32.2°CInjection RateSlow·CScrew Compression Ratio2.5.1.0 - 3.5.1.0Injection instructions2.5.1.0 - 3.5.1.0Injection StructionsInjection StructionsInjection Speed: 10 g/secCooling/Hold Time-tong, at least 50% of cycle (20 to 60 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -	Front Temperature	191	°C	
Mold Temperature Mold Temperature Mold Temperature Mold Temperature Mold Temperature Monia Value Monial Value Monial Value Monial Value Monial Value Monial Value Monial Value Vini C Organo Sagested Max Moisture Voluan Sugested Max Moisture Voluan V	Nozzle Temperature	196	°C	
Injection Rate Slow Screw Compression Ratio 2.5:1.0 - 3.5:1.0 Injection instructions Injection Speed: 10.g/secCooling/Hold Time: Just 184st 50% of cycle (20 to 60 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -	Processing (Melt) Temp	204	°C	
Screw Compression Ratio 2.5:1.0 - 3.5:1.0 Injection instructions Injection Speed: 10 g/secCooling/Hold Timmetry, at least 50% of cycle (20 to 60 beending on thickness) Extrusion Nominal Value Unit Drying Temperature 54.4 °C Drying Timme 4.0 hr Suggested Max Moisture <0.030	Mold Temperature	4.44 - 32.2	°C	
Injection instructions Injection Speed: 10 g/secCooling/Hold TIme: Long, at least 50% of cycle (20 to 60 sec depending on thickness) Extrusion Nominal Value Unit Drying Temperature 54.4 °C Drying Time 4.0 hr Suggested Max Moisture < 0.030	Injection Rate	Slow		
Injection Speed: 10 g/secCooling/Hold Time: Long, at least 50% of cycle (20 to 60 section on thickness) Extrusion Nominal Value Unit Drying Temperature 54.4 °C Drying Time 4.0 hr Suggested Max Moisture < 0.030	Screw Compression Ratio	2.5:1.0 - 3.5:1.0		
ExtrusionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 0.030	Injection instructions			
Drying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 0.030	Injection Speed: 10 g/secCooling/Ho	old TIme: Long, at least 50% of cycle (20 to 60 secs depending on thic	kness)
Drying Time4.0hrSuggested Max Moisture< 0.030	Extrusion	Nominal Value	Unit	
Suggested Max Moisture< 0.030%Cylinder Zone 1 Temp.171°CCylinder Zone 2 Temp.182°CCylinder Zone 3 Temp.188°CCylinder Zone 4 Temp.193°CMelt Temperature193°CDie Temperature193 - 216°CBack Pressure6.89 - 12.4MPa	Drying Temperature	54.4	°C	
Cylinder Zone 1 Temp.171°CCylinder Zone 2 Temp.182°CCylinder Zone 3 Temp.188°CCylinder Zone 4 Temp.193°CMelt Temperature193°CDie Temperature193 - 216°CBack Pressure6.89 - 12.4MPa	Drying Time	4.0	hr	
Cylinder Zone 2 Temp.182°CCylinder Zone 3 Temp.188°CCylinder Zone 4 Temp.193°CMelt Temperature193°CDie Temperature193 - 216°CBack Pressure6.89 - 12.4MPa	Suggested Max Moisture	< 0.030	%	
Cylinder Zone 3 Temp.188°CCylinder Zone 4 Temp.193°CMelt Temperature193°CDie Temperature193 - 216°CBack Pressure6.89 - 12.4MPa	Cylinder Zone 1 Temp.	171	°C	
Cylinder Zone 4 Temp.193°CMelt Temperature193°CDie Temperature193 - 216°CBack Pressure6.89 - 12.4MPa	Cylinder Zone 2 Temp.	182	°C	
Melt Temperature 193 °C Die Temperature 193 - 216 °C Back Pressure 6.89 - 12.4 MPa	Cylinder Zone 3 Temp.	188	°C	
Die Temperature193 - 216°CBack Pressure6.89 - 12.4MPa	Cylinder Zone 4 Temp.	193	°C	
Back Pressure 6.89 - 12.4 MPa	Melt Temperature	193	°C	
	Die Temperature	193 - 216	°C	
Extrusion instructions	Back Pressure	6.89 - 12.4	MPa	
	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

