Quadraflex[™] ALE-55D-B30

Thermoplastic Polyurethane Elastomer (Polyether)

Biomerics, LLC

Message:

Quadraflex™ ALE-55D-B30 is high performance aliphatic polyether 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, elasticity, 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 w	reight			
Features	High elasticity				
	Antioxidation				
	Workability, good				
	Good liquidity				
	Good color stability				
	Biocompatibility				
	aliphatic				
	Resistance				
Uses Pipe fittings					
	Surgical instruments				
	Medical/nursing supplies				
Appearance	White				
Forms	Particle				
Processing Method	Extrusion				
	Injection molding				
Physical	Nominal Value	Unit	Test Method		
Specific Gravity	1.36	g/cm³	ASTM D792		
Melt Mass-Flow Rate (MFR) (190°C/2.16	<u> </u>	- (10			
kg)	6.0	g/10 min	ASTM D1238		
Molding Shrinkage - Flow	0.60 - 1.0	%	ASTM D955		
Hardness	Nominal Value	Unit	Test Method		
Durometer Hardness (Shore D)	55		ASTM D2240		
Mechanical	Nominal Value	Unit	Test Method		
Flexural Modulus	96.5	MPa	ASTM D790		
Elastomers	Nominal Value	Unit	Test Method		

Tessile StreamASTM D412100% strain17.6MPaASTM D412300% strain33.1MPaASTM D412Tensile Strength (Break)34.5MPaASTM D412Tensile Strength (Break)000%ASTM D412Tensile Strength (Break)000%MPaStrength (Break)000m*********************************	Tensile Stress (10% Strain)	12.4	MPa	ASTM D412
10% strain17.6MPaASTM D41230% strain33.1MPaASTM D412Tensile Strength (Break)34.5MPaASTM D412Tensile Elongation (Break)300%ASTM D412Tensile Elongation (Break)300%ASTM D412Tensile Elongation (Break)300%ASTM D412Tensile Elongation (Break)6.0 - 10mrTPost Cure Time (B&°C)6.0 - 10mrTPinter Time (B&°C)6.0 - 10mrTDrying Temperature54.4°CTDying Time Max Molsture< 30E-3				-
30% strain31.1MPaASTM D412Tensile Elongation (Break)300%ASTM D412Tensile Elongation (Break)300%ASTM D412Post Cure Time (38*C)6.0 - 10hr		17.6	MPa	
Tensile Strength (Break)A51A5TM D412Tensile Elongation (Break)B00%1ASTM D412Themoset6.0 · 10hrStrenget (Break)Strenget (Break)Norinal ValueUnitStrenget (Break)Strenget (Break)Drying Temperature54.4"CStrenget (Break)Stoggeted Max Moisture3.06 · 3.0%1Strenget (Break)Stoggeted Max Moisture3.06 · 3.0%2Strenget (Break)Stoggeted Max Moisture19.0"CStrenget (Break)Nozele Temperature19.0"CStrenget (Break)Nozele Temperature19.0"Strenget (Break)Strenget (Break)Nozele Temperature19.0"Strenget (Break)Strenget (Break)Nozele Temperature19.0"Strenget (Break)Strenget (Break)Nozele Temperature19.0"Strenget (Break)Strenget (Break)Nozele Temperature19.0"Strenget (Break) <td></td> <td></td> <td></td> <td></td>				
Tensile Elongation (Break)300%ASTM D412Norminal ValueInitPost Cure Time (38°C)6.0 · 10InInjectionNorminal ValueUnitDrying Timeperature54.4°CSuggested Max Moisture4.0InSuggested Max Moisture4.0%Rear Temperature191°CNozele Temperature194°CNozele Temperature194°CNozele Temperature204°CNozele Temperature204°CMold Temperature204°CNozele Temperature204°CNozele Temperature204°CMold Temperature204°CStore Compression Ratio25.10.3StoreInjection Instructions25.10.3StoreInjection InstructionsStoreStoreStore Compression Ratio24.4°CNorming AlueVintStoreInjection InstructionsStoreStoreStore Compression Ratio25.10.3StoreNorming MalueVintStoreNorming MalueVintStoreOping Temperature4.0NormStore Compression Ratio6.0StoreStore Compression Ratio6.0StoreStore Compression Ratio8.0NormOping Temperature4.0StoreStore Compression Ratio6.0StoreStore Compression Ratio6.0StoreStore Compression R				
ThermosetNominal ValueUnitPost Cure Time (38°C)6.0 - 10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture< 3.0E-3	-			
Post Cure Time (8°C)6.0 - 10inInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0inSuggested Max Moisture< 3.0E-3	-			
InjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0IrSuggested Max Moisture4.0SRear Temperature177°CFront Temperature191°CNozzle Temperature196°CMod Temperature204°CMod Temperature4.44-32.2°CNozzle Temperature50w°CStere Compression Ratio2.51.0-3.51.0°CHietton InstructionsSov°CExtrasionNominal ValueVintDrying Temperature54.4°CDrying Temperature54.4°CDrying Temperature4.0rcSuggested Max Moisture6.030%Cylinder Zone J Temp.171°CCylinder Zone J Temp.188°CCylinder Zone J Temp.193°CCylinder Zone J Temp.193°CDryind Temperature193°CStart Sone Sone Sone Sone Sone Sone Sone Sone				
Drying Temperature544°CDrying Time4.0hrSuggested Max Moisture<.3.0E-3	· · ·			
Drying Time4.0hrDrying Time4.0hrSuggested Max Moisture4.0%Rear Temperature177°CFront Temperature191°CNozele Temperature196°CProcessing (Melt) Temp204°CMold Temperature444-32.2°CMold Temperature5low·Screw Compression Ratio2.5:1.0·Structions Rate0Vortice StructionsInjection instructions··ExtrusionNominal ValueUnitDrying Time4.0rCSuggested Max Moisture4.03.0%Suggested Max Moisture4.03.0%Suggested Max Moisture11°CSiggested Max Moisture182.0°CCylinder Zone 1 Temp.182.0°CCylinder Zone 2 Temp.188.0°CCylinder Zone 3 Temp.193.0°CCylinder Zone 4 Temp.193.0°CDirider Zone 4 Temp.193.0°CDirider Zone 4 Temp.193.0°CMat Temperature193.216°CBack Pressure689.124MPa				
Suggested Max Moisture< 3.0E-3%Rear Temperature177°CFront Temperature191°CNozzle Temperature196°CProcessing (Meth) Temp204°CMold Temperature4.44 - 32.2°CInjection RateSow°CScrew Compression Ratio2.5:1.0°CInjection InstructionsSint - UVInjection InstructionsVVExtrusionMominal ValueVitDrying Temperature54.4°CSuggested Max Moisture4.0.30.4°CSiggested Max Moisture191°CCylinder Zone 1 Temp.182°CCylinder Zone 2 Temp.88.4°CCylinder Zone 3 Temp.193°CCylinder Zone 4 Temp.193°CDie Temperature193°CDie Temperature193°CStarter Sone 4 Temp.193°CStarter Sone 4 Temp.193°CStart				
Term Term Rear Temperature 177 'C Front Temperature 191 'C Nozzle Temperature 196 'C Processing (Melt) Temp 204 'C Mold Temperature 204 'C Mold Temperature 60w 'C Injection Rate Sow 'C Screw Compression Ratio 2.51.0 - 3.51.0 'C Injection instructions 2.51.0 - 3.51.0 'C Injection Instructions Vominal Value Unit Drying Temperature 54.4 'C Orying Temperature 64.4 'C Suggested Max Moisture 6.030 'C Oping Temp. 171 'C Sugdest Zemp. 188 'C Opinder Zone 3 Temp. 188 'C Opinder Zone 4 Temp. 193.0 'C Mel Temperature 193.0 'C Mat Temperature 193.216 'C Drie Temperature 689.124 'MPa				
Front Temperature191"CNozzle Temperature196"CProcessing (Melt) Temp204"CMold Temperature4.44-32.0"CMold Temperature50w"CStrew Compression Ratio25:10-3.5:10Injection instructionsInjection Speed: 10 g/secCooling/Hold Ture: Just East 50% of cycle (20 to 0'secTooling on thickness)ExtrusionNominal ValueDrying Temperature54.4Orging Temperature4.0Orging Time4.0Siggested Max Moisture6.030Qinder Zone 1 Temp.182Oping Temperature193Oping Temperature193Opinder Zone 2 Temp.193Opinder Zone 4 Temp				
Nozle Temperature196°CProcessing (Melt) Temp04°CMold Temperature4.44-32.0°CInjection RateSow·Screw Compression Ratio2.51.0 - 3.51.0Injection instructionsVortrade Sov Sof Cycle (20 to 6) - Section on thickness)Injection Speed: 10 g/secCooling/Hold Turicy, at least 50% of cycle (20 to 6) - Section on thickness)ExtrusionNominal ValueViniDrying Temperature4.4°COriging Temperature4.0°COlginder Zone 1 Temp.1.7°COlginder Zone 2 Temp.1.8°COlginder Zone 3 Temp.1.8°COlginder Zone 4 Temp.1.9°COlginder Zone 4 Temp.1.93°COlginder Zone 4 Temp.1.93°COlgi		177	°C	
Processing (Melt) Temp204°CMold Temperature444-32.2°CInjection RateSlowScScrew Compression Ratio2.5:1.0ScInjection InstructionsScScInjection Speed: 10 g/secCooling/Hold Truet Job Soft cycle (20 to 60 - ScScExtusionNominal ValueUnitDrying Temperature64.4°CDrying Time4.0°CSuggested Max Moisture6.030%CCylinder Zone 1 Temp.182°COylinder Zone 3 Temp.188.4°CCylinder Zone 4 Temp.193°CMelt Temperature193°CDie Temperature193 - 216°CBernerature6.89 - 12.4MPa	Front Temperature	191	°C	
Mold Temperature4.44 - 32.2°CInjection RateSlowScrew Compression Ratio2.51.0 - 3.51.0Injection instructionsInjection instructionsInjection Speed: 10 g/secCooling/Hold The Strew Coll Coll Coll Coll Coll Coll Coll Col	Nozzle Temperature	196	°C	
Injection RatioSlowScrew Compression Ratio2:5:1-0Injection InstructionsInjection Specie: 10 g/secCooling/Hold Time: at least 50% of cycle (20 to 60% et least)ExtrusionNominal ValueDying Temperature54.40 Suggested Max Moisture4.00 Suggested Max Moisture0.030Cylinder Zone 2 Tempo182Cylinder Zone 3 Tempo184Cylinder Zone 4 Tempo193Cylinder Zone 4 Tempo193Cyl	Processing (Melt) Temp	204	°C	
Screw Compression Ratio2.51.0 - 3.51.0Injection InstructionsInjection Speed: 10 g/secCooling/Hold T== Jost 50% of cycle (20 to 60 = Vertage on thickness)ExtrusionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0rSuggested Max Moisture-0.030%Cylinder Zone 1 Temp.171°CCylinder Zone 2 Temp.188°CCylinder Zone 3 Temp.193°CMelt Temperature193 - 216°CBack Pressure689 - 12.4MPa	Mold Temperature	4.44 - 32.2	°C	
Injection instructions Injection Speed: 10 g/secCooling/Hold TIme: Jate last 50% of cycle (20 to 60 = Vernet and the system) 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 Tile: J, at least 50% of cycle (20 to 6) 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/Hol	d TIme: Long, at least 50% of cycle	(20 to 60 secs depending on thick	ness)
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 Pressure689 - 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 Pressure689 - 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 Temperature193°CDie Temperature193 - 216°CBack Pressure6.89 - 12.4MPa	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

