Quadraflex[™] ARE-90A-B20

Thermoplastic Polyurethane Elastomer (Polyether)

Biomerics, LLC

Message:

Quadraflex[™] ARE-90A-B20 is high performance aromatic polyether thermoplastic polyurethane. The polymer is loaded with 20% barium sulfate, is naturally white and supplied in small pellets for ease of processing. The material exhibits excellent mechanical properties, oxidative stability, biocompatibility, elasticity, chemical resistance, high resliency 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 we	light			
Features	Aroma				
	High elasticity				
	Antioxidation				
	Workability, good				
	Good liquidity				
	Good chemical resistance				
	Biocompatibility				
	Elastic				
	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	1.24	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)	90		ASTM D2240		
Mechanical	Nominal Value	Unit	Test Method		
Flexural Modulus	20.7	MPa	ASTM D790		

Tensile Stress (10% Strain)6.38MPaASTM D412Tensile StressASTM D412100% strain11.4MPaASTM D412200% strain24.8MPaASTM D412Tensile Strength (Break)40.7MPaASTM D412Tensile Strength (Break)40.7MPaASTM D412Tensile Stongation (Break)6.0 - 10MrTensile Stongation (Break)Post Cure Time (38°C)6.0 - 10MrTensile Stongation (Break)Post Cure Time (38°C)6.0 - 10MrTensile Stongation (Break)Post Cure Time (38°C)6.0 - 10MrTensile Stongation (Break)Post Cure Time (38°C)S4.47CTensile Stongation (Break)Suggested Max Moisture4.0 - 10Tensile Stongation (Break)Stongation (Break)Rear Temperature191CTensile Stongation (Break)Nozzle Temperature196"CTensile Stongation (Break)Nozzle Temperature196"CTensile Stongation (Break)Nozzle Temperature196"CTensile Stongation (Break)Nozzle Temperature196"CTensile Stongation (Break)Notarie Tongation StatoStongation (Break)Stongation (Break)Notarie Tongation StatoStongation (Break)Tensile Stongation	Elastomers	Nominal Value	Unit	Test Method
100% strain144MPaASTM D41230% strain248MPaASTM D412Tensile Strength (Break)407MPaASTM D412Tensile Elongation (Break)450%ASTM D412Tensile Elongation (Break)60-10hrPost Curr Time (B*C)60-10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Temperature430-3%Drying Temperature430-3%Suggested Max Moisture< 30E-3	Tensile Stress (10% Strain)	6.38	MPa	ASTM D412
30% strain248MPaASTM D412Tensile Strength (Break)407MPaASTM D412Tensile Stongstion (Break)450%ASTM D412ThemosetNormial ValueUnitPost Cure Time (B*C)6.0 - 10hrDying Temperature54.4"CDying Time4.0"CSuggested Max Moisture4.0%Rear Temperature177"CNorm Temperature191"CNozel Temperature196"CNozel Temperature190"CNozel Temperature190"CNozel Temperature190"CNormal Value"CNozel Temperature54.4"CNozel Temperature191"CNozel Temperature192"CNozel Temperature192"C<	Tensile Stress			ASTM D412
Tensile Strength (Break)407MPaASTM D412Tensile Elongation (Break)Kominal ValueUnitPost Cure Time (38°C)6.0 - 10hrDinjon Temperature54.4"CDying Temperature4.0hrSuggeted Max Moisture< 3.06-3	100% strain	11.4	MPa	ASTM D412
Tensile Elongation (Break)450%ASTM D412ThermosetNominal ValueInitInitPost Cure Time (38°C)6.0 · 10InitInitDnying Temperature54.4"CInitDying Time4.0"CInitSuggested Max Moisture< 3.06-3	300% strain	24.8	MPa	ASTM D412
Thermose Nominal Value Unit Post Cure Time (38°C) 6.0 - 10 hr Injection Nominal Value Unit Dnying Temperature 54.4 *C Dnying Time 4.0 hr Suggested Max Moisture < 3.0E-3	Tensile Strength (Break)	40.7	MPa	ASTM D412
Post Cure Time (38°C)60-10hrInjectionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0hrSuggested Max Moisture3.05-3%GRear Temperature177°CFront Temperature191°CNozzle Temperature196°CNozzle Temperature24.4°CMold Temperature196°CMold Temperature50w°CSerew Compression Ratio25.10.'CInjection IsstructionsSinul ScienceSinul ScienceInjection Speed: 10 g/secColing/Hold Tum-Us, at least 50% of cycle (20 to 60 science)Sinul ScienceDrying Time54.0National ScienceDrying Time6.0National ScienceDrying Time54.0ScienceDrying Time10.0ScienceOrg6.0.30%GCylinder Zone 1 Temp.18.2'CCylinder Zone 2 Temp.18.2'CCylinder Zone 2 Temp.19.4'CCylinder Zone 2 Temp.19.4'CCylinder Zone 2 Temp.19.4'CCylinder Zone 4 Temp.19.4'CCylinder Zone 4 Temp.19.4'CDivinder Zone 4 Temp.19.4'CCylinder Zone 4 Temp.19.4'CDivinder Zone 4 Temp.19.4'CCylinder Zone 4 Temp.19.4'CDivinder Zone 4 Temp.19.4'CDinder Zone 4 Temp.19.4'C </td <td>Tensile Elongation (Break)</td> <td>450</td> <td>%</td> <td>ASTM D412</td>	Tensile Elongation (Break)	450	%	ASTM D412
InjectionNominal ValueUnitDrying Temperature54.4"CDrying Time4.0IrSuggested Max Moisture<3.0E-3	Thermoset	Nominal Value	Unit	
Noming Temperature54.4°CDrying Time4.0hrSuggested Max Moisture<.3.0E-3	Post Cure Time (38°C)	6.0 - 10	hr	
Drying Time4.0hrDrying Time4.0hrSuggested Max Molisture4.0%Rear Temperature177CFront Temperature191CNozzle Temperature196CNozzle Temperature196CNozzle Temperature204CMold Temperature4.44 - 32.2CInjection RateSlowCScrew Compression Ratio2.5:1.0CInjection InstructionsUnitExtrusionNominal ValueUnitDrying Time4.0KSuggested Max Moisture4.030.0%Suggested Max Moisture4.030.0%Cylinder Zone 1 Temp.171°CCylinder Zone 2 Temp.188°CCylinder Zone 3 Temp.193°CQinder Zone 4 Temp.193°CDie Temperature193°CDie Temperature193°CState Temperature193	Injection	Nominal Value	Unit	
Suggested Max Moisture< 3.0E-3%Rear Temperature177°CFront Temperature191°CNozela Temperature196°CProcessing (Melt) Temp204°CMold Temperature4.44 - 32.2°CInjection Rate50/0°CScrew Compression Ratio2.5:1.0°CInjection instructions2.5:1.0°CExtrusionNominal ValueUnitDrying Time5.4.4°CNoggested Max Moisture6.0.30%Squegested Max Moisture171°CCylinder Zone J Temperature188°CQuinder Zone J Temperature188°CQuinder Zone J Temperature193°CQuinder Zone J Tem	Drying Temperature	54.4	°C	
Term Term Rear Temperature 177 °C Front Temperature 191 °C Nozzle Temperature 196 °C Processing (Melt) Temp 204 °C Mold Temperature 444 - 32.2 °C Injection Rate Sow Screw Compression Ratio 2.51.0 - 3.51.0 Injection instructions Screw Compression Ratio 2.51.0 - 3.51.0 Injection Instructions Injection Instructions Vint Mominal Value Vint Drying Temperature 54.4 °C Screw Compression Ratio	Drying Time	4.0	hr	
Front Temperature191°CNozzle Temperature196°CProcessing (Melt) Temp204°CMold Temperature4.44 - 3.2.°CInjection RateSowStantasticaStrew Compression Ratio2.51.0 - 3.51.0Injection instructionsStantasticaInjection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 10 g/secCooling/Hold TIme: Jack So% of cycle (20 to 60's Emperature)Injection Speed: 20 g/secCooling/Hold TIme: Jack So	Suggested Max Moisture	< 3.0E-3	%	
Nozzle Temperature196°CProcessing (Melt) Temp204°CMold Temperature444 - 32.2°CInjection RateSlowScrew Compression Ratio25:1.0 - 3.5:1.0Injection instructionsInjection Speed: 10 g/secCooling/Hold Time Jet at 50% of cycle (20 to 60% cycle) and thickness)ExtrusionNominal ValueVinitDrying Temperature54.4°CDrying Time4.0rCSuggested Max Moisture6.0.30%CCylinder Zone 1 Temp.171°CCylinder Zone 3 Temp.188°CCylinder Zone 4 Temp.193°CMelt Temperature193 - 216°CDie Temperature193 - 216°CBeck Pressure689 - 12.4MPa	Rear Temperature	177	°C	
Processing (Melt) Temp204°CMold Temperature4.44 - 32.2°CInjection RateSlow-Screw Compression Ratio2.5:1.0 - 3.5:1.0-Injection instructionsScrew Compression RatioScrew Compression RatioInjection Speed: 10 g/secCooling/Hold Times at Least 50% of cycle (20 to 60 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -	Front Temperature	191	°C	
Mold Temperature4.44 - 32.2°CInjection RateSlowScrew Compression Ratio2.51.0 - 3.51.0Injection instructionsInjection Speed: 10 g/secCooling/Hold The strustoof of cycle (20 to 60 been ding on thickness)ExtrusionNominal ValueUnitDrying Temperature54.4°CDrying Time4.0%Suggested Max Moisture<0.030	Nozzle Temperature	196	°C	
Injection RatioSlowScrew Compression Ratio2.5:1.0Injection instructionsInjection Speed: 10 g/secCooling/Hold Time, at least 50% of cycle (20 to 60 - Expansion on thickness)ExtrusionNominal ValueDrying Temperature5.4.40 ving Temperature4.0Suggested Max Moisture4.00 ving Temperature5.0.3.0Cylinder Zone 1 Temp.17.10 ving Temperature18.20 vinder Zone 3 Temp.19.30 vinder Zone 4 Temp.19.40 vinder Zone 4 Temp.	Processing (Melt) Temp	204	°C	
Screw Compression Ratio2.51.0 - 3.51.0Injection InstructionsInjection Speed: 10 g/secCooling/Hold Times at least 50% of cycle (20 to 60% expending on thickness)ExtrusionNominal ValueDrying Temperature54.40 dying Time4.0Suggested Max Moisture<0.030	Mold Temperature	4.44 - 32.2	°C	
Injection instructions Injection Speed: 10 g/secCooling/Hold TIme: Jate 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	Injection Rate	Slow		
Injection Speed: 10 g/secCooling/Hold Tile: Just s0% of cycle (20 to 6/sec Just) 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	ckness)
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 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

