Quadrathane™ ARC-93A

Thermoplastic Polyurethane Elastomer (PC Based)

Biomerics, LLC

Message:

Quadrathane™ ARC-93A is high performance aromatic polycarbonate thermoplastic polyurethane. The polymer is naturally clear 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, high resiliency, and chemical resistance. 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	
Features	Aroma
	Antioxidation
	Workability, good
	Good liquidity
	Good chemical resistance
	Biocompatibility
	Elastic
Uses	Pipe fittings
	Human implant
	Surgical instruments
	Medical/nursing supplies
Appearance	Clear/transparent
Forms	Particle
Processing Method	Extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.15	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	7.5	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.80 - 1.0	%	ASTM D955
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	93		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Flexural Modulus	31.0	MPa	ASTM D790
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (10% Strain)	6.21	MPa	ASTM D412

Tensile Stress			ASTM D412
100% strain	12.2	MPa	ASTM D412
300% strain	28.3	MPa	ASTM D412
Tensile Strength (Break)	44.8	MPa	ASTM D412
Tensile Elongation (Break)	450	%	ASTM D412

Thermoset	Nominal Value	Unit
Post Cure Time (38°C)	6.0 - 10	hr

Injection	Nominal Value	Unit
Drying Temperature	54.4	°C
Drying Time	4.0	hr
Suggested Max Moisture	< 3.0E-3	%
Rear Temperature	177	°C
Front 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	2.5:1.0 - 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 Pressure	6.89 - 12.4	MPa

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

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

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