

Quadraplast™ AR 100

Thermoplastic Polyurethane Elastomer

Biomerics, LLC

Message:

Quadraplast™ AR 100 is high performance aromatic thermoplastic rigid polyurethane. The polymer is opaque and supplied in small pellets for ease of processing. The material exhibits excellent toughness, oxidative stability, biocompatibility, chemical resistance, dimensional stability, and bonding properties.

Quadrathane™, Quadraflex™, Quadraban™ and Quadraplast™ performance TPU 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. Quadraplast™ is easily bonded to Quadrathane™ and Quadraflex™ tubing using over molding or solvent bonding processes.

General Information			
Features	Good dimensional stability		
	Aroma		
	Rigidity, high		
	Antioxidation		
	Workability, good		
	Adhesiveness		
	Good chemical resistance		
	Good toughness		
	Biocompatibility		
Uses	overmolding		
	Pipe fittings		
	Surgical instruments		
	Medical/nursing supplies		
	Bonding		
Appearance	Opacity		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.19	g/cm ³	ASTM D792
Molding Shrinkage - Flow	0.40 - 0.60	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	110		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1450	MPa	ASTM D638
Tensile Strength (Break)	51.7	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	6.0	%	ASTM D638

Fracture	140	%	ASTM D638
Flexural Modulus	1650	MPa	ASTM D790
Flexural Strength	65.5	MPa	ASTM D790
Injection	Nominal Value	Unit	
Drying Temperature	76.7 - 87.8	°C	
Drying Time	8.0 - 12	hr	
Suggested Max Moisture	< 0.020	%	
Rear Temperature	204 - 232	°C	
Middle Temperature	232 - 249	°C	
Front Temperature	238 - 254	°C	
Nozzle Temperature	246 - 260	°C	
Processing (Melt) Temp	221 - 241	°C	
Mold Temperature	60.0 - 87.8	°C	
Injection Rate	Slow-Moderate		
Screw Compression Ratio	2.5:1.0 - 3.5:1.0		
Injection instructions			

Injection Speed: 5 to15 g/secCooling/Hold Time: Medium to fast, at least 50% of cycle (10 to 30 secs depending on thickness)

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