Technical Data Sheet

MITSUBISHI CHEMICAL GROUP

PolyBlend 1100™

| Aromatic Thermoplastic Polyurethane Elastomers

Product Description

PolyBlend 1100 is a family of exceptionally soft, aromatic polyurethane elastomeric alloys, offering a viable alternative to natural rubber or latex across many applications.

These polymers encompass unique characteristics such as a low flexural modulus, moderate tensile strength, and high elongation.

PolyBlend 1100 is compatible with conventional extrusion or injection molding equipment and is available in hardness ranging from 12 Shore A to 80 Shore A. Properties can be tailored to meet specific values based on customer requirements.

General	**Key Features**	• Superior Elasticity • Exceptionally Soft	• Extremely Flexible • High Elongation • Excellent Substitute for Rubber or Latex Materials
	Forms	• Pellet	
	Processing Methods	• Extrusion • Injection and Blow molding	
	Common Applications	• Cardiology • Surgery • Endoscopic • Urology	• Nephrology • Neurology • Gastroenterology

AdvanSource Biomaterials
229 Andover Street
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FDA Master Files. It is the responsibility of the user to establish safety with the FDA for their specific medical device.

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Technical Properties

Mechanical Characteristics*	PolyBlend 1100™				ASTM Standard
	Durometer Range Available	12 Shore A – 80 Shore A			D2240
	Melt Flow (g/10 min)	2 – 26 @170°- 205°C/2.16 kg - 8.16 kg			D1238
	Example Product	12A	45A	80A	
	Ultimate Tensile Strength (psi)	500 – 700	1600 – 2200	1800 - 2900	D638
	Tensile Strength (psi)				
	@50% elongation	10 - 30	80 - 120	450 - 700	
	@100% elongation	20 - 50	120 - 180	550 - 850	
	@200% elongation	40 - 70	190 - 240	700 - 1000	
	@300% elongation	50 - 80	250 - 350	900 - 1300	
	Ultimate Elongation (%)	1200 – 1600	1300 – 1700	750 – 950	

*Data provided herein is meant to show a general range for the PolyBlend 1100 product lines; these properties can be tailored to meet specific values based on customer requirements.

Biocompatibility testing:

Tests: MEM Elution

The PolyBlend product line was pre-assessed for biocompatibility by testing representative grades in the product line. These grades were tested using a MEM Elution test and were considered non-cytotoxic. Please reach out for more specific information.

Pre-Processing Recommendations:

PolyBlend 1100 processing can be optimized by drying to a moisture content equal to or less than 0.05% by weight prior to melt processing. Typically, the pellets must be dried for 3-4 hours with a dryer inlet air temperature of 180ºF +/- 20ºF. We recommend a machine-mounted desiccant-type hopper dryer, capable of reaching and maintaining a dew point of -40ºF. If dry times are in excess of 8-10 hours, a hopper dryer temperature of 120-150ºF is usually sufficient to achieve optimal moisture content.

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