Elastollan® 1180A50

Thermoplastic Polyurethane Elastomer (Polyether)

BASF Corp. Thermoplastic Polyurethanes

Message:

Elastollan® 1180A is specifically formulated for extruded profile, sheet and film applications. Elastollan® 1180A exhibits excellent abrasion resistance, toughness, transparency, very good low temperature flexibility, hydrolytic stability and fungus resistance. It has excellent damping characteristics and outstanding resistance to tear propagation. Elastollan® 1180A is rated UL-94 HB in vertical flame test for wall thickness of 0.83 mm. Elastollan® 1180A also conforms to the FDA food contact section, book 21, section 177.2600. Elastollan® 1180A also has NSF Standard 61 "Water Contact Material" certification. Elastollan® 1180A is supplied uncolored in diced or pelletized form.

General Information	
Features	Food Contact Acceptable
	Fungus Resistant
	Good Abrasion Resistance
	Good Tear Strength
	Good Toughness
	Hydrolytically Stable
	Low Temperature Flexibility
Agency Ratings	FDA 21 CFR 177.2600
	NSF 61
Appearance	Clear/Transparent
Processing Method	Extrusion
	Injection Molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.11	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/21.6 kg	30 to 60	g/10 min	
190°C/8.7 kg	15 to 30	g/10 min	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore A)	80		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (Injection Molded)	12.4	MPa	ASTM D412
Flexural Modulus (Injection Molded)	17.2	MPa	ASTM D790
Taber Abrasion Resistance	25.0	mg	ASTM D1044
Abrasion - DIN	25	mm³	DIN 53516
Softening Point - DMA	53	°C	Internal Method
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress			ASTM D412

100% Strain	6.21	MPa	
300% Strain	14.5	MPa	
Tensile Strength	33.8	MPa	ASTM D412
Tensile Elongation (Break)	590	%	ASTM D412
Tear Strength [1]	96.3	kN/m	ASTM D624
Compression Set			ASTM D395B
23°C, 22 hr	25	%	
70°C, 22 hr	45	%	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature	-40.0	°C	Internal Method
Vicat Softening Temperature	90.0	°C	ASTM D1525
Flammability	**Nominal Value**		**Test Method**
Flame Rating (0.830 mm)	HB		UL 94
Injection	**Nominal Value**	**Unit**	
Drying Temperature	100 to 110	°C	
Drying Time	2.0 to 3.0	hr	
Suggested Max Moisture	0.030	%	
Rear Temperature	170 to 210	°C	
Middle Temperature	170 to 210	°C	
Front Temperature	170 to 210	°C	
Nozzle Temperature	200 to 210	°C	
Extrusion	**Nominal Value**	**Unit**	
Drying Temperature	100 to 110	°C	
Drying Time	2.0 to 3.0	hr	
Cylinder Zone 1 Temp.	160 to 200	°C	
Cylinder Zone 3 Temp.	160 to 200	°C	
Cylinder Zone 5 Temp.	160 to 200	°C	
Adapter Temperature	175 to 200	°C	
Die Temperature	175 to 205	°C	
NOTE			
1.	Die C		

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