

Pearlbond™ D1160

Thermoplastic Polyurethane Elastomer

Lubrizol Advanced Materials, Inc.

Message:

Pearlbond™ D1160 is a linear, aromatic polyurethane, supplied in form of small white granules, which combines a high crystallization rate and high thermoplasticity level.

APPLICATIONS

Pearlbond™ D1160 is used for obtaining PU films by extrusion (blow and cast) for solvent-free adhesion, by heat-seal process. Once activated, the films provide bonds with high initial values, and which have good heat resistance. The adhesion to PVC, rubber and polyurethane materials, as well as to a variety of fabrics, is excellent.

General Information			
Features	Aroma		
	Heat sealable		
	Good adhesion		
	Heat resistance, medium		
	Linear polymer structure		
Uses	Blown Film		
	cast film		
Agency Ratings	EC 1907/2006 (REACH)		
Appearance	White		
Forms	Particles		
Processing Method	Blow film		
	cast film		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.18	g/cm ³	ASTM D792
20°C	1.18	g/cm ³	ISO 2781
Melt Mass-Flow Rate (MFR) (190°C/5.0 kg)	10 - 20	g/10 min	ISO 1133
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	90		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress			ISO 527-2
--	30.0	MPa	ISO 527-2
100% strain	5.00	MPa	ISO 527-2
300% strain	6.00	MPa	ISO 527-2
Tensile Strain (Break)	720	%	ISO 527-2
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412

100% strain	5.00	MPa	ASTM D412
300% strain	6.00	MPa	ASTM D412
Tensile Strength	30.0	MPa	ASTM D412
Tensile Elongation (Break)	720	%	ASTM D412
Thermal	Nominal Value	Unit	Test Method
Melting Temperature	90.0 - 95.0	°C	Internal method
Fill Analysis	Nominal Value	Unit	Test Method
Bruck field viscosity-15% MEK (20°C)	0.550 - 1.50	Pa·s	Internal method
Crystallization Rate	High		Internal method
Softening Range	80 - 85	°C	Internal method
Thermoplasticity	High		Internal method
Extruder Screw L/D Ratio	25.0:1.0		
Extruder Screw Compression Ratio	3.0:1.0		
Extrusion	Nominal Value	Unit	
Drying Temperature	40 - 50	°C	
Drying Time	3.0 - 6.0	hr	
Cylinder Zone 1 Temp.	115 - 125	°C	
Cylinder Zone 2 Temp.	200 - 210	°C	
Cylinder Zone 3 Temp.	200 - 210	°C	
Cylinder Zone 4 Temp.	170 - 180	°C	
Die Temperature	170 - 180	°C	

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