

PEARLCOAT® 163K

Thermoplastic Polyurethane Elastomer (Polyether)

Lubrizol Advanced Materials, Inc.

Message:

PEARLCOAT® 163K is a polyether based TPU, supplied in form of translucent, colourless pellets, combining hardness with excellent low temperature flexibility and very good hydrolysis resistance.

PEARLCOAT® 163K is used in melt coatings on textile substrates, for end-uses in industrial coatings (for life-jackets, etc.) obtained by extrusion and calendering.

General Information			
Features	Flexibility at low temperatures		
	Hydrolysis resistance		
	Medium hardness		
Uses	Water Sports Equipment		
	Safety equipment		
	Textile applications		
	Coating application		
	Fabric coating		
Agency Ratings	EC 1907/2006 (REACH)		
	FDA 21 CFR 177.2600		
Appearance	Translucent		
	Colorless		
Forms	Particle		
Processing Method	Extrusion		
	Calendering		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.12	g/cm ³	ASTM D792, DIN 53479
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	85		ASTM D2240, DIN 53505
Mechanical	Nominal Value	Unit	Test Method
Abrasion Loss	25.0	mm ³	DIN 53516
Softening Range (300.0 µm)	154 - 166	°C	Internal method
Extruder Screw L/D Ratio	25:1		
Extruder Screw Compression Ratio	3:1		
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			

100% strain	6.01	MPa	ASTM D412
100% strain	6.00	MPa	DIN 53504
300% strain	10.0	MPa	ASTM D412, DIN 53504
Tensile Strength			
Yield	30.1	MPa	ASTM D412
Yield	30.0	MPa	DIN 53504
Tensile Elongation (Break)	440	%	ASTM D412, DIN 53504
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-50.0	°C	DIN 51007
Melting Temperature ¹	166 - 174	°C	Internal method
Extrusion	Nominal Value	Unit	
Drying Temperature	100 - 110	°C	
Drying Time	2.0	hr	
Cylinder Zone 1 Temp.	150 - 160	°C	
Cylinder Zone 2 Temp.	160 - 170	°C	
Cylinder Zone 3 Temp.	170 - 180	°C	
Cylinder Zone 4 Temp.	175 - 185	°C	
Die Temperature	175 - 185	°C	
Extrusion instructions			
Cooling: AirSpeed: 50 rpmThickness Die: 0.2 mm			
NOTE			

1. Temperature at which MFI = 10
g/10 min @ 21.6 kg

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

