

PEARLCOAT® 165K

Thermoplastic Polyurethane Elastomer (Polyether)

Lubrizol Advanced Materials, Inc.

Message:

PEARLCOAT® 165K is a polyether based TPU, supplied in form of translucent, colorless pellets, combining hardness with excellent low-temperature flexibility and very good hydrolysis resistance.

PEARLCOAT® 165K 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		
	High hardness		
Uses	Textile applications		
	Industrial application		
	Floating Equipment		
	Coating application		
	Fabric		
Agency Ratings	EC 1907/2006 (REACH)		
	FDA 21 CFR 177.2600		
Appearance	Translucent		
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)	90		ASTM D2240, DIN 53505
Mechanical	Nominal Value	Unit	Test Method
Abrasion Loss	25.0	mm ³	DIN 53516
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412, DIN 53504
100% strain	7.00	MPa	ASTM D412, DIN 53504
300% strain	12.0	MPa	ASTM D412, DIN 53504
Tensile Strength			
Yield	30.1	MPa	ASTM D412
Yield	30.0	MPa	DIN 53504

Tensile Elongation (Break)	450	%	ASTM D412, DIN 53504
Tear Strength	100	kN/m	DIN 53515
Compression Set			
23°C, 70 hr	25	%	ASTM D395
70°C, 24 hr	35	%	ASTM D395
23°C, 70 hr	27	%	DIN 53517
70°C, 24 hr	50	%	DIN 53517
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	-43.0	°C	DSC
Melting Temperature ¹	162 - 172	°C	Internal method
Extrusion	Nominal Value	Unit	
Drying Temperature	90.0 - 100	°C	
Drying Time	2.0	hr	
Cylinder Zone 1 Temp.	149 - 160	°C	
Cylinder Zone 2 Temp.	160 - 171	°C	
Cylinder Zone 3 Temp.	168 - 179	°C	
Cylinder Zone 4 Temp.	174 - 185	°C	
Die Temperature	174 - 185	°C	
Extrusion instructions			
L/D Ratio: 25:1 to 30:1 Extruder Speed: 12 to 60 rpm Extruder Compression ratio: 2:1 to 3:1			
NOTE			

1. Temperature at which MFI = 10
g/10 min @ 21.6 kg, MQSA 111

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