

PTS Tristar® PC-10R-CL(22) 22 MFI Clear Polycarbonate with Release

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Optical Grade

Material Notes:

Information provided by Polymer Technology and Services, LLC (PTS).

Order this product through the following link:

http://www.lookpolymers.com/polymer_PTS-Tristar-PC-10R-CL22-22-MFI-Clear-Polycarbonate-with-Release.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in³	ASTM D792
Water Absorption	0.15 %	0.15 %	24 hours at 73°F; ASTM D570
Melt Flow	22 g/10 min @Load 1.20 kg, Temperature 300 °C	22 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength, Yield	60.3 MPa @Thickness 3.17 mm	8750 psi @Thickness 0.125 in	ASTM D638
Elongation at Break	120 % @Thickness 3.17 mm	120 % @Thickness 0.125 in	ASTM D638
Flexural Yield Strength	89.6 MPa @Thickness 3.17 mm	13000 psi @Thickness 0.125 in	ASTM D790
Flexural Modulus	2.41 GPa @Thickness 3.17 mm	350 ksi @Thickness 0.125 in	ASTM D790
Izod Impact, Notched	7.47 J/cm @Thickness 3.17 mm	14.0 ft-lb/in @Thickness 0.125 in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.2 µm/m-°C @Temperature -40.0 - 95.0 °C	39.0 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E831-06
CTE, linear, Transverse to Flow	68.4 µm/m-°C @Temperature -40.0 - 95.0 °C	38.0 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E831-06

Thermal Properties Deflection Temperature at 1.8 MPa (100 psi)	Metric 127 °C	English 261 °F	ASTM D648 Comments
	137 °C	279 °F	ISO 75
UL RTI, Electrical	125 °C	257 °F	
UL RTI, Mechanical with Impact	115 °C	239 °F	
UL RTI, Mechanical without Impact	125 °C	257 °F	
Flammability, UL94	V-2 @Thickness 1.50 mm	V-2 @Thickness 0.0591 in	
Glow Wire Test	775 °C	1430 °F	GWIT
	960 °C	1760 °F	GWFI

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	nD
Haze	1.0 %	1.0 %	
Transmission, Visible	89 %	89 %	

Electrical Properties	Metric	English	Comments
Arc Resistance	60 - 120 sec	60 - 120 sec	PLC 6
Comparative Tracking Index	250 - 400 V	250 - 400 V	PLC 2
Hot Wire Ignition, HWI	15 - 30 sec @Thickness 1.50 mm	15 - 30 sec @Thickness 0.0591 in	PLC 3
	30 - 60 sec @Thickness 3.00 mm	30 - 60 sec @Thickness 0.118 in	PLC 2
High Amp Arc Ignition, HAI	60 - 120 arcs @Thickness 3.00 mm	60 - 120 arcs @Thickness 0.118 in	PLC 1
	>= 120 arcs @Thickness 1.50 mm	>= 120 arcs @Thickness 0.0591 in	PLC 0
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	PLC 3

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	243 - 260 °C	470 - 500 °F	

Middle Barrel Temperature Processing Properties	249 - 260 °C Metric	480 - 500 °F English	Comments
Front Barrel Temperature	260 - 271 °C	500 - 520 °F	
Nozzle Temperature	254 - 271 °C	490 - 520 °F	
Melt Temperature	260 - 282 °C	500 - 540 °F	
Mold Temperature	71.1 - 93.3 °C	160 - 200 °F	
Drying Temperature	121 °C	250 °F	
Dry Time	3 - 4 hour	3 - 4 hour	48 hours max.
Injection Pressure	51.7 - 124 MPa	7500 - 18000 psi	
Back Pressure	0.345 - 1.38 MPa	50.0 - 200 psi	
Clamp Pressure	27.6 - 68.9 MPa	4000 - 10000 psi	
Shot Size	40 - 60 %	40 - 60 %	
Screw Speed	40 - 70 rpm	40 - 70 rpm	

Descriptive Properties	Value	Comments
Injection Speed- Edge Gate	Slow to Medium	
Injection Speed- Tab Gate	Medium to Fast	
Injection Speed- Tunnel Gate	Fast	

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