

Eastman GSP01 Copolyester for Film and Sheet Extrusion

Category : Polymer , Film , Thermoplastic , Polyester, TP

Material Notes:

Applications: Consumer e-packaging tray Electronic packaging Electrostatic dissipative tray Product Description: GSP01 is a clear, amorphous material. Because of its clarity, toughness and good melt strength at processing temperatures, it is useful in a variety of processing techniques including film and sheet extrusion. GSP01 may be colored using color concentrates, dry colors or liquid colorants. Information provided by Eastman.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eastman-GSP01-Copolyester-for-Film-and-Sheet-Extrusion.php

Physical Properties	Metric	English	Comments
Density	1.27 g/cc	0.0459 lb/in ³	ASTM D1505
Water Vapor Transmission	7.00 g/m ² /day	0.451 g/100 in ² /day	ASTM F1249
Oxygen Transmission	10.0 cc-mm/m ² -24hr-atm	25.4 cc-mil/100 in ² -24hr-atm	ASTM D3895
Carbon Dioxide Transmission	49.0 cc-mm/m ² -24hr-atm	124 cc-mil/100 in ² -24hr-atm	ASTM D1434
Thickness	250 microns	9.84 mil	ASTM D374

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	52.0 MPa	7540 psi	ASTM D882
Film Tensile Strength at Yield, TD	52.0 MPa	7540 psi	ASTM D882
Film Elongation at Break, MD	400 %	400 %	ASTM D882
Film Elongation at Break, TD	400 %	400 %	ASTM D882
Film Elongation at Yield, MD	4.0 %	4.0 %	ASTM D882
Film Elongation at Yield, TD	4.0 %	4.0 %	ASTM D882
Tensile Modulus	1.90 GPa	276 ksi	Film M.D.; ASTM D882
	1.90 GPa	276 ksi	Film T.D.; ASTM D882
Izod Impact, Notched	0.370 J/cm	0.693 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.01 J/cm	1.89 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tear Strength, Total	13.7 N	3.08 lb (f)	M.D., Elmendorf; ASTM D1922

Mechanical Properties	Metric	English	Comments
			P.O. Linendorff; ASTM D1922
Dart Drop Test	400 g @Temperature 23.0 °C	0.882 lb @Temperature 73.4 °F	ASTM D1709A modified
	500 g @Temperature -18.0 °C	1.10 lb @Temperature -0.400 °F	ASTM D1709A modified
Film Tensile Strength at Break, MD	59.0 MPa	8560 psi	ASTM D882
Film Tensile Strength at Break, TD	55.0 MPa	7980 psi	ASTM D882

Thermal Properties	Metric	English	Comments
CTE, linear	51.0 µm/m-°C	28.3 µin/in-°F	ASTM D696
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft ² -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	70.0 °C	158 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	64.0 °C	147 °F	ASTM D648
Vicat Softening Point	85.0 °C	185 °F	ASTM D1525
Glass Transition Temp, Tg	80.0 °C	176 °F	DSC

Optical Properties	Metric	English	Comments
Haze	0.80 %	0.80 %	ASTM D1003
Gloss	108 %	108 %	at 45°; ASTM D2457
Transmission, Visible	85 % @Thickness 0.250 mm	85 % @Thickness 0.00984 in	Transparency, Film; ASTM D1746
	89 % @Thickness 0.250 mm	89 % @Thickness 0.00984 in	Regular, Film; ASTM D1003, modified
	91 % @Thickness 0.250 mm	91 % @Thickness 0.00984 in	Total, Film; ASTM D1003, modified

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
Surface Resistivity per Square	1.00e+16 ohm	1.00e+16 ohm	ASTM D257

Electrical Properties	^{2.4} Metric	^{2.4} English	Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.6	2.6	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	Short Time, 500 V/sec rate-of-rise; ASTM D149
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.020	0.020	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	158 sec	158 sec	ASTM D495

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