EASTMAN

Technical Data Sheet
GSP01 Copolyester

Applications
- Electronic packaging

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.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
Electrical Properties		
Dielectric Constant		
1 kHz	D 150	2.6
1 MHz	D 150	2.4
Dissipation Factor		
1 kHz	D 150	0.005
1 MHz	D 150	0.02
Arc Resistance	D 495	158 sec
Volume Resistivity	D 257	10^{15} ohm·cm
Surface Resistivity	D 257	10^{16} ohms/square
Dielectric Strength, Short Time, 500 V/sec rate-of-rise	D 149	16 kV/mm (410 V/mil)
Film Properties		
Thickness of Film Tested	D 374	250 Microns (10 mils)
Density	D 1505	1.27 g/cm^3
Haze	D 1003	0.8 %
Gloss		
@ 45°	D 2457	108
Transparency	D 1746	85 %
Regular Transmittance	D 1003 Modified	89 %
Total Transmittance	D 1003 Modified	91 %
Water Vapor Transmission Rate[d]	F 1249	7 g/m^2·24h (0.5 g/100$in.^2$·24h)
Gas Permeability, CO_2	D 1434	49 cm^3·mm/m^2·24h·atm (125 cm^3·mil/100$in.^2$·24h·atm)
Gas Permeability, O_2	D 3985	10 cm^3·mm/m^2·24h·atm (25 cm^3·mil/100$in.^2$·24h·atm)
Elmendorf Tear Resistance		
M.D.	D 1922	13.7 N (1400 gf)
T.D.	D 1922	16.7 N (1700 gf)
Tensile Strength @ Yield		
M.D.	D 882	52 MPa (7500 psi)
T.D.	D 882	52 MPa (7500 psi)
Tensile Strength @ Break		
M.D.	D 882	59 MPa (8600 psi)
T.D.	D 882	55 MPa (8000 psi)

Elongation @ Yield		
M.D.	D 882	4 %
T.D.	D 882	4 %
Elongation @ Break		
M.D.	D 882	400 %
T.D.	D 882	400 %
Tensile Modulus		
M.D.	D 882	1900 MPa (2.8 x 10^5 psi)
T.D.	D 882	1900 MPa (2.8 x 10^5 psi)
Dart Impact[e]		
@ -18°C (0°F)	D 1709A Modified	500 g
@ 23°C (73°F)	D 1709A Modified	400 g
Mechanical Properties (Injection Molded), ASTM Method		
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	101 J/m (1.9 ft·lbf/in.)
@ -40°C (-40°F)	D 256	37 J/m (0.7 ft·lbf/in.)
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	70 °C (158 °F)
@ 1.82 MPa (264 psi)	D 648	64 °C (147 °F)
Vicat Softening Temperature	D 1525	85 °C (185 °F)
Thermal Conductivity	C 177	0.21 W/m·K (1.5 Btu·in./h·ft^2·°F)
Glass Transition Temperature (T_g)	DSC	80 °C (176 °F)
Coefficient of Linear Thermal Expansion[f]	D 696	5.1 x 10^{-5} /°C (mm/mm·°C) (2.8 x 10^{-5} /°F (in./in.·°F))

[a]*Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.*
[b]*Unless noted otherwise, the test method is ASTM.*
[c]*Units are in SI or US customary units.*
[d]*Test conducted at 38°C (100°F) and 100% relative humidity.*
[e]*12.7 mm (0.5 in.) dia. head, 127 mm (5 in.) dia. clamp, 660 mm (26 in.) drop*
[f]*-30°C to 40°C (-22°F to 104°F)*

Comments

Properties reported here are based on limited testing. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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