

Overview of materials for Polystyrene, Heat Resistant Grade

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Heat Resistant Grade

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polystyrene, Heat Resistant Grade". Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Polystyrene-Heat-Resistant-Grade.php

Physical Properties	Metric	English	Comments
Density	1.04 - 1.19 g/cc	0.0376 - 0.0430 lb/in ³	Average value: 1.05 g/cc Grade Count:99
Water Absorption	0.000 - 0.100 %	0.000 - 0.100 %	Average value: 0.0459 % Grade Count:22
Moisture Absorption at Equilibrium	0.100 %	0.100 %	Average value: 0.100 % Grade Count:10
Water Absorption at Saturation	0.100 %	0.100 %	Average value: 0.100 % Grade Count:8
Maximum Moisture Content	0.0100	0.0100	Average value: 0.0100 Grade Count:4
Linear Mold Shrinkage	0.00200 - 0.0114 cm/cm	0.00200 - 0.0114 in/in	Average value: 0.00556 cm/cm Grade Count:81
Melt Flow	1.00 - 120 g/10 min	1.00 - 120 g/10 min	Average value: 7.88 g/10 min Grade Count:103
Spiral Flow	43.0 - 62.0 cm @Temperature 220 - 220 °C	16.9 - 24.4 in @Temperature 428 - 428 °F	Average value: 51.9 cm Grade Count:7

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	40.0 - 110	40.0 - 110	Average value: 97.7 Grade Count:22
Hardness, Rockwell M	45.0 - 78.0	45.0 - 78.0	Average value: 74.3 Grade Count:22
Hardness, Rockwell R	91.0 - 121	91.0 - 121	Average value: 105 Grade Count:11
Ball Indentation Hardness	81.0 - 150 MPa	11700 - 21800 psi	Average value: 140 MPa Grade Count:16
Tensile Strength, Ultimate	22.0 - 62.0 MPa	3190 - 8990 psi	Average value: 46.6 MPa Grade Count:71
	18.0 - 18.0 MPa @Temperature 60.0 - 60.0 °C	2610 - 2610 psi @Temperature 140 - 140 °F	Average value: 18.0 MPa Grade Count:1

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	20.0 - 59.0 MPa	2900 - 8560 psi	Average value: 44.9 MPa Grade Count:54
Elongation at Break	1.50 - 60.0 %	1.50 - 60.0 %	Average value: 10.7 % Grade Count:92
Elongation at Yield	1.50 - 3.00 %	1.50 - 3.00 %	Average value: 1.95 % Grade Count:8
Modulus of Elasticity	1.75 - 3.38 GPa	254 - 490 ksi	Average value: 2.92 GPa Grade Count:79
Flexural Yield Strength	39.0 - 106 MPa	5660 - 15400 psi	Average value: 80.3 MPa Grade Count:65
Flexural Modulus	1.50 - 3.45 GPa	218 - 500 ksi	Average value: 2.98 GPa Grade Count:76
	1.90 - 1.90 GPa	276 - 276 ksi	Average value: 1.90 GPa Grade Count:1
	@Temperature 60.0 - 60.0 °C	@Temperature 140 - 140 °F	
Izod Impact, Notched	0.0981 - 1.30 J/cm	0.184 - 2.44 ft-lb/in	Average value: 0.294 J/cm Grade Count:58
	0.400 - 0.500 J/cm	0.749 - 0.937 ft-lb/in	Average value: 0.168 J/cm Grade Count:1
	@Temperature -40.0 - - 20.0 °C	@Temperature -40.0 - - 4.00 °F	
	0.0980665 - 0.0980665 J/cm	0.183719 - 0.183719 ft-lb/in	Average value: 0.168 J/cm Grade Count:4
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
	0.0980665 - 0.0980665 J/cm	0.183719 - 0.183719 ft-lb/in	Average value: 0.168 J/cm Grade Count:4
	@Thickness 6.40 - 6.40 mm	@Thickness 0.252 - 0.252 in	
Izod Impact, Notched (ISO)	1.50 - 10.0 kJ/m²	0.714 - 4.76 ft-lb/in²	Average value: 6.68 kJ/m² Grade Count:11
Izod Impact, Unnotched (ISO)	7.00 kJ/m² - NB	3.33 ft-lb/in² - NB	Average value: 10.2 kJ/m² Grade Count:6
Charpy Impact Unnotched	0.500 J/cm² - NB	2.38 ft-lb/in² - NB	Average value: 1.61 J/cm² Grade Count:26
	3.50 - 3.50 J/cm²	16.7 - 16.7 ft-lb/in²	Average value: 3.50 J/cm² Grade Count:1
	@Temperature -40.0 - - 20.0 °C	@Temperature -40.0 - - 4.00 °F	
Charpy Impact, Notched	0.100 - 0.900 J/cm²	0.476 - 4.28 ft-lb/in²	Average value: 0.325 J/cm² Grade Count:6

Thermal Properties	Metric	English	Comments
	50.0 - 91.0 µm/m-°C	27.8 - 50.6 µin/in-°F	Average value: 81.3 µm/m-°C Grade

CTE linear Thermal Properties	Metric	English	Count:46 Comments
Thermal Conductivity	0.123 - 0.170 W/m-K	0.854 - 1.18 BTU-in/hr-ft ² -°F	Average value: 0.158 W/m-K Grade Count:9
Hot Ball Pressure Test	90.0 °C	194 °F	Average value: 90.0 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	82.8 - 100 °C	181 - 212 °F	Average value: 94.2 °C Grade Count:37
Deflection Temperature at 1.8 MPa (264 psi)	75.0 - 120 °C	167 - 248 °F	Average value: 88.8 °C Grade Count:92
Vicat Softening Point	81.0 - 130 °C	178 - 266 °F	Average value: 103 °C Grade Count:101
	109 - 109 °C	228 - 228 °F	Average value: 109 °C Grade Count:2
	@Temperature 120 - 120 °C	@Temperature 248 - 248 °F	Average value: 109 °C Grade Count:2
	109 - 109 °C	228 - 228 °F	Average value: 109 °C Grade Count:2
	@Load 1.02 - 1.02 kg	@Load 2.25 - 2.25 lb	Average value: 109 °C Grade Count:2
Heat Distortion Temperature	78.9 - 98.9 °C	174 - 210 °F	Average value: 84.8 °C Grade Count:10
Glass Transition Temp, Tg	89.0 - 104 °C	192 - 219 °F	Average value: 98.0 °C Grade Count:7
UL RTI, Electrical	50.0 °C	122 °F	Average value: 50.0 °C Grade Count:4
UL RTI, Mechanical with Impact	50.0 °C	122 °F	Average value: 50.0 °C Grade Count:4
UL RTI, Mechanical without Impact	50.0 °C	122 °F	Average value: 50.0 °C Grade Count:4
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:53
Oxygen Index	18.0 %	18.0 %	Average value: 18.0 % Grade Count:7
Glow Wire Test	650 - 960 °C	1200 - 1760 °F	Average value: 783 °C Grade Count:6

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+18 ohm-cm	1.00e+14 - 1.00e+18 ohm-cm	Average value: 2.90e+17 ohm-cm Grade Count:28
Surface Resistance	1.00e+13 - 1.00e+15 ohm	1.00e+13 - 1.00e+15 ohm	Average value: 1.64e+14 ohm Grade Count:35
Dielectric Constant	2.00 - 2.70	2.00 - 2.70	Average value: 2.40 Grade Count:35
Dielectric Strength	19.7 - 160 kV/mm	500 - 4060 kV/in	Average value: 67.3 kV/mm Grade Count:47
Dissipation Factor	0.0000500 - 0.00200	0.0000500 - 0.00200	Average value: 0.000491 Grade Count:16
Arc Resistance	120 - 180 sec	120 - 180 sec	Average value: 150 sec Grade Count:4

Electrical Properties Comparative Tracking Index	Metric 150 - 350 V	English 150 - 350 V	Comments Average value: 308 V Grade Count: 12
Hot Wire Ignition, HWI	7.00 - 30.0 sec	7.00 - 30.0 sec	Average value: 16.8 sec Grade Count:4
High Amp Arc Ignition, HAI	60.0 - 120 arcs	60.0 - 120 arcs	Average value: 105 arcs Grade Count:4
High Voltage Arc-Tracking Rate, HVTR	10.0 - 50.0 mm/min	0.394 - 1.97 in/min	Average value: 32.7 mm/min Grade Count:4

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China