

LG Chemical HIPS 501S PS, Impact Modified

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Impact Modified

Material Notes:

Description: Injection Molding, PS, General Purpose, Impact Modified
 Application: Refrigerator Food Holder, Food Container, Plastic Toy, Sheet or Film of Yogurt Receptacle
 CAS: 9003-55-8
 Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-HIPS-501S-PS-Impact-Modified.php

| Physical Properties | Metric | English | Comments |
|--------------------------|---------------------------------------|---------------------------------------|-------------------|
| Specific Gravity | 1.03 g/cc | 1.03 g/cc | ASTM D792 |
| Maximum Moisture Content | 0.010 | 0.010 | Injection Molding |
| Melt Flow | 8.0 g/10 min | 8.0 g/10 min | ASTM D1238 |
| | @Load 5.00 kg, Temperature 200 Â°C | @Load 11.0 lb, Temperature 392 Â°F | |
| | 19 g/10 min | 19 g/10 min | |
| | @Load 3.80 kg, Temperature 230 Â°C | @Load 8.38 lb, Temperature 446 Â°F | ASTM D1238 |
| | 80 g/10 min | 80 g/10 min | ASTM D1238 |
| | @Load 10.0 kg, Temperature 220 Â°C | @Load 22.0 lb, Temperature 428 Â°F | |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|--------------------|---------------------|---------------------|
| Hardness, Rockwell R | 99 | 99 | ASTM D785 |
| Tensile Strength, Yield | 26.5 MPa | 3840 psi | 50mm/min; ASTM D638 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Elongation at Break | 59 % | 59 % | 50mm/min; ASTM D638 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Elongation at Yield | >= 5.0 % | >= 5.0 % | 50mm/min; ASTM D638 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Tensile Modulus | 1.77 GPa | 256 ksi | 1mm/min; ASTM D638 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Flexural Yield Strength | 42.2 MPa | 6120 psi | 15mm/min; ASTM D790 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| | 2.16 GPa | 313 ksi | |

| Flexural Modulus Mechanical Properties | Metric @ Thickness 3.20 mm | English @ Thickness 0.126 in | 15mm/min: ASTM D790 Comments |
|---|---|--|---------------------------------|
| Izod Impact, Notched | 0.490 J/cm @ Thickness 6.40 mm, Temperature -30.0 Å°C | 0.918 ft-lb/in @ Thickness 0.252 in, Temperature -22.0 Å°F | ASTM D256 |
| | 0.588 J/cm @ Thickness 3.20 mm, Temperature -30.0 Å°C | 1.10 ft-lb/in @ Thickness 0.126 in, Temperature -22.0 Å°F | ASTM D256 |
| | 0.785 J/cm @ Thickness 6.40 mm, Temperature 23.0 Å°C | 1.47 ft-lb/in @ Thickness 0.252 in, Temperature 73.4 Å°F | ASTM D256 |
| | 1.18 J/cm @ Thickness 3.20 mm, Temperature 23.0 Å°C | 2.20 ft-lb/in @ Thickness 0.126 in, Temperature 73.4 Å°F | ASTM D256 |

| Thermal Properties | Metric | English | Comments |
|--|-----------------------------------|---------------------------------------|-----------------------|
| Deflection Temperature at 0.46 MPa (66 psi) | 88.0 Å°C @ Thickness 6.40 mm | 190 Å°F @ Thickness 0.252 in | Unannealed; ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 80.0 Å°C @ Thickness 6.40 mm | 176 Å°F @ Thickness 0.252 in | Unannealed; ASTM D648 |
| Vicat Softening Point | 87.0 Å°C @ Load 5.00 kg | 189 Å°F @ Load 11.0 lb | 50Å°C/h; ASTM D1525 |
| UL RTI, Electrical | 50.0 Å°C @ Thickness >=1.50 mm | 122 Å°F @ Thickness >=0.0591 in | |
| | 50.0 Å°C @ Thickness >=3.00 mm | 122 Å°F @ Thickness >=0.118 in | |
| UL RTI, Mechanical with Impact | 50.0 Å°C @ Thickness >=1.50 mm | 122 Å°F @ Thickness >=0.0591 in | |
| | 50.0 Å°C @ Thickness >=3.00 mm | 122 Å°F @ Thickness >=0.118 in | |
| UL RTI, Mechanical without Impact | 50.0 Å°C @ Thickness >=1.50 mm | 122 Å°F @ Thickness >=0.0591 in | |
| | 50.0 Å°C | 122 Å°F | |

| Thermal Properties | Metric @Thickness >=3.00 mm | English @Thickness >=0.118 in | Comments |
|--------------------|--------------------------------|----------------------------------|----------|
| Flammability, UL94 | HB | HB | |
| | @Thickness >=1.50 mm | @Thickness >=0.0591 in | |
| | HB | HB | |
| | @Thickness >=3.00 mm | @Thickness >=0.118 in | |

| Electrical Properties | Metric | English | Comments |
|--------------------------------------|----------------------|------------------------|-----------|
| Volume Resistivity | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | |
| Dielectric Strength | 44.0 kV/mm | 1120 kV/in | |
| Arc Resistance | 60 - 120 sec | 60 - 120 sec | ASTM D495 |
| Comparative Tracking Index | 400 - 600 V | 400 - 600 V | |
| Hot Wire Ignition, HWI | 7.0 - 15 sec | 7.0 - 15 sec | |
| | @Thickness >=1.50 mm | @Thickness >=0.0591 in | |
| | 15 - 30 sec | 15 - 30 sec | |
| | @Thickness >=3.00 mm | @Thickness >=0.118 in | |
| High Amp Arc Ignition, HAI | >= 120 arcs | >= 120 arcs | |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | >= 120 arcs | >= 120 arcs | |
| | @Thickness 3.00 mm | @Thickness 0.118 in | |
| High Voltage Arc-Tracking Rate, HVTR | 25.4 - 50.0 mm/min | 1.00 - 1.97 in/min | |

| Processing Properties | Metric | English | Comments |
|---------------------------|-----------------|---------------|-------------------|
| Rear Barrel Temperature | 170 - 190 Â°C | 338 - 374 Â°F | Injection Molding |
| Middle Barrel Temperature | 180 - 200 Â°C | 356 - 392 Â°F | Injection Molding |
| Front Barrel Temperature | 190 - 210 Â°C | 374 - 410 Â°F | Injection Molding |
| Nozzle Temperature | 190 - 220 Â°C | 374 - 428 Â°F | Injection Molding |
| Melt Temperature | 190 - 220 Â°C | 374 - 428 Â°F | Injection Molding |
| Mold Temperature | 40.0 - 70.0 Â°C | 104 - 158 Â°F | Injection Molding |
| Drying Temperature | 80.0 Â°C | 176 Â°F | Injection Molding |

| Processing Properties | Metric <small>2.00 - 4.00 hour</small> | English <small>2.00 - 4.00 hour</small> | Comments <small>Injection Molding</small> |
|-----------------------|--|---|---|
| Back Pressure | 29.4 - 58.8 MPa | 4260 - 8530 psi | Injection Molding |
| Screw Speed | 30 - 60 rpm | 30 - 60 rpm | Injection Molding |

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