# LG Chemical AF305HT ABS, Flame Retardant, Heat Resistance

**Category :** Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS), Heat Resistant, Molded

**Material Notes:**

Feature: Injection Molding, Flame Retardant, Heat ResistanceApplication: Electric/Electronic Applications (TV, Monitor Housing) IT/OA deviceCAS No. 9003-56-9, 9001-96-2, 68928-70-1, and 1309-64-4Information provided by LG Chemical

Order this product through the following link:
http://www.lookpolymers.com/polymer_LG-Chemical-AF305HT-ABS-Flame-Retardant-Heat-Resistance.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Specific Gravity | 1.19 g/cc | 1.19 g/cc | ASTM D792 |
| Maximum Moisture Content | 0.010 | 0.010 | Injection Molding |
| Linear Mold Shrinkage, Flow | 0.0040 - 0.0070 cm/cm<br>@Thickness 3.20 mm | 0.0040 - 0.0070 in/in<br>@Thickness 0.126 in | ASTM D955 |
| Melt Flow | 8.0 g/10 min<br>@Load 10.0 kg, Temperature 220 Â°C | 8.0 g/10 min<br>@Load 22.0 lb, Temperature 428 Â°F | ASTM D1238 |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Hardness, Rockwell R | 100 | 100 | ASTM D785 |
| Tensile Strength, Yield | 39.2 MPa<br>@Thickness 3.20 mm | 5690 psi<br>@Thickness 0.126 in | 50 mm/min; ASTM D638 |
| Elongation at Break | 20 %<br>@Thickness 3.20 mm | 20 %<br>@Thickness 0.126 in | 50 mm/min; ASTM D638 |
| Elongation at Yield | >= 5.0 %<br>@Thickness 3.20 mm | >= 5.0 %<br>@Thickness 0.126 in | 50 mm/min; ASTM D638 |
| Tensile Modulus | 1.96 GPa<br>@Thickness 3.20 mm | 284 ksi<br>@Thickness 0.126 in | 1 mm/min; ASTM D638 |
| Flexural Yield Strength | 66.7 MPa<br>@Thickness 6.40 mm | 9670 psi<br>@Thickness 0.252 in | 15 mm/min; ASTM D790 |
| Flexural Modulus | 2.26 GPa<br>@Thickness 6.40 mm | 327 ksi<br>@Thickness 0.252 in | 15 mm/min; ASTM D790 |
| Izod Impact, Notched | 0.883 J/cm<br>@Thickness 6.40 mm, | 1.65 ft-lb/in<br>@Thickness 0.252 in, | ASTM D256 |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| | Temperature 23.0 Â°C | Temperature 73.4 Â°F | |
| | 1.77 J/cm<br>@Thickness 3.20 mm, Temperature 23.0 Â°C | 3.31 ft-lb/in<br>@Thickness 0.126 in, Temperature 73.4 Â°F | ASTM D256 |
| Izod Impact, Unnotched | 0.392 J/cm<br>@Thickness 6.40 mm, Temperature -30.0 Â°C | 0.735 ft-lb/in<br>@Thickness 0.252 in, Temperature -22.0 Â°F | ASTM D256 |
| | 0.588 J/cm<br>@Thickness 3.20 mm, Temperature -30.0 Â°C | 1.10 ft-lb/in<br>@Thickness 0.126 in, Temperature -22.0 Â°F | ASTM D256 |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| Deflection Temperature at 0.46 MPa (66 psi) | 102 Â°C<br>@Thickness 6.40 mm | 216 Â°F<br>@Thickness 0.252 in | Unannealed; ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 91.0 Â°C<br>@Thickness 6.40 mm | 196 Â°F<br>@Thickness 0.252 in | Unannealed; ASTM D648 |
| Vicat Softening Point | 100 Â°C<br>@Load 5.00 kg | 212 Â°F<br>@Load 11.0 lb | 50Â°C/h; ASTM D1525 |
| UL RTI, Electrical | 85.0 Â°C<br>@Thickness >=1.50 mm | 185 Â°F<br>@Thickness >=0.0591 in | UL 746B |
| | 85.0 Â°C<br>@Thickness >=2.00 mm | 185 Â°F<br>@Thickness >=0.0787 in | |
| | 85.0 Â°C<br>@Thickness >=3.00 mm | 185 Â°F<br>@Thickness >=0.118 in | |
| UL RTI, Mechanical with Impact | 85.0 Â°C<br>@Thickness >=1.50 mm | 185 Â°F<br>@Thickness >=0.0591 in | UL 746B |
| | 85.0 Â°C<br>@Thickness >=2.00 mm | 185 Â°F<br>@Thickness >=0.0787 in | |
| | 85.0 Â°C<br>@Thickness >=3.00 mm | 185 Â°F<br>@Thickness >=0.118 in | |
| UL RTI, Mechanical without Impact | 85.0 Â°C | 185 Â°F | UL 746B |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| | @Thickness >=1.50 mm | @Thickness >=0.0591 in | |
| | 85.0 Â°C<br>@Thickness >=2.00 mm | 185 Â°F<br>@Thickness >=0.0787 in | |
| | 85.0 Â°C<br>@Thickness >=3.00 mm | 185 Â°F<br>@Thickness >=0.118 in | |
| Flammability, UL94 | V-0<br>@Thickness >=1.50 mm | V-0<br>@Thickness >=0.0591 in | |
| | V-0<br>@Thickness >=2.00 mm | V-0<br>@Thickness >=0.0787 in | |
| | V-0<br>@Thickness >=3.00 mm | V-0<br>@Thickness >=0.118 in | |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| Volume Resistivity | 1.00e+14 ohm-cm | 1.00e+14 ohm-cm | |
| Dielectric Strength | 23.0 kV/mm | 584 kV/in | |
| Arc Resistance | 60 - 120 sec | 60 - 120 sec | ASTM D495 |
| Comparative Tracking Index | 250 - 400 V | 250 - 400 V | |
| Hot Wire Ignition, HWI | 15 - 30 sec<br>@Thickness >=1.50 mm | 15 - 30 sec<br>@Thickness >=0.0591 in | |
| | 15 - 30 sec<br>@Thickness >=2.00 mm | 15 - 30 sec<br>@Thickness >=0.0787 in | |
| | 30 - 60 sec<br>@Thickness >=3.00 mm | 30 - 60 sec<br>@Thickness >=0.118 in | |
| High Amp Arc Ignition, HAI | 60 - 120 arcs<br>@Thickness 1.50 mm | 60 - 120 arcs<br>@Thickness 0.0591 in | |
| | 60 - 120 arcs<br>@Thickness 2.00 mm | 60 - 120 arcs<br>@Thickness 0.0787 in | |
| | >= 120 arcs | >= 120 arcs | |

| Electrical Properties | Metric @Thickness 3.00 mm | English @Thickness 0.118 in | Comments |
|---|---|---|---|
| High Voltage Arc-Tracking Rate, HVTR | 80.0 - 150 mm/min | 3.15 - 5.91 in/min | |

| Processing Properties | Metric | English | Comments |
|---|---|---|---|
| Rear Barrel Temperature | 180 - 200 Â°C | 356 - 392 Â°F | Injection Molding |
| Middle Barrel Temperature | 190 - 210 Â°C | 374 - 410 Â°F | Injection Molding |
| Front Barrel Temperature | 200 - 220 Â°C | 392 - 428 Â°F | Injection Molding |
| Nozzle Temperature | 200 - 230 Â°C | 392 - 446 Â°F | Injection Molding |
| Melt Temperature | 200 - 230 Â°C | 392 - 446 Â°F | Injection Molding |
| Mold Temperature | 40.0 - 60.0 Â°C | 104 - 140 Â°F | Injection Molding |
| Drying Temperature | 70.0 - 80.0 Â°C | 158 - 176 Â°F | Injection Molding |
| Dry Time | 2.00 - 4.00 hour | 2.00 - 4.00 hour | Injection Molding |
| Back Pressure | 0.490 - 0.981 MPa | 71.1 - 142 psi | Injection Molding |
| Screw Speed | 30 - 60 rpm | 30 - 60 rpm | Injection Molding |

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