

## LG Chemical XR401 ABS, Heat Resistance

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

### Material Notes:

Feature: Injection Molding, Heat Resistance  
Application: Electric & Electronic Housing (Frame etc) Automotives Interior & Exterior Housing (lamp housing etc)  
CAS No. 25120-20-1, 9003-56-9, 25747-74-7 and 9003-54-7  
Information provided by LG Chemical

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_LG-Chemical-XR401-ABS-Heat-Resistance.php](http://www.lookpolymers.com/polymer_LG-Chemical-XR401-ABS-Heat-Resistance.php)

| Physical Properties         | Metric                                                | English                                               | Comments          |
|-----------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------|
| Specific Gravity            | 1.05 g/cc                                             | 1.05 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                   | 9.0 g/10 min<br>@Load 10.0 kg,<br>Temperature 220 Â°C | 9.0 g/10 min<br>@Load 22.0 lb,<br>Temperature 428 Â°F | ASTM D1238        |

| Mechanical Properties   | Metric                                                   | English                                                       | Comments             |
|-------------------------|----------------------------------------------------------|---------------------------------------------------------------|----------------------|
| Hardness, Rockwell R    | 108                                                      | 108                                                           | ASTM D785            |
| Tensile Strength, Yield | 49.0 MPa<br>@Thickness 3.20 mm                           | 7110 psi<br>@Thickness 0.126 in                               | 50 mm/min; ASTM D638 |
| Elongation at Break     | 25 %<br>@Thickness 3.20 mm                               | 25 %<br>@Thickness 0.126 in                                   | 50 mm/min; ASTM D638 |
| Flexural Yield Strength | 78.5 MPa<br>@Thickness 3.20 mm                           | 11400 psi<br>@Thickness 0.126 in                              | 15 mm/min; ASTM D790 |
| Flexural Modulus        | 2.55 GPa<br>@Thickness 3.20 mm                           | 370 ksi<br>@Thickness 0.126 in                                | 15 mm/min; ASTM D790 |
| Izod Impact, Notched    | 2.16 J/cm<br>@Thickness 6.40 mm,<br>Temperature 23.0 Â°C | 4.04 ft-lb/in<br>@Thickness 0.252 in,<br>Temperature 73.4 Â°F | ASTM D256            |
|                         | 2.26 J/cm<br>@Thickness 3.20 mm,<br>Temperature 23.0 Â°C | 4.22 ft-lb/in<br>@Thickness 0.126 in,<br>Temperature 73.4 Â°F | ASTM D256            |
|                         | 0.785 J/cm                                               | 1.47 ft-lb/in                                                 |                      |

| Izod Impact, Unnotched<br>Mechanical Properties |  | Metric<br>@ Thickness 6.40 mm,<br>Temperature -30.0 Â°C | English<br>@ Thickness 0.252 in,<br>Temperature -22.0 Â°F | ASTM D256<br>Comments |
|-------------------------------------------------|--|---------------------------------------------------------|-----------------------------------------------------------|-----------------------|
|                                                 |  | 0.883 J/cm                                              | 1.65 ft-lb/in                                             | ASTM D256             |
|                                                 |  | @Thickness 3.20 mm,<br>Temperature -30.0 Â°C            | @Thickness 0.126 in,<br>Temperature -22.0 Â°F             |                       |

| Thermal Properties                             | Metric               | English                | Comments              |
|------------------------------------------------|----------------------|------------------------|-----------------------|
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 105 Â°C              | 221 Â°F                | Unannealed; ASTM D648 |
|                                                | @Thickness 6.40 mm   | @Thickness 0.252 in    |                       |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 95.0 Â°C             | 203 Â°F                | Unannealed; ASTM D648 |
|                                                | @Thickness 6.40 mm   | @Thickness 0.252 in    |                       |
| Vicat Softening Point                          | 102 Â°C              | 216 Â°F                | 50Â°C/h; ASTM D1525   |
|                                                | @Load 5.00 kg        | @Load 11.0 lb          |                       |
| UL RTI, Electrical                             | 60.0 Â°C             | 140 Â°F                | UL 746B               |
|                                                | @Thickness >=1.50 mm | @Thickness >=0.0591 in |                       |
|                                                | 60.0 Â°C             | 140 Â°F                | UL 746B               |
|                                                | @Thickness >=3.00 mm | @Thickness >=0.118 in  |                       |
| UL RTI, Mechanical with Impact                 | 60.0 Â°C             | 140 Â°F                | UL 746B               |
|                                                | @Thickness >=1.50 mm | @Thickness >=0.0591 in |                       |
|                                                | 60.0 Â°C             | 140 Â°F                | UL 746B               |
|                                                | @Thickness >=3.00 mm | @Thickness >=0.118 in  |                       |
| UL RTI, Mechanical without Impact              | 60.0 Â°C             | 140 Â°F                | UL 746B               |
|                                                | @Thickness >=1.50 mm | @Thickness >=0.0591 in |                       |
|                                                | 60.0 Â°C             | 140 Â°F                | UL 746B               |
|                                                | @Thickness >=3.00 mm | @Thickness >=0.118 in  |                       |
| 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 |
|-----------------------|--------|---------|----------|
|-----------------------|--------|---------|----------|

| Electrical Properties                | Metric                               | English                                | Comments              |
|--------------------------------------|--------------------------------------|----------------------------------------|-----------------------|
| Dielectric Strength                  | 33.0 kV/mm<br>@Thickness 1.00 mm     | 838 kV/in<br>@Thickness 0.0394 in      | ASTM D149             |
| Arc Resistance                       | 60 - 120 sec                         | 60 - 120 sec                           | ASTM D495             |
| Comparative Tracking Index           | >= 600 V                             | >= 600 V                               | Solution A; IEC 60112 |
| Hot Wire Ignition, HWI               | 7.0 - 15 sec<br>@Thickness >=1.50 mm | 7.0 - 15 sec<br>@Thickness >=0.0591 in |                       |
|                                      | 15 - 30 sec<br>@Thickness >=3.00 mm  | 15 - 30 sec<br>@Thickness >=0.118 in   |                       |
| High Amp Arc Ignition, HAI           | >= 120 arcs<br>@Thickness 1.50 mm    | >= 120 arcs<br>@Thickness 0.0591 in    |                       |
|                                      | >= 120 arcs<br>@Thickness 3.00 mm    | >= 120 arcs<br>@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   | 180 - 210 Â°C    | 356 - 410 Â°F    | Injection Molding |
| Middle Barrel Temperature | 210 - 230 Â°C    | 410 - 446 Â°F    | Injection Molding |
| Front Barrel Temperature  | 230 - 240 Â°C    | 446 - 464 Â°F    | Injection Molding |
| Nozzle Temperature        | 230 - 240 Â°C    | 446 - 464 Â°F    | Injection Molding |
| Melt Temperature          | 220 - 240 Â°C    | 428 - 464 Â°F    | Injection Molding |
| Mold Temperature          | 40.0 - 60.0 Â°C  | 104 - 140 Â°F    | Injection Molding |
| Drying Temperature        | 80.0 - 90.0 Â°C  | 176 - 194 Â°F    | Injection Molding |
| Dry Time                  | 3.00 - 4.00 hour | 3.00 - 4.00 hour | Injection Molding |
| Back Pressure             | 29.4 - 58.8 MPa  | 4260 - 8530 psi  | Injection Molding |
| Screw Speed               | 50 - 100 rpm     | 50 - 100 rpm     | Injection Molding |

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