



LEXANT™ FR RESINS 3412ECR

REGION AMERICAS

DESCRIPTION

LEXANT™ 3412ECR resin is a 20% glass fiber filled, 7 MFR polycarbonate, MVR of 7. Mold release. Non-chlorinated, non-brominated flame retardant, UL94 V0 and 5VA rated. Available in natural and opaque colors.

| INDUSTRY | SUB INDUSTRY |
|----------------------------|---|
| Automotive | Automotive Exteriors |
| Building and Construction | Water Management, Construction |
| Consumer | Home Appliances, Commercial Appliance |
| Electrical and Electronics | Electrical Devices and Displays, Lighting, Electrical Components and Infrastructure |
| Hygiene and Healthcare | General Healthcare, Patient Testing, Medical Facility Infrastructure |
| Industrial | Defense, Industrial Material Handling |
| Mass Transportation | Specialty Vehicles, Rail |

TYPICAL PROPERTY VALUES

Revision 20240910

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 5 mm/min | 90 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 5 mm/min | 87 | MPa | ASTM D638 |
| Tensile Strain, yld, Type I, 5 mm/min | 3.1 | % | ASTM D638 |
| Tensile Modulus, 5 mm/min | 5500 | MPa | ASTM D638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 156 | MPa | ASTM D790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 5000 | MPa | ASTM D790 |
| Tensile Stress, yield, 5 mm/min | 95 | MPa | ISO 527 |
| Tensile Stress, break, 5 mm/min | 90 | MPa | ISO 527 |
| Tensile Strain, yield, 5 mm/min | 2.8 | % | ISO 527 |
| Tensile Strain, break, 5 mm/min | 3.2 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 6000 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 140 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 5500 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 110 | J/m | ASTM D256 |
| Izod Impact, notched, -30°C | 107 | J/m | ASTM D256 |
| Instrumented Dart Impact Total Energy, 23°C | 20 | J | ASTM D3763 |
| Izod Impact, unnotched 80°10'3 +23°C | 35 | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80°10'3 -30°C | 35 | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80°10'3 +23°C | 7 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80°10'3 -30°C | 6 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80°10'3 sp=62mm | 6 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80°10'3 sp=62mm | 5 | kJ/m ² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80°10'3 sp=62mm | 40 | kJ/m ² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80°10'3 sp=62mm | 40 | kJ/m ² | ISO 179/1eU |



| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|--------------------------------|-------------------------|----------------|
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 147 | °C | ASTM D1525 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 141 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 3.E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 7.E-05 | 1/°C | ASTM E831 |
| CTE, 23°C to 80°C, flow | 3.E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 80°C, xflow | 7.E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, 125°C +/- 2°C | PASSES | - | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50 | 145 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 146 | °C | ISO 306 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 141 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 136 | °C | ISO 75/Af |
| Relative Temp Index, Elec | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/impact | 130 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 130 | °C | UL 746B |
| PHYSICAL | | | |
| Specific Gravity | 1.34 | - | ASTM D792 |
| Mold Shrinkage, flow, 3.2 mm | 0.2 - 0.5 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm | 0.2 - 0.5 | % | SABIC method |
| Melt Flow Rate, 300°C/ 1.2 kgf | 7 | g/10 min | ASTM D1238 |
| Density | 1.34 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/saturated) | 0.29 | % | ISO 62-1 |
| Moisture Absorption (23°C / 50% RH) | 0.12 | % | ISO 62 |
| Melt Volume Rate, MVR at 300°C/ 1.2 kg | 7 | cm ³ /10 min | ISO 1133 |
| ELECTRICAL | | | |
| Arc Resistance, Tungsten {PLC} | 7 | PLC Code | ASTM D495 |
| Hot Wire Ignition {PLC} | 0 | PLC Code | UL 746A |
| High Voltage Arc Track Rate {PLC} | 3 | PLC Code | UL 746A |
| High Ampere Arc Ign, surface {PLC} | 3 | PLC Code | UL 746A |
| Comparative Tracking Index (UL) {PLC} | 3 | PLC Code | UL 746A |
| Comparative Tracking Index | 175 | V | IEC 60112 |
| Dielectric strength in oil, 2.0mm | 34 | kV/mm | IEC 60243-1 |
| Volume Resistivity | >1.E+15 | Ω.cm | IEC 60093 |
| Surface Resistivity, ROA | >1.E+15 | Ω | IEC 60093 |
| Relative Permittivity, 1 MHz | 3.3 | - | IEC 60250 |
| Dissipation Factor, 50/60 Hz | 0.02 | - | IEC 60250 |
| Dissipation Factor, 1 MHz | 0.01 | - | IEC 60250 |
| Relative Permittivity, 50/60 Hz | 3.3 | - | IEC 60250 |
| FLAME CHARACTERISTICS | | | |
| UL Yellow Card Link | E121562-220879 | - | - |
| UL Recognized, 94V-0 Flame Class Rating | 1.5 | mm | UL 94 |
| UL Recognized, 94-5VA Flame Class Rating | 3 | mm | UL 94 |
| Glow Wire Flammability Index 960°C, passes at | 1 | mm | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 1.0 mm | 825 | °C | IEC 60695-2-13 |
| Oxygen Index (LOI) | 40 | % | ISO 4589 |



| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|-----------------------------|----------------|-------|--------------|
| INJECTION MOLDING | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 3 – 4 | Hrs | |
| Drying Time (Cumulative) | 48 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 290 – 310 | °C | |
| Nozzle Temperature | 280 – 305 | °C | |
| Front - Zone 3 Temperature | 290 – 310 | °C | |
| Middle - Zone 2 Temperature | 275 – 300 | °C | |
| Rear - Zone 1 Temperature | 265 – 290 | °C | |
| Mold Temperature | 70 – 95 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 40 – 70 | rpm | |
| Shot to Cylinder Size | 40 – 60 | % | |
| Vent Depth | 0.025 – 0.076 | mm | |

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.