

## LEXANT™ VISUALFX™ RESIN FXD141R

REGION EUROPE

## DESCRIPTION

Transparent/translucent PC for light diffusion special effects. Color package may affect performance.

## GENERAL INFORMATION

|                       |                                                                           |
|-----------------------|---------------------------------------------------------------------------|
| Features              | Aesthetics/Visual effects, Transparent/Translucent, Enhanced mold release |
| Fillers               | Unreinforced                                                              |
| Polymer Types         | Polycarbonate (PC)                                                        |
| Processing Techniques | Injection Molding                                                         |

## TYPICAL PROPERTY VALUES

Revision 20240117

| PROPERTIES                                          | TYPICAL VALUES | UNITS             | TEST METHODS   |
|-----------------------------------------------------|----------------|-------------------|----------------|
| MECHANICAL <sup>(1)</sup>                           |                |                   |                |
| Tensile Stress, yield, 50 mm/min                    | 63             | MPa               | ISO 527        |
| Tensile Stress, break, 50 mm/min                    | 70             | MPa               | ISO 527        |
| Tensile Strain, yield, 50 mm/min                    | 6              | %                 | ISO 527        |
| Tensile Strain, break, 50 mm/min                    | 110            | %                 | ISO 527        |
| Tensile Modulus, 1 mm/min                           | 2350           | MPa               | ISO 527        |
| Flexural Stress, yield, 2 mm/min                    | 90             | MPa               | ISO 178        |
| Flexural Modulus, 2 mm/min                          | 2300           | MPa               | ISO 178        |
| Ball Indentation Hardness, H358/30                  | 95             | MPa               | ISO 2039-1     |
| IMPACT <sup>(1)</sup>                               |                |                   |                |
| Izod Impact, unnotched 80*10*3 +23°C                | NB             | kJ/m <sup>2</sup> | ISO 180/1U     |
| Izod Impact, unnotched 80*10*3 -30°C                | NB             | kJ/m <sup>2</sup> | ISO 180/1U     |
| Izod Impact, notched 80*10*3 +23°C                  | 70             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Izod Impact, notched 80*10*3 -30°C                  | 12             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm          | 73             | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm         | 14             | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm          | NB             | kJ/m <sup>2</sup> | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm         | NB             | kJ/m <sup>2</sup> | ISO 179/1eU    |
| THERMAL <sup>(1)</sup>                              |                |                   |                |
| Thermal Conductivity                                | 0.2            | W/m·°C            | ISO 8302       |
| CTE, 23°C to 80°C, flow                             | 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                     | 141            | °C                | ISO 306        |
| Vicat Softening Temp, Rate B/120                    | 142            | °C                | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm             | 136            | °C                | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm             | 125            | °C                | ISO 75/Ae      |
| Relative Temp Index, Elec <sup>(2)</sup>            | 130            | °C                | UL 746B        |
| Relative Temp Index, Mech w/impact <sup>(2)</sup>   | 130            | °C                | UL 746B        |
| Relative Temp Index, Mech w/o impact <sup>(2)</sup> | 130            | °C                | UL 746B        |

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CHEMISTRY THAT MATTERS™

| PROPERTIES                                         | TYPICAL VALUES                | UNITS                    | TEST METHODS |
|----------------------------------------------------|-------------------------------|--------------------------|--------------|
| <b>PHYSICAL <sup>(1)</sup></b>                     |                               |                          |              |
| Mold Shrinkage on Tensile Bar, flow <sup>(3)</sup> | 0.5 – 0.7                     | %                        | SABIC method |
| Density                                            | 1.2                           | g/cm <sup>3</sup>        | ISO 1183     |
| Water Absorption, (23°C/saturated)                 | 0.35                          | %                        | ISO 62-1     |
| Moisture Absorption (23°C / 50% RH)                | 0.15                          | %                        | ISO 62       |
| Melt Volume Rate, MVR at 300°C/ 1.2 kg             | 11                            | cm <sup>3</sup> / 10 min | ISO 1133     |
| <b>ELECTRICAL <sup>(1)</sup></b>                   |                               |                          |              |
| Volume Resistivity                                 | >1.E+15                       | Ω.cm                     | IEC 60093    |
| Surface Resistivity, ROA                           | >1.E+15                       | Ω                        | IEC 60093    |
| Dielectric Strength, in oil, 3.2 mm                | 17                            | kV/mm                    | IEC 60243-1  |
| Relative Permittivity, 1 MHz                       | 2.7                           | -                        | IEC 60250    |
| Dissipation Factor, 50/60 Hz                       | 0.001                         | -                        | IEC 60250    |
| Dissipation Factor, 1 MHz                          | 0.01                          | -                        | IEC 60250    |
| Relative Permittivity, 50/60 Hz                    | 2.7                           | -                        | IEC 60250    |
| Comparative Tracking Index (UL) {PLC}              | 2                             | PLC Code                 | UL 746A      |
| High Amp Arc Ignition (HAI), PLC 0                 | 1.5                           | mm                       | UL 746A      |
| High Amp Arc Ignition (HAI), PLC 1                 | 3                             | mm                       | UL 746A      |
| High Amp Arc Ignition (HAI), PLC 2                 | 1.14                          | mm                       | UL 746A      |
| Hot-Wire Ignition (HWI), PLC 2                     | 1.5                           | mm                       | UL 746A      |
| Hot-Wire Ignition (HWI), PLC 3                     | 1.14                          | mm                       | UL 746A      |
| High Voltage Arc Track Rate {PLC}                  | 2                             | PLC Code                 | UL 746A      |
| <b>FLAME CHARACTERISTICS <sup>(2)</sup></b>        |                               |                          |              |
| UL Yellow Card Link                                | <a href="#">E45329-541346</a> | -                        | -            |
| UL Recognized, 94HB Flame Class Rating             | ≥0.7                          | mm                       | UL 94        |
| UV-light, water exposure/immersion                 | F2                            | -                        | UL 746C      |
| Oxygen Index (LOI)                                 | 25                            | %                        | ISO 4589     |
| <b>INJECTION MOLDING <sup>(4)</sup></b>            |                               |                          |              |
| Drying Temperature                                 | 120                           | °C                       |              |
| Drying Time                                        | 2 – 4                         | Hrs                      |              |
| Maximum Moisture Content                           | 0.02                          | %                        |              |
| Melt Temperature                                   | 280 – 310                     | °C                       |              |
| Nozzle Temperature                                 | 270 – 290                     | °C                       |              |
| Front - Zone 3 Temperature                         | 280 – 310                     | °C                       |              |
| Middle - Zone 2 Temperature                        | 270 – 290                     | °C                       |              |
| Rear - Zone 1 Temperature                          | 260 – 280                     | °C                       |              |
| Hopper Temperature                                 | 60 – 80                       | °C                       |              |
| Mold Temperature                                   | 80 – 110                      | °C                       |              |

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article. The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.



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