

# LEXANT™ RESIN 104R

REGION EUROPE

## DESCRIPTION

LEXANT™ 104R resin is a 7 MFR polycarbonate, MVR of 6. Grade designed for food contact. Mold release. UL94 HB rated. Suitable for extrusion and injection molding applications. (For FDA, European food contact regulation, Japan, China and other agencies declarations worldwide, including any applied restrictions, contact your local SABIC representative).

## TYPICAL PROPERTY VALUES

Revision 20210126

| PROPERTIES                                  | TYPICAL VALUES | UNITS     | TEST METHODS   |
|---------------------------------------------|----------------|-----------|----------------|
| <b>MECHANICAL</b>                           |                |           |                |
| Taber Abrasion, CS-17, 1 kg                 | 10             | mg/1000cy | SABIC method   |
| 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            | 120            | %         | 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     |
| <b>IMPACT</b>                               |                |           |                |
| Izod Impact, unnotched 80*10*3 +23°C        | NB             | kJ/m²     | ISO 180/1U     |
| Izod Impact, unnotched 80*10*3 -30°C        | NB             | kJ/m²     | ISO 180/1U     |
| Izod Impact, notched 80*10*3 +23°C          | 70             | kJ/m²     | ISO 180/1A     |
| Izod Impact, notched 80*10*3 -30°C          | 12             | kJ/m²     | ISO 180/1A     |
| Izod Impact, unnotched 80*10*4 +23°C        | NB             | kJ/m²     | ISO 180/1U     |
| Izod Impact, unnotched 80*10*4 -30°C        | NB             | kJ/m²     | ISO 180/1U     |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm  | 75             | kJ/m²     | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 15             | kJ/m²     | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm  | NB             | kJ/m²     | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm | NB             | kJ/m²     | ISO 179/1eU    |
| Charpy Impact, notched, 23°C                | 35             | kJ/m²     | ISO 179/2C     |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm  | NB             | kJ/m²     | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | NB             | kJ/m²     | ISO 179/1eU    |
| <b>THERMAL</b>                              |                |           |                |
| 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 |
| Ball Pressure Test, approximate maximum     | 140            | °C        | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50             | 144            | °C        | ISO 306        |
| Vicat Softening Temp, Rate B/120            | 145            | °C        | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm     | 138            | °C        | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm     | 127            | °C        | ISO 75/Ae      |
| Relative Temp Index, Elec                   | 130            | °C        | UL 746B        |
| Relative Temp Index, Mech w/impact          | 130            | °C        | UL 746B        |

| PROPERTIES                                       | TYPICAL VALUES                   | UNITS                   | TEST METHODS   |
|--------------------------------------------------|----------------------------------|-------------------------|----------------|
| Relative Temp Index, Mech w/o impact             | 130                              | °C                      | UL 746B        |
| PHYSICAL                                         |                                  |                         |                |
| Mold Shrinkage on Tensile Bar, flow              | 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            | 6                                | cm <sup>3</sup> /10 min | ISO 1133       |
| OPTICAL                                          |                                  |                         |                |
| Light Transmission, 2.54 mm                      | 88 – 90                          | %                       | ASTM D1003     |
| Haze, 2.54 mm                                    | <0.8                             | %                       | ASTM D1003     |
| Refractive Index                                 | 1.586                            | -                       | ISO 489        |
| ELECTRICAL                                       |                                  |                         |                |
| 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      |
| FLAME CHARACTERISTICS                            |                                  |                         |                |
| UL Yellow Card Link                              | <a href="#">E45329-103028643</a> | -                       | -              |
| UL Recognized, 94HB Flame Class Rating           | 1.5                              | mm                      | UL 94          |
| UL Recognized, 94HB Flame Class Rating 2nd value | 3                                | mm                      | UL 94          |
| Glow Wire Flammability Index 850°C, passes at    | 1                                | mm                      | IEC 60695-2-12 |
| Oxygen Index (LOI)                               | 25                               | %                       | ISO 4589       |
| INJECTION MOLDING                                |                                  |                         |                |
| Drying Temperature                               | 120                              | °C                      |                |
| Drying Time                                      | 2 – 4                            | Hrs                     |                |
| Maximum Moisture Content                         | 0.02                             | %                       |                |
| Melt Temperature                                 | 290 – 320                        | °C                      |                |
| Nozzle Temperature                               | 280 – 310                        | °C                      |                |
| Front - Zone 3 Temperature                       | 290 – 320                        | °C                      |                |
| Middle - Zone 2 Temperature                      | 280 – 310                        | °C                      |                |
| Rear - Zone 1 Temperature                        | 270 – 300                        | °C                      |                |
| Hopper Temperature                               | 60 – 80                          | °C                      |                |
| Mold Temperature                                 | 80 – 120                         | °C                      |                |

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