

# LEXAN<sup>TM</sup> COPOLYMER FST3403T

REGION EUROPE

## DESCRIPTION

Lexan® FST3403T resin is a high flow PC Copolymer Resin, suitable for injection molding. This halogen-free flame retardant resin is EN45545 R6 HL3 and an ideal candidate for train interior applications. It also meets requirements of NFPA-130 standards. Available in transparent and opaque colors.

## TYPICAL PROPERTY VALUES

Revision 20200423

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS |
|----------------------------------------------|----------------|-------|--------------|
| <b>MECHANICAL</b>                            |                |       |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 77             | MPa   | ASTM D 638   |
| Tensile Stress, brk, Type I, 50 mm/min       | 70             | MPa   | ASTM D 638   |
| Tensile Strain, yld, Type I, 50 mm/min       | 6              | %     | ASTM D 638   |
| Tensile Strain, brk, Type I, 50 mm/min       | 75             | %     | ASTM D 638   |
| Tensile Modulus, 5 mm/min                    | 2600           | MPa   | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 115            | MPa   | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2700           | MPa   | ASTM D 790   |
| Tensile Stress, yield, 50 mm/min             | 77             | 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             | 95             | %     | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 2600           | MPa   | ISO 527      |
| Flexural Stress, yield, 2 mm/min             | 105            | MPa   | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 2500           | MPa   | ISO 178      |
| <b>IMPACT</b>                                |                |       |              |
| Izod Impact, notched, 23°C                   | 120            | J/m   | ASTM D 256   |
| Izod Impact, notched, -30°C                  | 85             | J/m   | ASTM D 256   |
| Multiaxial Impact                            | 130            | J     | ISO 6603     |
| Instrumented Impact Total Energy, 23°C       | 60             | J     | ASTM D 3763  |
| 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           | 12             | kJ/m² | ISO 180/1A   |
| Izod Impact, notched 80*10*4 +23°C           | 11             | kJ/m² | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C           | 9              | kJ/m² | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm   | NB             | kJ/m² | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm  | NB             | 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 23°C, V-notch Edgew 80*10*4 sp=62mm   | NB             | kJ/m² | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm  | NB             | kJ/m² | ISO 179/1eA  |
| 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>                               |                |       |              |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm       | 104            | °C    | ISO 75/Bf    |

| PROPERTIES                                    | TYPICAL VALUES | UNITS      | TEST METHODS    |
|-----------------------------------------------|----------------|------------|-----------------|
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm         | 94             | °C         | ISO 75/Af       |
| Vicat Softening Temp, Rate B/50               | 111            | °C         | ASTM D 1525     |
| HDT, 0.45 MPa, 3.2 mm, unannealed             | 104            | °C         | ASTM D 648      |
| HDT, 1.82 MPa, 3.2mm, unannealed              | 94             | °C         | ASTM D 648      |
| CTE, -40°C to 40°C, flow                      | 6.E-05         | 1/°C       | ISO 11359-2     |
| CTE, -40°C to 40°C, xflow                     | 6.E-05         | 1/°C       | ISO 11359-2     |
| Vicat Softening Temp, Rate B/120              | 113            | °C         | ISO 306         |
| PHYSICAL                                      |                |            |                 |
| Specific Gravity                              | 1.33           | -          | ASTM D 792      |
| Mold Shrinkage, flow                          | 0.5 – 0.7      | %          | SABIC method    |
| Mold Shrinkage, xflow                         | 0.5 – 0.7      | %          | SABIC method    |
| Melt Flow Rate, 300°C/1.2 kgf                 | 12             | g/10 min   | ASTM D 1238     |
| Density                                       | 1.33           | g/cm³      | ISO 1183        |
| Melt Volume Rate, MVR at 300°C/1.2 kg         | 10             | cm³/10 min | ISO 1133        |
| FLAME CHARACTERISTICS                         |                |            |                 |
| Flame Spread Index (1.52mm)                   | <35            | -          | ASTM E 162      |
| NBS Smoke Density, Flaming, Ds 1.5 min        | <100           | -          | ASTM E 662      |
| NBS Smoke Density, Flaming, Ds 4 min          | <200           | -          | ASTM E 662      |
| Heat release, MAHRE, 50 kW/m², 3 mm           | <60            | kW/m²      | ISO 5660-1      |
| Smoke Toxicity                                | PASSES         | -          | OEM BSS         |
| Smoke density, DS-4, 50 kW/m², 3mm            | <150           | -          | ISO 5659-2      |
| Smoke density, VOF4, 50 kW/m², 3mm            | <300           | -          | ISO 5659-2      |
| Smoke toxicity, CITG (8 min), 50 kW/m², 3 mm  | 0.1            | -          | ISO 5659-2      |
| Fire Safety Hazard Level - Requirement set R6 | HL3            | -          | EN 45545-2:2013 |
| INJECTION MOLDING                             |                |            |                 |
| Drying Temperature                            | 95 – 100       | °C         |                 |
| Drying Time                                   | 6 – 8          | hrs        |                 |
| Melt Temperature                              | 250 – 280      | °C         |                 |
| Nozzle Temperature                            | 245 – 275      | °C         |                 |
| Front - Zone 3 Temperature                    | 250 – 280      | °C         |                 |
| Middle - Zone 2 Temperature                   | 240 – 270      | °C         |                 |
| Rear - Zone 1 Temperature                     | 230 – 250      | °C         |                 |
| Mold Temperature                              | 50 – 80        | °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.