

# LEXANT™ COPOLYMER FXD1413T

REGION ASIA

## DESCRIPTION

Clear PC-siloxane copolymer with excellent processability, in special light diffusion colors. Medium flow. Improved toughness compared to medium flow standard PC in same color. Color package may affect performance.

## TYPICAL PROPERTY VALUES

Revision 20180906

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS   |
|--|----------------|-------------------|----------------|
| <b>MECHANICAL</b>                            |                |                   |                |
| Tensile Stress, yld, Type I, 50 mm/min       | 60             | MPa               | ASTM D 638     |
| Tensile Stress, brk, Type I, 50 mm/min       | 66             | MPa               | ASTM D 638     |
| Tensile Strain, yld, Type I, 50 mm/min       | 6              | %                 | ASTM D 638     |
| Tensile Strain, brk, Type I, 50 mm/min       | 130            | %                 | ASTM D 638     |
| Tensile Modulus, 50 mm/min                   | 2270           | MPa               | ASTM D 638     |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 87             | MPa               | ASTM D 790     |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2270           | MPa               | ASTM D 790     |
| Tensile Stress, yield, 50 mm/min             | 57             | MPa               | ISO 527        |
| Tensile Stress, break, 50 mm/min             | 58             | MPa               | ISO 527        |
| Tensile Strain, yield, 50 mm/min             | 5.6            | %                 | ISO 527        |
| Tensile Strain, break, 50 mm/min             | 116            | %                 | ISO 527        |
| Tensile Modulus, 1 mm/min                    | 2310           | MPa               | ISO 527        |
| Flexural Stress, yield, 2 mm/min             | 91             | MPa               | ISO 178        |
| Flexural Modulus, 2 mm/min                   | 2190           | MPa               | ISO 178        |
| <b>IMPACT</b>                                |                |                   |                |
| Izod Impact, notched, 23°C                   | 890            | J/m               | ASTM D 256     |
| Izod Impact, notched, -30°C                  | 795            | J/m               | ASTM D 256     |
| Instrumented Impact Total Energy, 23°C       | 82             | J                 | ASTM D 3763    |
| 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           | 65             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Izod Impact, notched 80*10*3 -30°C           | 55             | kJ/m <sup>2</sup> | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm   | 70             | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm  | 60             | 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    |
| <b>THERMAL</b>                               |                |                   |                |
| Vicat Softening Temp, Rate A/50              | 141            | °C                | ASTM D 1525    |
| HDT, 1.82 MPa, 3.2mm, unannealed             | 124            | °C                | ASTM D 648     |
| CTE, -40°C to 95°C, flow                     | 7.15E-05       | 1/°C              | ASTM E 831     |
| CTE, -40°C to 95°C, xflow                    | 7.93E-05       | 1/°C              | ASTM E 831     |
| CTE, 23°C to 80°C, flow                      | 7.15E-05       | 1/°C              | ISO 11359-2    |
| CTE, 23°C to 80°C, xflow                     | 7.93E-05       | 1/°C              | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C            | PASS           | -                 | IEC 60695-10-2 |

| PROPERTIES                            | TYPICAL VALUES | UNITS                   | TEST METHODS |
|---------------------------------------|----------------|-------------------------|--------------|
| Vicat Softening Temp, Rate B/50       | 141            | °C                      | ISO 306      |
| Vicat Softening Temp, Rate B/120      | 143            | °C                      | ISO 306      |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 119            | °C                      | ISO 75/Af    |
| <b>PHYSICAL</b>                       |                |                         |              |
| Specific Gravity                      | 1.19           | -                       | ASTM D 792   |
| Mold Shrinkage on Tensile Bar, flow   | 0.4 – 0.8      | %                       | SABIC method |
| Mold Shrinkage, flow, 3.2 mm          | 0.4 – 0.8      | %                       | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm         | 0.4 – 0.8      | %                       | SABIC method |
| Melt Flow Rate, 300°C/1.2 kgf         | 10             | g/10 min                | ASTM D 1238  |
| Density                               | 1.19           | g/cm <sup>3</sup>       | ISO 1183     |
| Water Absorption, (23°C/sat)          | 0.13           | %                       | ISO 62       |
| Moisture Absorption (23°C / 50% RH)   | 0.09           | %                       | ISO 62       |
| Melt Volume Rate, MVR at 220°C/5.0 kg | 9              | cm <sup>3</sup> /10 min | ISO 1133     |
| <b>INJECTION MOLDING</b>              |                |                         |              |
| Drying Temperature                    | 120            | °C                      |              |
| Drying Time                           | 3 – 4          | hrs                     |              |
| Drying Time (Cumulative)              | 48             | hrs                     |              |
| Maximum Moisture Content              | 0.02           | %                       |              |
| Melt Temperature                      | 295 – 315      | °C                      |              |
| Nozzle Temperature                    | 290 – 310      | °C                      |              |
| Front - Zone 3 Temperature            | 295 – 315      | °C                      |              |
| Middle - Zone 2 Temperature           | 280 – 305      | °C                      |              |
| Rear - Zone 1 Temperature             | 215 – 295      | °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                      |              |

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