

## SABIC Innovative Plastics LNP Thermocomp 2FL24 FP-E (EFTE)

Category : Polymer , Thermoplastic , Fluoropolymer , ETFE/ECTFE , Fluorocarbon ETFE , with Glass or Carbon Fiber Filler

### Material Notes:

LNP\* 2FL24 is a Fluoropolymer, ETFE grade containing Glass Fibers and PTFE. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-LNP-Thermocomp-2FL24-FP-E-EFTE.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-Thermocomp-2FL24-FP-E-EFTE.php)

| Physical Properties                | Metric                | English                   | Comments               |
|------------------------------------|-----------------------|---------------------------|------------------------|
| Specific Gravity                   | 1.80 g/cc             | 1.80 g/cc                 | ASTM D 792             |
| Density                            | 1.80 g/cc             | 0.0650 lb/in <sup>3</sup> | ASTM D 792             |
| Moisture Absorption at Equilibrium | 0.010 %               | 0.010 %                   | 23Â°C / 50% RH; ISO 62 |
|                                    | 0.00 %                | 0.00 %                    | 50% RH; ASTM D 570     |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                        |
| Linear Mold Shrinkage, Flow        | 0.0060 - 0.0080 cm/cm | 0.0060 - 0.0080 in/in     | ASTM D 955             |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                        |
| Linear Mold Shrinkage, Transverse  | 0.010 - 0.030 cm/cm   | 0.010 - 0.030 in/in       | ASTM D 955             |
|                                    | @Time 86400 sec       | @Time 24.0 hour           |                        |

| Mechanical Properties     | Metric                | English               | Comments                           |
|---------------------------|-----------------------|-----------------------|------------------------------------|
| Tensile Strength at Break | 67.0 MPa              | 9720 psi              | 5 mm/min; ISO 527                  |
|                           | 69.0 MPa              | 10000 psi             | Type I, 5 mm/min; ASTM D 638       |
| Elongation at Break       | 6.2 %                 | 6.2 %                 | 5 mm/min; ISO 527                  |
|                           | 6.5 %                 | 6.5 %                 | Type I, 5 mm/min; ASTM D 638       |
| Tensile Modulus           | 5.00 GPa              | 725 ksi               | 1 mm/min; ISO 527                  |
|                           | 6.44 GPa              | 934 ksi               | 5 mm/min; ASTM D 638               |
| Flexural Strength         | 89.0 MPa              | 12900 psi             | ISO 178                            |
| Flexural Modulus          | 4.76 GPa              | 690 ksi               | 1.3 mm/min, 50 mm span; ASTM D 790 |
|                           | 4.98 GPa              | 722 ksi               | 2 mm/min; ISO 178                  |
| Izod Impact, Notched      | 4.88 J/cm             | 9.14 ft-lb/in         | ASTM D 256                         |
|                           | @Temperature 23.0 Â°C | @Temperature 73.4 Â°F |                                    |

| Mechanical Properties        | Metric                               | English                                  | Comments                                      |
|------------------------------|--------------------------------------|------------------------------------------|-----------------------------------------------|
| Izod Impact, Unnotched       | 13.4 J/cm<br>@Temperature 23.0 Â°C   | 25.1 ft-lb/in<br>@Temperature 73.4 Â°F   | ASTM D 4812                                   |
| Izod Impact, Notched (ISO)   | 45.0 kJ/mÂ²<br>@Temperature 23.0 Â°C | 21.4 ft-lb/inÂ²<br>@Temperature 73.4 Â°F | 80*10*4; ISO 180/1A                           |
| Izod Impact, Unnotched (ISO) | 92.0 kJ/mÂ²<br>@Temperature 23.0 Â°C | 43.8 ft-lb/inÂ²<br>@Temperature 73.4 Â°F | 80*10*4; ISO 180/1U                           |
| Impact Test                  | 8.00 J                               | 5.90 ft-lb                               | Multiaxial Impact; ISO 6603                   |
|                              | 20.0 J<br>@Temperature 23.0 Â°C      | 14.8 ft-lb<br>@Temperature 73.4 Â°F      | Instrumented Impact Total Energy; ASTM D 3763 |

| Thermal Properties                          | Metric                                          | English                                           | Comments                         |
|---------------------------------------------|-------------------------------------------------|---------------------------------------------------|----------------------------------|
| CTE, linear, Parallel to Flow               | 24.0 Âµm/m-Â°C<br>@Temperature -30.0 - 30.0 Â°C | 13.3 Âµin/in-Â°F<br>@Temperature -22.0 - 86.0 Â°F | ASTM D 696                       |
| CTE, linear, Transverse to Flow             | 94.0 Âµm/m-Â°C<br>@Temperature -30.0 - 30.0 Â°C | 52.2 Âµin/in-Â°F<br>@Temperature -22.0 - 86.0 Â°F | ASTM D 696                       |
| Deflection Temperature at 0.46 MPa (66 psi) | 239 Â°C                                         | 462 Â°F                                           | Flatw 80*10*4 sp=64mm; ISO 75/Bf |
|                                             | 251 Â°C<br>@Thickness 3.20 mm                   | 484 Â°F<br>@Thickness 0.126 in                    | unannealed; ASTM D 648           |
| Deflection Temperature at 1.8 MPa (264 psi) | 160 Â°C                                         | 320 Â°F                                           | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|                                             | 198 Â°C<br>@Thickness 3.20 mm                   | 388 Â°F<br>@Thickness 0.126 in                    | unannealed; ASTM D 648           |

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