

# PEEK-SGC301F20

## Polyetheretherketone (PEEK)

### TECHNICAL DATA SHEET

## Description

Sciengy® PEEK-SGC301F20 is a 30% carbon fiber reinforced PEEK compound, standard flow, developed to provide higher strength, wear resistance, low coefficient of friction and chemical resistant.

CF30%, Standard

|                        |                         |
|------------------------|-------------------------|
| <b>Series</b>          | Carbon fiber reinforced |
| <b>ISO Designation</b> | >PEEK-CF30<             |
| <b>Process Method</b>  | Injection molding       |

## Properties

| Physical                                         | Value | Units             | Test Standard |
|--------------------------------------------------|-------|-------------------|---------------|
| Density                                          | 1.40  | g/cm <sup>3</sup> | ISO 1183      |
| Mold Shrinkage (Machine Direction)               | 0.10  | %                 | GB/T 15585    |
| Mold Shrinkage (Transverse Direction)            | 0.50  | %                 | GB/T 15585    |
| Water Absorption (23°C-sat)                      | 0.30  | %                 | ISO 62        |
| Flammability(1.6 mm)                             | V-0   |                   | IEC60695      |
| Mechanical                                       | Value | Units             | Test Standard |
| Tensile Stress at Break (5 mm/min)               | 255   | MPa               | ISO 527       |
| Elongation at Break (23°C)                       | 1.7   | %                 | ISO 527       |
| Flexural Modulus at Break (23°C)                 | 25.0  | GPa               | ISO 178       |
| Flexural Strength at Break                       | 370   | MPa               | ISO178        |
| Charpy Impact Strength @23°C (V-notched)         | 9.0   | kJ/m <sup>2</sup> | ISO 179       |
| Thermal                                          | Value | Units             | Test Standard |
| Melting Temperature (10°C/min)                   | 343   | °C                | ISO 11357     |
| Heat Deflection Temp. High Load (1.8 MPa)        | 330   | °C                | ISO 75        |
| Glass Transition (Tg)                            | 150   | °C                | ISO 11357     |
| Thermal expansion coefficient (T<Tg) along flow  | 5.0   | ppm/°C            | ISO 11359     |
| Thermal expansion coefficient (T>Tg) along flow  | 40    | ppm/°C            | ISO 11359     |
| Thermal expansion coefficient (T<Tg) across flow | 6.0   | ppm/°C            | ISO 11359     |

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|                                                     |                                                     |        |               |
|-----------------------------------------------------|-----------------------------------------------------|--------|---------------|
| Thermal expansion coefficient (T>Tg)<br>across flow | 100                                                 | ppm/°C | ISO 11359     |
| Thermal conductivity (23°C)                         | 2.0                                                 | W/mk   | ISO 22007-4   |
| Electrical Properties                               | Value                                               | Units  | Test Standard |
| Typical Processing Conditions                       | Value                                               | Units  | Test Standard |
| Drying Temp. / Time                                 | 150°C&3h or<br>120°C&5h(residual<br>moisture<0.02%) |        |               |
| Injection Molding Melt Temp.                        | 180°C~210°C                                         | °C     |               |
| Temperature Settings                                | 375/385/390/395/395°C(Nozzle)                       |        |               |
| Hopper Temperature                                  | Not greater than<br>100°C                           | °C     |               |
| Gate                                                | >2mm or 0.5*part<br>thickness                       |        |               |