Beetle® PBTS120CF

Polybutylene Terephthalate

Teknor Apex Company (Chem Polymer)

Message:

PBTS120CF is a 20% carbon fibre reinforced grade of PBT that is formulated with injection moulding of components in mind. The carbon fibre loading imparts a high level of stiffness over a wide range of service environments.

| General Information | | | |
|--|--|-------|-----------------|
| Filler / Reinforcement | Carbon fiber reinforced material, 20% filler by weight | | |
| Features | Good dimensional stability | | |
| | Prevent continuous charging | | |
| | Rigidity, high | | |
| | | | |
| Forms | Particle | | |
| Processing Method | Injection molding | | |
| Physical | Nominal Value | Unit | Test Method |
| Density | 1.38 | g/cm³ | ISO 1183 |
| Molding Shrinkage ¹ | 0.50 - 0.70 | % | Internal method |
| Water Absorption (Equilibrium, 23°C, 50% | | | |
| RH) | 0.10 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | 14500 | MPa | ISO 527-2 |
| Tensile Stress (Yield) | 170 | MPa | ISO 527-2 |
| Tensile Strain (Break) | 2.0 | % | ISO 527-2 |
| Flexural Modulus | 12000 | MPa | ISO 178 |
| Flexural Stress | 225 | MPa | ISO 178 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | 5.0 | kJ/m² | ISO 180 |
| Thermal | Nominal Value | Unit | Test Method |
| Heat Deflection Temperature | | | |
| 0.45 MPa, not annealed | > 200 | °C | ISO 75-2/B |
| 1.8 MPa, not annealed | > 200 | °C | ISO 75-2/A |
| Electrical | Nominal Value | Unit | Test Method |
| Surface Resistivity | 1.0E+3 | ohms | IEC 60093 |
| Injection | Nominal Value | Unit | |
| Drying Temperature | 120 | °C | |
| Drying Time | 4.0 | hr | |
| Rear Temperature | 250 - 260 | °C | |
| Middle Temperature | 250 - 270 | °C | |
| Front Temperature | 250 - 270 | °C | |
| Processing (Melt) Temp | < 280 | °C | |

| Mold Temperature | 60.0 - 80.0 | ℃ |
|------------------------|-------------|-----|
| Injection Rate | Fast | |
| Screw Speed | 50 - 200 | rpm |
| Injection instructions | | |

Back Pressure: LowInjection Pressure: HighPolyester grades are very sensitive to moisture content during processing. Suitable pre-drying is essential. Excess moisture causes rapid hydrolytic degradation of the melt and severe impairment of mechanical properties. Low melt viscosity & brittle product are often the key indicators. Vacuum or dehumidified air driers must be used.

| Mould shrinkage is significantly |
|-------------------------------------|
| influenced by many factors |
| including wall thickness, gating, |
| component shape and moulding |
| conditions. The range values stated |
| were determined from specimen |
| bar mouldings of 1.5mm to 4mm |
| wall thickness. They are provided |
| as a guide for comparison |
| purposes only and no guarantee |
| should be inferred from their |
| inclusion. (Specimens measured in |
| the dry state, 24 hours after |
| mouldina). |

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