

TECHNICAL DATA SHEET

TECHNYL C 216 V35 BK Z

TECHNYL C 216 V35 BK Z is a polyamide PA6, reinforced with 35 % of glass fibre, for injection moulding. This grade has good mechanical properties and offering an excellent combination between thermal and mechanical properties.

General

| | | |
|-----------------------|--|---|
| Polymer type | PA6 (Polyamide 6) | |
| Processing technology | Injection molding | |
| Certification | RoHS EC 1907/2006 (REACH) | UL-Yellow Card |
| Applications | Electrical/Electronic Applications White Goods & Small Appliances PC / laptop / tablet | home & office furniture Wire & Cable |
| Colors available | Black | Natural |
| Forms | Pellets | |

Product identification

| | |
|-----------------------|--------------------|
| ISO 1043 abbreviation | PA6-GF35 |
| ISO 16396 designation | PA6,GF35,M,S14-110 |

| | Condition | Standard | Unit | Value |
|------------------------------|----------------|----------|-------------------|-----------|
| Physical properties | | | | |
| Density | | ISO 1183 | g/cm ³ | 1.38 |
| Humidity absorption | T=23°C, 50% RH | ISO 62 | % | 1.8 - 2.2 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 1.4 - 1.5 |
| Water absorption, saturation | | | % | 5.9 |

Mechanical properties

| | | | | dam / cond.* |
|---------------------------------------|----------|--------------|-------------------|--------------|
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 11000 / 6500 |
| Stress at break | | ISO 527-1/-2 | MPa | 175 / 110 |
| Strain at break | | ISO 527-1/-2 | % | 3.2 / 7 |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 10000 / 6500 |
| Flexural strength, ISO 178 | 2 mm/min | ISO 178 | MPa | 300 / 155 |
| Charpy impact strength, +23°C | +23°C | ISO 179/1eU | kJ/m ² | 90 / 95 |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m ² | 12 / 20 |
| Izod notched impact strength, +23°C | +23°C | ISO 180/1A | kJ/m ² | 15 / 28 |

Condition
Standard
Unit
Value


Thermal properties

| | | | | |
|--|----------|-------------|----|-----|
| Melting temperature, 10°C/min | | ISO 11357-1 | °C | 222 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 210 |

Electrical properties

| | | | | |
|--------------------------------|------------|---------------|-------|--------|
| Volume resistivity | | IEC 62631-3-1 | ohm.m | 1E+013 |
| Surface resistivity | | IEC 62631-3-1 | ohm | 1E+014 |
| Comparative tracking index | Solution A | IEC 60112 | V | 400 |
| CTI performance level category | | Sol A | | PLC 1 |

Burning behaviour

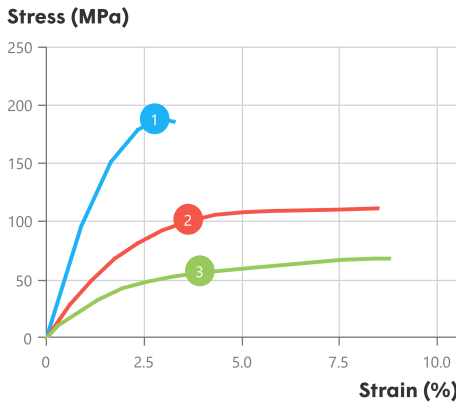
| | | | | |
|---|--|----------------|----|-------------|
| UL Yellow Card availability  | Click here to have access to the UL Yellow Card → QMfZ2.E44716 | | | |
| Flammability, 0.75 mm | 0.75 mm | UL 94 | | HB |
| Flammability, 1.5 mm | 1.5 mm | UL 94 | | HB |
| Flammability, 3.0 mm | 3.0 mm | UL 94 | | HB |
| Glow-wire flammability index, GWFI, 1.5 mm | 1.5 mm | IEC 60695-2-12 | °C | 650 |
| Burning rate, FMVSS, Thickness 1 mm | | FMVSS 302 | | < 100mm/min |

*: conditioned according to ISO 1110

Processing conditions

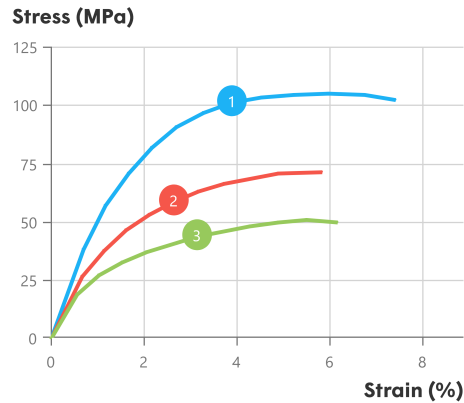
| | |
|-------------------------------|--------------|
| Drying temperature/time | 80 °C |
| Suggested max moisture | 0.2 % |
| Rear temperature | 230 - 235 °C |
| Middle temperature | 235 - 240 °C |
| Front temperature | 240 - 250 °C |
| Recommended mould temperature | 60 - 90 °C |

Stress-strain, dry



| Temperature (°C) | Spannung |
|------------------|------------|
| 1 | Spannung 1 |
| 2 | Spannung 2 |
| 3 | Spannung 3 |

Stress-strain, conditioned



| Temperature (°C) | Spannung |
|------------------|-------------|
| 1 | Spannung 4 |
| 2 | Spannung 8 |
| 3 | Spannung 10 |

Injection notes

The material is supplied in airtight bags, ready for use. In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point minimum -20°C. Recommended time 2-4h.

Injection advice

For reinforced polyamides, Domo recommends the use of steel with a high content of carbon, and purified for polishing, to avoid or limit the abrasion. For example: X38CrMoV5-1 (EN Norm) - 1.2367 / 1.2343 (DIN Norm) or X160CrMoV12 (EN Norm) - 1.2601 / 1.2379 (DIN Norm). In the case of high requirements on surface quality a mould temperature of up to 120°C can be considered. The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design.

Disclaimer

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