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TECHNICAL DATA SHEET

# TECHNYL D 218CR V50 BK

**(Previously TECHNYL EXTEN D 218CR V50 BLACK)**

TECHNYL D 218CR V50 BK is a high glass reinforced grade based on polyamide blend of polyamide 6.10 and polyamide 66, heat stabilized, for injection moulding. This grade shows outstanding resistance to hydrolysis, very low water uptake, enhanced dimension stability and chemical resistance to long life automotive coolants. It also offers an excellent crack resistance to calcium chloride road salts, good injection process ability, high surface aspect quality, and overall high thermo-mechanical properties.

## General

| | | |
|---|---|---|
| Feature | road salt resistant<br>Contains renewable content<br>Low moisture absorption | Chemical resistant<br>Excellent glycol resistant |
| Polymer type | (PA610 + PA66) blend | |
| Processing technology | Injection molding | |
| Certification | RoHS | EC 1907/2006 (REACH) |
| Applications | Automotive Applications | |
| Colors available | Black | |
| Forms | Pellets | |

## Product identification

| | |
|---|---|
| ISO 1043 abbreviation | PA610+PA66-GF50 |
| ISO 16396 designation | PA610+PA66,GF50,M1,S14-160 |

## Physical properties

| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| Density | | ISO 1183 | g/cm³ | 1.54 |
| Humidity absorption | T=23°C, 50% RH | ISO 62 | % | 1.1 |
| Water absorption | 24 hr, 23°C | ISO 62 | % | 0.45 - 0.5 |
| Molding shrinkage, parallel | | ISO 294-4, 2577 | % | 0.3 - 0.5 |
| Molding shrinkage, normal | | ISO 294-4, 2577 | % | 0.7 - 0.9 |

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| | Condition | Standard | Unit | Value |
|---|---|---|---|---|
| **Mechanical properties** | | | | **dam / cond.*** |
| Tensile modulus | 1 mm/min | ISO 527-1/-2 | MPa | 16800 / 11600 |
| Stress at break | | ISO 527-1/-2 | MPa | 225 / 165 |
| Strain at break | | ISO 527-1/-2 | % | 3 / 5.1 |
| Flexural modulus, ISO 178 | 2 mm/min | ISO 178 | MPa | 13600 / 9400 |
| Flexural strength, ISO 178 | 2 mm/min | ISO 178 | MPa | 345 / 250 |
| Charpy impact strength, +23°C | +23°C | ISO 179/1eU | kJ/m² | 100 / 100 |
| Charpy impact strength, -30°C | -30°C | ISO 179/1eU | kJ/m² | 110 / - |
| Charpy notched impact strength, +23°C | +23°C | ISO 179/1eA | kJ/m² | 17 / 20 |
| Charpy notched impact strength, -30°C | -30°C | ISO 179/1eA | kJ/m² | 14 / - |
| **Thermal properties** | | | | |
| Melting temperature, 10°C/min | | ISO 11357-1 | °C | 260 |
| Temp. of deflection under load, 1.80 MPa | 1.80 MPa | ISO 75 | °C | 214 |
| **Burning behaviour** | | | | |
| Burning rate, FMVSS, Thickness 1 mm | | FMVSS 302 | | <100 |

**: conditioned according to ISO 1110*

## Processing conditions

| | |
|---|---|
| Drying temperature/time | 80 °C / 4 h |
| Suggested max moisture | 0.15 % |
| Rear temperature | 270 - 280 °C |
| Middle temperature | 280 - 290 °C |
| Front temperature | 280 - 300 °C |
| Recommended mould temperature | 70 - 100 °C |

## 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.

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## Disclaimer

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