

TECHNYL®

TECHNYL® C 216 V45 NATURAL

TECHNICAL DATA SHEET

Revised: September, 2018

TECHNYL® C 216 V45 Natural is a polyamide 6, reinforced with 45% of glass fibre, for injection moulding. This grade has been optimized to have good impact strength, a nice surface aspect and being easy to paint.

GENERAL

| | |
|--------------------------|---|
| Material Status | • Commercial: Active |
| Availability | • Africa & Middle East • Asia Pacific • Europe • Latin America • North America |
| Filler / Reinforcement | • Glass Fiber, 45% Filler by Weight |
| Key Benefits | • Good Dimensional Stability • Good Flow • Good Mold Release • High Stiffness |
| Applications | • Bicycles component • Consumer and Industrial applications • Power tools • Sports equipment |
| Certification/Compliance | • EC 1907/2006 (REACH) |
| RoHS Compliance | • RoHS Compliant |
| Colors Available | • Black • Natural Color |
| Forms | • Pellets |
| Processing Method | • Injection Molding |
| Resin ID (ISO 1043) | • PA6-GF45 |

PROPERTIES

Typical values of properties are for Natural grades

| Physical | Dry | Conditioned | Unit | Test Method |
|---|-------|-------------|-------------------|--------------|
| Water Absorption (24 hr, 23°C) | 0.80 | | % | ISO 62 |
| Density | 1.51 | | g/cm ³ | ISO 1183/A |
| Mechanical | Dry | Conditioned | Unit | Test Method |
| Tensile Modulus (23°C) | 13000 | 8300 | MPa | ISO 527-2/1A |
| Tensile Stress (Break, 23°C) | 190 | 145 | MPa | ISO 527-2/1A |
| Tensile Strain (Break, 23°C) | 2.5 | | % | ISO 527-2 |
| Charpy Notched Impact Strength (23°C) | 13 | 26 | kJ/m ² | ISO 179/1eA |
| Charpy Unnotched Impact Strength (23°C) | 90 | | kJ/m ² | ISO 179/1eU |
| Thermal | Dry | Conditioned | Unit | Test Method |
| Heat Deflection Temperature | | | | ISO 75-2/1Af |
| 1.8 MPa, Unannealed | 210 | | °C | |
| Melting Temperature | 222 | | °C | ISO 11357-3 |



| Electrical | Dry | Conditioned Unit | Test Method |
|---|-------|------------------|-------------|
| Relative Permittivity (23°C, 2.00 mm, 1 MHz) | 4.10 | | IEC 60250 |
| Dissipation Factor (1 MHz) | 0.029 | | IEC 60250 |

PROCESSING

| Injection | Dry Unit |
|------------------------|---------------|
| Drying Temperature | 80 °C |
| Suggested Max Moisture | 0.20 % |
| Rear Temperature | 235 to 240 °C |
| Middle Temperature | 240 to 250 °C |
| Front Temperature | 250 to 260 °C |
| Mold Temperature | 60 to 90 °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 mini -20°C. Recommended time 2-4h

Injection Advice:

- For reinforced polyamides, Solvay 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.

DISCLAIMER

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and it is in no way binding. This information must on no account be used as a substitutive for necessary prior tests which alone can ensure that a product is suitable for a given use. ANY WARRANTY OF PRODUCT PERFORMANCE, MERCHANDABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED. Users are responsible for ensuring compliance with local legislation and for obtaining the necessary certifications and authorizations. Users are requested to check that they are in possession of the latest version of this document, and Solvay is at their disposal to supply any additional information.



SAFETY INFORMATION

Detailed information regarding safety are available on the safety data sheet (SDS). SDS is sent with the first material order or available by contacting our customer services

REGULATIONS COMPLIANCE

This product is not intended to be used for the following regulated market: food contact, drinking water, toys, cosmetics or medical devices.

This grade complies with ROHS Directive 2011/65/EU and 2015/863 as amended.

Grades produced or imported in Europe comply with REACH directive 1907/2006/EC as amended.

CUSTOMER SERVICES

Our customer services are not only concerned with manufacturing and supply of Engineering Plastics products. We are available to assist our customers in finding technical solutions that meet their requirements. Specific support is in particular offered on:

- Material selection
- Material testing
- Parts design advice, training for design engineers
- Part testing
- Design simulation
- Processing through different technologies
- Assembly and post-processing technology expertise
- Parts optimization through Computer Aided Design

You can find more information on Solvay Product range on our internet product finder at the following address: <http://www.technyl.com>

Notes

Typical properties: these are not to be construed as specifications.

