

TECHNYL® C 548B Black is an unreinforced polyamide 6, high viscosity, for extrusion blow-moulding. This grade offers a good processing behaviour, high impact resistance even at low temperature and high barrier properties especially to fluids such as fuels and oils, as well as a high toughness.

### GENERAL

|                          |                                                                                                  |                                                                 |
|--------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| Material Status          | • Commercial: Active                                                                             |                                                                 |
| Availability             | • Africa & Middle East<br>• Asia Pacific                                                         | • Europe                                                        |
| Additive                 | • Heat Stabilizer                                                                                | • Impact Modifier                                               |
| Key Benefits             | • Heat Stabilized (Inorganic)<br>• High Impact Resistance<br>• Low Temperature Impact Resistance | • High Melt Strength<br>• Good Mold Release<br>• High Viscosity |
| Applications             | • Fuel lines<br>• Fuel tanks                                                                     | • Motorcycles<br>• Turbocharger air ducts                       |
| Certification/Compliance | • EC 1907/2006 (REACH)                                                                           |                                                                 |
| RoHS Compliance          | • RoHS Compliant                                                                                 |                                                                 |
| Colors Available         | • Black                                                                                          |                                                                 |
| Forms                    | • Pellets                                                                                        |                                                                 |
| Processing Method        | • Blow Molding                                                                                   | • Extrusion                                                     |
| Resin ID (ISO 1043)      | • PA6                                                                                            |                                                                 |

### PROPERTIES

Typical values of properties are for Black grades

| Physical                  | Dry  | Conditioned | Unit  | Test Method |
|---------------------------|------|-------------|-------|-------------|
| Water Absorption          |      |             |       | ISO 62      |
| 24 hr, 23°C               | 1.2  |             | %     |             |
| Equilibrium, 23°C, 50% RH | 2.6  |             | %     |             |
| Density                   | 1.07 |             | g/cm³ | ISO 1183/A  |

| Mechanical              | Dry  | Conditioned | Unit | Test Method  |
|-------------------------|------|-------------|------|--------------|
| Tensile Modulus (23°C)  | 1900 | 500         | MPa  | ISO 527-2/1A |
| Tensile Stress          |      |             |      | ISO 527-2/1A |
| Yield, 23°C             | 48   | 40          | MPa  |              |
| Break, 23°C             | 40   | 38          | MPa  |              |
| Tensile Elongation      |      |             |      |              |
| Break, 23°C             | 150  |             | %    | ASTM D638    |
| Break, 23°C             | 60   | > 100       | %    | ISO 527-2    |
| Flexural Modulus (23°C) | 1750 | 850         | MPa  | ISO 178      |
| Flexural Stress (23°C)  | 70.0 | 45.0        | MPa  | ISO 178      |

| Mechanical                              | Dry      | Conditioned | Unit  | Test Method |
|-----------------------------------------|----------|-------------|-------|-------------|
| Charpy Notched Impact Strength          |          |             |       | ISO 179/1eA |
| -30°C                                   | 16       |             | kJ/m² |             |
| 23°C                                    | 100      | No Break    | kJ/m² |             |
| Charpy Unnotched Impact Strength (23°C) | No Break | No Break    |       | ISO 179/1eU |
| Notched Izod Impact Strength (23°C)     | 90       |             | kJ/m² | ISO 180     |

| Thermal                     | Dry | Conditioned | Unit | Test Method |
|-----------------------------|-----|-------------|------|-------------|
| Heat Deflection Temperature |     |             |      |             |
| 0.45 MPa, Unannealed        | 80  |             | °C   | ISO 75-2/Bf |
| 1.8 MPa, Unannealed         | 55  |             | °C   | ISO 75-2/Af |
| Melting Temperature         | 222 |             | °C   | ISO 11357-3 |

| Electrical                  | Dry     | Conditioned | Unit    | Test Method |
|-----------------------------|---------|-------------|---------|-------------|
| Surface Resistivity         | 1.0E+15 | 1.0E+12     | ohms    | IEC 60093   |
| Volume Resistivity          | 1.0E+15 | 1.0E+13     | ohms·cm | IEC 60093   |
| Electric Strength (2.00 mm) |         | 17          | kV/mm   | IEC 60243-1 |
| Relative Permittivity       | 3.70    | 4.00        |         | IEC 60250   |
| Dissipation Factor          | 0.020   | 0.12        |         | IEC 60250   |

| Flammability                          | Dry | Conditioned | Unit | Test Method    |
|---------------------------------------|-----|-------------|------|----------------|
| Flame Rating (1.6 mm)                 | HB  |             |      | UL 94          |
| Glow Wire Flammability Index (1.6 mm) | 650 |             | °C   | IEC 60695-2-12 |

| Extrusion              | Dry        | Unit |
|------------------------|------------|------|
| Suggested Max Moisture | 0.080      | %    |
| Cylinder Zone 1 Temp.  | 210 to 230 | °C   |
| Cylinder Zone 2 Temp.  | 220 to 240 | °C   |
| Adapter Temperature    | 220 to 240 | °C   |
| Die Temperature        | 215 to 235 | °C   |

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**Extrusion 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.

Blow Molding Mold Temperature: 40 to 60°C

Blow Molding Head Temperature: 220 to 240°C

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**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

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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

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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

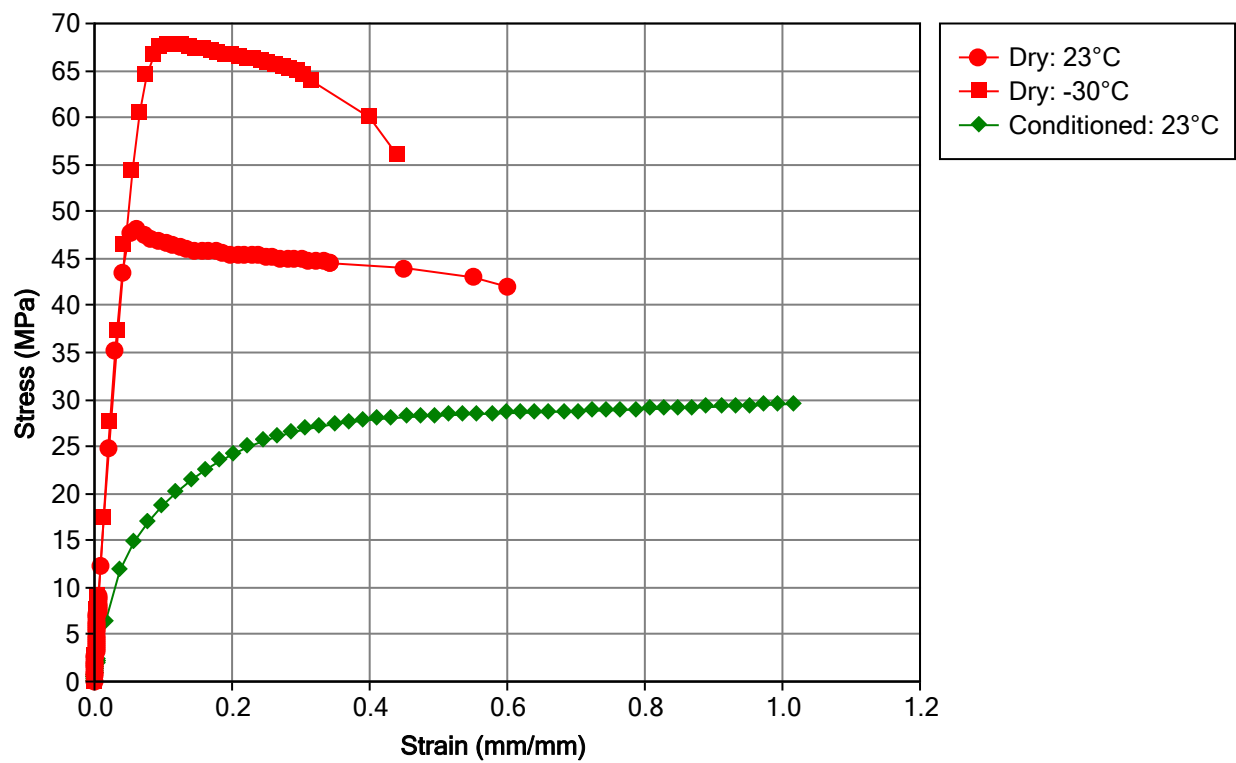
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Our customer services are not only concerned with manufacturing and supply of Engineering Plastics products. We are available to assist our customers in finding technical solutions that meet their requirements. Specific support is in particular offered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

## MULTIPOINT DATA

Isothermal Stress vs. Strain (ISO 11403-1)



### Viscosity vs. Shear Rate (ISO 11403-2)

