

## Technical Data Sheet



# Schulamid 6 GF 30 TC BLACK

Polyamide 6  
LyondellBasell Industries  
Engineering Plastics

### Product Description

30% glass fiber reinforced compound based on Polyamide 6

### General

|                        |                                                                      |                                                        |                                                                 |
|------------------------|----------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------|
| Material Status        | • Commercial: Active <sup>1</sup>                                    |                                                        |                                                                 |
| Availability           | • Africa & Middle East<br>• Asia Pacific                             | • Europe<br>• Latin America                            | • North America                                                 |
| Filler / Reinforcement | • Glass Fiber, 30% Filler by Weight                                  |                                                        |                                                                 |
| Features               | • Good Dimensional Stability<br>• Good Flow<br>• Good Processability | • Hydrolysis Resistant<br>• Low Density<br>• Low Gloss | • Low Moisture Absorption<br>• Noise Damping<br>• Oil Resistant |
| Processing Method      | • Injection Molding                                                  |                                                        |                                                                 |
| Resin ID (ISO 1043)    | • PA6-I-GF30                                                         |                                                        |                                                                 |

| Physical                                   | Dry               | Conditioned      | Unit                                          | Test Method    |
|--------------------------------------------|-------------------|------------------|-----------------------------------------------|----------------|
| Density                                    | 1.25              | --               | g/cm <sup>3</sup>                             | ISO 1183/A     |
| Melt Volume-Flow Rate (MVR) (260°C/5.0 kg) | 12                | --               | cm <sup>3</sup> /10min                        | ISO 1133       |
| Mechanical                                 | Dry               | Conditioned      | Unit                                          | Test Method    |
| Tensile Modulus                            | 1.26E+6<br>(8700) | 972000<br>(6700) | psi<br>(MPa)                                  | ISO 527-1/1A/1 |
| Tensile Stress (Break)                     | 18900<br>(130)    | 13800<br>(95.0)  | psi<br>(MPa)                                  | ISO 527-2/1A/5 |
| Tensile Strain (Break)                     | 3.0               | 4.5              | %                                             | ISO 527-2/1A/5 |
| Flexural Modulus                           | 1.02E+6<br>(7000) | --               | psi<br>(MPa)                                  | ISO 178        |
| Flexural Stress (3.3% Strain)              | 26100<br>(180)    | --               | psi<br>(MPa)                                  | ISO 178        |
| Impact                                     | Dry               | Conditioned      | Unit                                          | Test Method    |
| Charpy Notched Impact Strength             |                   |                  |                                               | ISO 179/1eA    |
| -22°F (-30°C)                              | 4.8<br>(10)       | --               | ft·lb/in <sup>2</sup><br>(kJ/m <sup>2</sup> ) |                |
| 73°F (23°C)                                | 6.7<br>(14)       | 8.1<br>(17)      | ft·lb/in <sup>2</sup><br>(kJ/m <sup>2</sup> ) |                |
| Charpy Unnotched Impact Strength           |                   |                  |                                               | ISO 179/1eU    |
| -22°F (-30°C)                              | 22<br>(46)        | --               | ft·lb/in <sup>2</sup><br>(kJ/m <sup>2</sup> ) |                |
| 73°F (23°C)                                | 27<br>(56)        | 29<br>(60)       | ft·lb/in <sup>2</sup><br>(kJ/m <sup>2</sup> ) |                |
| Thermal                                    | Dry               | Conditioned      | Unit                                          | Test Method    |
| Deflection Temperature Under Load          |                   |                  |                                               |                |
| 66 psi (0.45 MPa), Unannealed              | 419<br>(215)      | --               | °F<br>(°C)                                    | ISO 75-2/Bf    |
| 264 psi (1.8 MPa), Unannealed              | 374<br>(190)      | --               | °F<br>(°C)                                    | ISO 75-2/Af    |
| Vicat Softening Temperature                |                   |                  |                                               |                |
| --                                         | 347<br>(175)      | --               | °F<br>(°C)                                    | ISO 306/B50    |
| --                                         | 428<br>(220)      | --               | °F<br>(°C)                                    | ISO 306/A50    |

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| Flammability                | Dry          | Conditioned | Unit               | Test Method             |
|-----------------------------|--------------|-------------|--------------------|-------------------------|
| Burning Rate                |              |             |                    |                         |
| 0.0787 in (2.00 mm)         | 0.47<br>(12) | --          | in/min<br>(mm/min) | ISO 3795                |
| 0.0787 in (2.00 mm)         | 0.47<br>(12) | --          | in/min<br>(mm/min) | FMVSS 302               |
| Flammability Classification |              |             |                    | IEC 60695-11-10,<br>-20 |
| 0.06 in (1.5 mm)            | HB           | --          |                    |                         |
| 0.12 in (3.0 mm)            | HB           | --          |                    |                         |

**Additional Information**

- 1.) Not for use in food contact applications
- 2.) Not for use in medical or pharmaceutical applications

## Characteristic properties

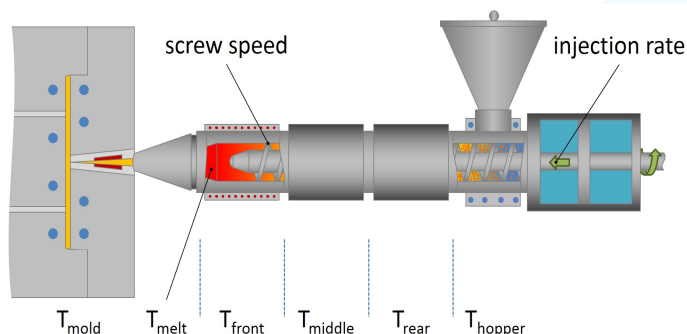
As a semi-crystalline thermoplastic SCHULAMID® 6 possesses high rigidity, hardness and good cold impact resistance.

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| Injection              | Dry (English)      | Dry (SI)         |
|------------------------|--------------------|------------------|
| Drying Temperature     | 176 °F             | 80 °C            |
| Drying Time            | 3.0 to 4.0 hr      | 3.0 to 4.0 hr    |
| Suggested Max Moisture | 0.04 to 0.10 %     | 0.04 to 0.10 %   |
| Hopper Temperature     | 158 °F             | 70 °C            |
| Rear Temperature       | 446 °F             | 230 °C           |
| Middle Temperature     | 464 °F             | 240 °C           |
| Front Temperature      | 482 °F             | 250 °C           |
| Nozzle Temperature     | 500 °F             | 260 °C           |
| Processing (Melt) Temp | 482 to 518 °F      | 250 to 270 °C    |
| Mold Temperature       | 140 to 194 °F      | 60 to 90 °C      |
| Injection Pressure     | 14500 to 26100 psi | 100 to 180 MPa   |
| Injection Rate         | Fast               | Fast             |
| Holding Pressure       | 7250 to 16000 psi  | 50.0 to 110 MPa  |
| Back Pressure          | 290 to 1160 psi    | 2.00 to 8.00 MPa |
| Cushion                | 0.0787 to 0.197 in | 2.00 to 5.00 mm  |
| Vent Depth             | 7.9E-4 in          | 0.020 mm         |
| Screw Speed            | < 709 in/min       | < 18 m/min       |

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**Injection Notes****Predrying**

Typically a minimum predrying time of 3 to 4 hours at 80°C is recommended in an dehumidifying dryer. For optimal qualities a humidity of 0,04 - 0,1 % is recommended. Drying over 6 hours duration should occur at 60°C.

**Reprocessing**

Up to 10% regind may be used without change of property profile. Use only dried regrind.

**Shut down**

PA 6 can normally be left in the cyclinder. If in doubt purge with polyolefin.

**Finishing**

The material is suitable for machining. Varnishing, printing, gluing and embossing can be carried out using commercially available products.

**Conditioning**

Recently processed moulding parts possess improved brittleness. The material picks up moisture until the equilibrium moisture content is reached regarding the surrounding atmosphere. This may last for over a half year. Then the article has reached his balanced property profile. For accelerated absopion see our separate Technical instruction.

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**Notes**

<sup>1</sup> International

**Notes**

These are typical property values not to be construed as specification limits.

**Processing Techniques**

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

**Product Storage and Handling**

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

**Company Information**

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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