

## Technical Data Sheet

### Schulamid 6 GF 30 H 31 BLACK



Polyamide 6

#### Product Description

Schulamid 6 GF 30 H 31 BLACK is a Polyamide 6 Glass Fiber, 30% filled material and is typically used in Injection Molding applications. Features include: Good Toughness, Heat Aging Resistant, High Stiffness, and Oil Resistant.

**Processing Method** Injection Molding

**Attribute** Good Heat Aging Resistance; Good Toughness; High Stiffness; Oil Resistant

**Filler/Reinforcement** Glass Fiber, 30%

| Typical Properties                               | Nominal Value | Units              | Test Method |
|--------------------------------------------------|---------------|--------------------|-------------|
| <b>Physical</b>                                  |               |                    |             |
| Density, (Method A)                              | 1.35          | g/cm <sup>3</sup>  | ISO 1183    |
| Viscosity Number                                 | 145           | cm <sup>3</sup> /g | ISO 307     |
| <b>Mechanical</b>                                |               |                    |             |
| Flexural Strain at Flexural Strength             | 3.7           | %                  | ISO 178     |
| Tensile Strain at Break                          |               |                    |             |
| (Type 1A, 5 mm/min)                              | 3.5           | %                  | ISO 527-2   |
| (Type 1A, 5 mm/min) - Conditioned                | 8.0           | %                  | ISO 527-2   |
| Flexural Modulus                                 | 7800          | MPa                | ISO 178     |
| Tensile Stress at Break                          |               |                    |             |
| (Type 1A, 5 mm/min)                              | 170           | MPa                | ISO 527-2   |
| (Type 1A, 5 mm/min) - Conditioned                | 100           | MPa                | ISO 527-2   |
| Tensile Modulus                                  |               |                    |             |
| (1 mm/min, Type 1A)                              | 9500          | MPa                | ISO 527-1   |
| (1 mm/min, Type 1A) - Conditioned                | 5000          | MPa                | ISO 527-1   |
| Flexural Stress                                  | 210           | MPa                | ISO 178     |
| <b>Impact</b>                                    |               |                    |             |
| Charpy Impact Strength - Notched                 |               |                    |             |
| (23 °C, Type 1, Edgewise, Notch A)               | 12            | kJ/m <sup>2</sup>  | ISO 179     |
| (-30 °C, Type 1, Edgewise, Notch A)              | 9.0           | kJ/m <sup>2</sup>  | ISO 179     |
| (23 °C, Type 1, Edgewise, Notch A) - Conditioned | 30            | kJ/m <sup>2</sup>  | ISO 179     |
| Charpy Impact Strength - Unnotched               |               |                    |             |
| (23 °C, Type 1, Edgewise)                        | 80            | kJ/m <sup>2</sup>  | ISO 179     |
| (-30 °C, Type 1, Edgewise)                       | 60            | kJ/m <sup>2</sup>  | ISO 179     |
| (23 °C, Type 1, Edgewise) - Conditioned          | No Break      |                    | ISO 179     |
| <b>Hardness</b>                                  |               |                    |             |
| Ball Indentation Hardness, (H 358/30)            | 200           | MPa                | ISO 2039-1  |

## Thermal

|                                                                     |     |    |            |
|---------------------------------------------------------------------|-----|----|------------|
| Vicat Softening Temperature                                         |     |    |            |
| (B (50N), 50 °C/h)                                                  | 210 | °C | ISO 306    |
| (A (10N), 50 °C/h)                                                  | 217 | °C | ISO 306    |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 220 | °C | ISO 75-2/B |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | 205 | °C | ISO 75-2/A |
| RTI Elec                                                            |     |    |            |
| (1.5 mm)                                                            | 125 | °C | UL 746B    |
| (3.0 mm)                                                            | 125 | °C | UL 746B    |
| (0.75 mm)                                                           | 125 | °C | UL 746B    |
| RTI Imp                                                             |     |    |            |
| (1.5 mm)                                                            | 120 | °C | UL 746B    |
| (3.0 mm)                                                            | 125 | °C | UL 746B    |
| (0.75 mm)                                                           | 115 | °C | UL 746B    |
| RTI Str                                                             |     |    |            |
| (1.5 mm)                                                            | 130 | °C | UL 746B    |
| (3.0 mm)                                                            | 130 | °C | UL 746B    |
| (0.75 mm)                                                           | 130 | °C | UL 746B    |

## Electrical

|                                  |          |       |               |
|----------------------------------|----------|-------|---------------|
| Volume Resistivity               | >1.0E+13 | ohm*m | IEC 62631-3-1 |
| - Conditioned                    | >1.0E+10 | ohm*m | IEC 62631-3-1 |
| Comparative Tracking Index (CTI) | 450      | V     | IEC 60112     |
| Surface Resistivity              | >1.0E+15 | ohm   | IEC 60093     |
| - Conditioned                    | >1.0E+12 | ohm   | IEC 60093     |

## Flammable

|              |    |        |           |
|--------------|----|--------|-----------|
| Burning Rate |    |        |           |
| (2.00 mm)    | 30 | mm/min | FMVSS 302 |
| (2.00 mm)    | 30 | mm/min | ISO 3795  |

## Additional Information

|                           |   |   |        |
|---------------------------|---|---|--------|
| Water Absorption 23C/50RH | 2 | % | ISO 62 |
|---------------------------|---|---|--------|

## UL Information

|                             |        |  |                      |
|-----------------------------|--------|--|----------------------|
| Flammability Classification |        |  |                      |
| (0.75 mm)                   | HB     |  | IEC 60695-11-10, -20 |
| (1.5 mm)                    | HB     |  | IEC 60695-11-10, -20 |
| (3.0 mm)                    | HB     |  | IEC 60695-11-10, -20 |
| UL File Number              | E86615 |  |                      |

## Injection Parameters

|                                       | Nominal Value | Units |
|---------------------------------------|---------------|-------|
| Drying Time                           | 3.0 to 4.0    | hr    |
| Drying Temperature, (Desiccant Dryer) | 80            | °C    |
| Suggested Max Moisture                | 0.040 to 0.10 | %     |
| Processing (Melt) Temp                | 250 to 280    | °C    |
| Mold Temperature                      | 60 to 100     | °C    |