

## Technical Data Sheet

### Schulamid 66 GF50 H NAT



Polyamide 66

#### Product Description

Schulamid 66 GF50 H NAT is a Polyamide 66 Glass Fiber, 50% filled material and is typically used in Injection Molding applications. Features include: Crack Resistant, Good Processability, Good Toughness, Heat Aging Resistant, Low Moisture Absorption, Medium Viscosity, Oil Resistant, and Ultra High Stiffness.

**Processing Method** Injection Molding

**Attribute** Crack Resistant; Good Heat Aging Resistance; Good Processability; Good Toughness; Low Moisture Absorption; Medium Viscosity; Oil Resistant; Ultra High Stiffness

**Filler/Reinforcement** Glass Fiber, 50%

| Typical Properties                               | Nominal Value | Units             | Test Method |
|--------------------------------------------------|---------------|-------------------|-------------|
| <b>Physical</b>                                  |               |                   |             |
| Density, (Method A)                              | 1.57          | g/cm <sup>3</sup> | ISO 1183    |
| <b>Mechanical</b>                                |               |                   |             |
| Tensile Strain at Break                          |               |                   |             |
| (Type 1A, 5 mm/min)                              | 2.3           | %                 | ISO 527-2   |
| (Type 1A, 5 mm/min) - Conditioned                | 3.3           | %                 | ISO 527-2   |
| Tensile Stress at Break                          |               |                   |             |
| (Type 1A, 5 mm/min)                              | 228           | MPa               | ISO 527-2   |
| (Type 1A, 5 mm/min) - Conditioned                | 180           | MPa               | ISO 527-2   |
| Tensile Modulus                                  |               |                   |             |
| (1 mm/min, Type 1A)                              | 16500         | MPa               | ISO 527-1   |
| (1 mm/min, Type 1A) - Conditioned                | 13000         | MPa               | ISO 527-1   |
| <b>Impact</b>                                    |               |                   |             |
| Charpy Impact Strength - Notched                 |               |                   |             |
| (23 °C, Type 1, Edgewise, Notch A)               | 14            | kJ/m <sup>2</sup> | ISO 179     |
| (-30 °C, Type 1, Edgewise, Notch A)              | 12            | kJ/m <sup>2</sup> | ISO 179     |
| (23 °C, Type 1, Edgewise, Notch A) - Conditioned | 18            | kJ/m <sup>2</sup> | ISO 179     |
| Charpy Impact Strength - Unnotched               |               |                   |             |
| (23 °C, Type 1, Edgewise)                        | 90            | kJ/m <sup>2</sup> | ISO 179     |
| (-30 °C, Type 1, Edgewise)                       | 70            | kJ/m <sup>2</sup> | ISO 179     |
| (23 °C, Type 1, Edgewise) - Conditioned          | 94            | kJ/m <sup>2</sup> | ISO 179     |
| <b>Hardness</b>                                  |               |                   |             |
| Ball Indentation Hardness                        |               |                   |             |
| (H 358/30)                                       | 300           | MPa               | ISO 2039-1  |
| (H 358/30) - Conditioned                         | 220           | MPa               | ISO 2039-1  |
| <b>Thermal</b>                                   |               |                   |             |

|                                                                     |                      |              |                      |
|---------------------------------------------------------------------|----------------------|--------------|----------------------|
| Vicat Softening Temperature                                         |                      |              |                      |
| (B (50N), 50 °C/h)                                                  | >250                 | °C           | ISO 306              |
| (A (10N), 50 °C/h)                                                  | >250                 | °C           | ISO 306              |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | >250                 | °C           | ISO 75-2/B           |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | >250                 | °C           | ISO 75-2/A           |
| RTI Elec                                                            |                      |              |                      |
| (1.5 mm)                                                            | 120                  | °C           | UL 746B              |
| (3.0 mm)                                                            | 120                  | °C           | UL 746B              |
| (0.75 mm)                                                           | 120                  | °C           | UL 746B              |
| RTI Imp                                                             |                      |              |                      |
| (1.5 mm)                                                            | 105                  | °C           | UL 746B              |
| (3.0 mm)                                                            | 115                  | °C           | UL 746B              |
| (0.75 mm)                                                           | 105                  | °C           | UL 746B              |
| RTI Str                                                             |                      |              |                      |
| (1.5 mm)                                                            | 120                  | °C           | UL 746B              |
| (3.0 mm)                                                            | 130                  | °C           | UL 746B              |
| (0.75 mm)                                                           | 120                  | °C           | UL 746B              |
| <b>Electrical</b>                                                   |                      |              |                      |
| 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            |
| <b>Flammable</b>                                                    |                      |              |                      |
| Burning Rate                                                        |                      |              |                      |
| (2.00 mm)                                                           | 30                   | mm/min       | FMVSS 302            |
| (2.00 mm)                                                           | 30                   | mm/min       | ISO 3795             |
| Glow Wire Flammability Index                                        |                      |              |                      |
| (1.5 mm)                                                            | 600                  | °C           | IEC 60695-2-12       |
| (3.0 mm)                                                            | 600                  | °C           | IEC 60695-2-12       |
| <b>Additional Information</b>                                       |                      |              |                      |
| Water Absorption 23C/50RH                                           | 1.2                  | %            | ISO 62               |
| <b>UL Information</b>                                               |                      |              |                      |
| 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               |              |                      |
| <b>Injection Parameters</b>                                         |                      |              |                      |
|                                                                     | <b>Nominal Value</b> | <b>Units</b> |                      |
| Drying Time                                                         | 3.0 to 4.0           | hr           |                      |
| Drying Temperature                                                  | 80                   | °C           |                      |
| Suggested Max Moisture                                              | 0.040 to 0.10        | %            |                      |
| Processing (Melt) Temp                                              | 280 to 300           | °C           |                      |
| Mold Temperature                                                    | 60 to 120            | °C           |                      |