

## Technical Data Sheet

### Schulamid 66 MV 5 FR BLACK



Polyamide 66

#### Product Description

Medium viscosity flame-retardant Polyamide 66 grade, V-0 by 0,38 mm; halogen free

|                          |                                                 |
|--------------------------|-------------------------------------------------|
| <b>Processing Method</b> | Injection Molding                               |
| <b>Attribute</b>         | Antimony Free; Halogen Free; Low Smoke Emission |
| <b>Additive</b>          | Flame Retardant                                 |
| <b>Resin ID</b>          | PA66 FR(30)                                     |

| Typical Properties                               | Nominal Value | Units              | Test Method |
|--------------------------------------------------|---------------|--------------------|-------------|
| <b>Physical</b>                                  |               |                    |             |
| Density, (Method A)                              | 1.14          | g/cm <sup>3</sup>  | ISO 1183    |
| Viscosity Number                                 | 152           | cm <sup>3</sup> /g | ISO 307     |
| <b>Mechanical</b>                                |               |                    |             |
| Tensile Stress at Yield                          |               |                    |             |
| (Type 1A, 50 mm/min)                             | 80.0          | MPa                | ISO 527-2   |
| (Type 1A, 50 mm/min) - Conditioned               | 55.0          | MPa                | ISO 527-2   |
| Flexural Modulus, (2.0 mm/min)                   | 3700          | MPa                | ISO 178     |
| Tensile Strain at Yield                          |               |                    |             |
| (Type 1A, 50 mm/min)                             | 4.9           | %                  | ISO 527-2   |
| (Type 1A, 50 mm/min) - Conditioned               | 18            | %                  | ISO 527-2   |
| Tensile Modulus                                  |               |                    |             |
| (1 mm/min, Type 1A)                              | 3600          | MPa                | ISO 527-1   |
| (1 mm/min, Type 1A) - Conditioned                | 1800          | MPa                | ISO 527-1   |
| Flexural Stress                                  |               |                    |             |
| (2.0 mm/min, 3.5%)                               | 115           | MPa                | ISO 178     |
| (6.3%)                                           | 130           | MPa                | ISO 178     |
| <b>Impact</b>                                    |               |                    |             |
| Charpy Impact Strength - Notched                 |               |                    |             |
| (23 °C, Type 1, Edgewise, Notch A)               | 5.0           | kJ/m <sup>2</sup>  | ISO 179     |
| (-30 °C, Type 1, Edgewise, Notch A)              | 3.0           | kJ/m <sup>2</sup>  | ISO 179     |
| (23 °C, Type 1, Edgewise, Notch A) - Conditioned | 12            | kJ/m <sup>2</sup>  | ISO 179     |
| Charpy Impact Strength - Unnotched               |               |                    |             |
| (23 °C, Type 1, Edgewise)                        | 70            | kJ/m <sup>2</sup>  | ISO 179     |
| (-30 °C, Type 1, Edgewise)                       | 25            | kJ/m <sup>2</sup>  | ISO 179     |
| (23 °C, Type 1, Edgewise) - Conditioned          | No Break      |                    | ISO 179     |
| <b>Hardness</b>                                  |               |                    |             |

|                                                                     |         |                      |
|---------------------------------------------------------------------|---------|----------------------|
| Ball Pressure Test, (125 °C)                                        | Pass    | IEC 60695-10-2       |
| <b>Thermal</b>                                                      |         |                      |
| Vicat Softening Temperature                                         |         |                      |
| (B (50N), 50 °C/h)                                                  | 238 °C  | ISO 306              |
| (A (10N), 50 °C/h)                                                  | 250 °C  | ISO 306              |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 222 °C  | ISO 75-2/B           |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | 80.0 °C | ISO 75-2/A           |
| RTI Elec                                                            |         |                      |
| (1.5 mm)                                                            | 150 °C  | UL 746B              |
| (3.0 mm)                                                            | 150 °C  | UL 746B              |
| (0.75 mm)                                                           | 140 °C  | UL 746B              |
| (1.0 mm)                                                            | 150 °C  | UL 746B              |
| (0.38 mm)                                                           | 140 °C  | UL 746B              |
| RTI Imp                                                             |         |                      |
| (1.5 mm)                                                            | 115 °C  | UL 746B              |
| (3.0 mm)                                                            | 115 °C  | UL 746B              |
| (0.75 mm)                                                           | 115 °C  | UL 746B              |
| (1.0 mm)                                                            | 115 °C  | UL 746B              |
| (0.38 mm)                                                           | 105 °C  | UL 746B              |
| RTI Str                                                             |         |                      |
| (1.5 mm)                                                            | 110 °C  | UL 746B              |
| (3.0 mm)                                                            | 110 °C  | UL 746B              |
| (0.75 mm)                                                           | 110 °C  | UL 746B              |
| (1.0 mm)                                                            | 110 °C  | UL 746B              |
| (0.38 mm)                                                           | 100 °C  | UL 746B              |
| <b>Electrical</b>                                                   |         |                      |
| Comparative Tracking Index (CTI), (Solution A)                      | 600 V   | IEC 60112            |
| High Amp Arc Ignition                                               |         | UL 746A              |
| <b>Flammable</b>                                                    |         |                      |
| Hot-wire Ignition (HWI)                                             |         | UL 746A              |
| Glow Wire Flammability Index                                        |         |                      |
| (0.75 mm)                                                           | 960 °C  | IEC 60695-2-12       |
| (1.5 mm)                                                            | 960 °C  | IEC 60695-2-12       |
| (3.0 mm)                                                            | 960 °C  | IEC 60695-2-12       |
| Glow Wire Ignition Temperature                                      |         |                      |
| (0.75 mm)                                                           | 775 °C  | IEC 60695-2-13       |
| (0.40 mm)                                                           | 775 °C  | IEC 60695-2-13       |
| Oxygen Index                                                        | 35 %    | ISO 4589-2           |
| <b>UL Information</b>                                               |         |                      |
| Flammability Classification                                         |         |                      |
| (0.38 mm)                                                           | V-0     | IEC 60695-11-10, -20 |
| (0.8 mm)                                                            | V-0     | IEC 60695-11-10, -20 |
| (1.5 mm)                                                            | V-0     | IEC 60695-11-10, -20 |
| (3.0 mm)                                                            | V-0     | IEC 60695-11-10, -20 |
| UL File Number                                                      | E86615  |                      |

| <b>Injection Parameters</b> | <b>Nominal Value</b> | <b>Units</b> |
|-----------------------------|----------------------|--------------|
| Drying Time                 | 4.0 to 6.0           | hr           |
| Drying Temperature          | 80                   | °C           |
| Suggested Max Moisture      | 0.040 to 0.10        | %            |
| Screw Speed                 | 250                  | mm/sec       |
| Processing (Melt) Temp      | 260 to 280           | °C           |
| Injection Rate              | Slow-Moderate        |              |
| Back Pressure               | 20 to 80             | bar          |
| Mold Temperature            | 60 to 100            | °C           |