

## Technical Data Sheet

### Schulamid 66 MW30 FR4 K2031 NAT



Polyamide 66

#### Product Description

30% mineral filled flame-retardant Polyamide 66 grade with low warpage; without PBDE

|                      |                            |
|----------------------|----------------------------|
| Processing Method    | Injection Molding          |
| Attribute            | Good Strength; Low Warpage |
| Additive             | Flame Retardant            |
| Filler/Reinforcement | Mineral, 30%               |
| Resin ID             | PA66 MF30 FR(17)           |

| Typical Properties                               | Nominal Value | Units             | Test Method    |
|--------------------------------------------------|---------------|-------------------|----------------|
| <b>Physical</b>                                  |               |                   |                |
| Density, (Method A)                              | 1.60          | g/cm <sup>3</sup> | ISO 1183       |
| <b>Mechanical</b>                                |               |                   |                |
| Tensile Strain at Break                          |               |                   |                |
| (Type 1A, 5 mm/min)                              | 2.0           | %                 | ISO 527-2      |
| (Type 1A, 5 mm/min) - Conditioned                | 6.0           | %                 | ISO 527-2      |
| Tensile Stress at Break                          |               |                   |                |
| (Type 1A, 5 mm/min)                              | 80.0          | MPa               | ISO 527-2      |
| (Type 1A, 5 mm/min) - Conditioned                | 40.0          | MPa               | ISO 527-2      |
| Tensile Modulus                                  |               |                   |                |
| (1 mm/min, Type 1A)                              | 9200          | MPa               | ISO 527-1      |
| (1 mm/min, Type 1A) - Conditioned                | 4500          | MPa               | ISO 527-1      |
| <b>Impact</b>                                    |               |                   |                |
| Charpy Impact Strength - Notched                 |               |                   |                |
| (23 °C, Type 1, Edgewise, Notch A)               | 2.0           | kJ/m <sup>2</sup> | ISO 179        |
| (-30 °C, Type 1, Edgewise, Notch A)              | 2.0           | kJ/m <sup>2</sup> | ISO 179        |
| (23 °C, Type 1, Edgewise, Notch A) - Conditioned | 2.0           | kJ/m <sup>2</sup> | ISO 179        |
| Charpy Impact Strength - Unnotched               |               |                   |                |
| (23 °C, Type 1, Edgewise)                        | 23            | kJ/m <sup>2</sup> | ISO 179        |
| (-30 °C, Type 1, Edgewise)                       | 12            | kJ/m <sup>2</sup> | ISO 179        |
| (23 °C, Type 1, Edgewise) - Conditioned          | 33            | kJ/m <sup>2</sup> | ISO 179        |
| <b>Hardness</b>                                  |               |                   |                |
| Ball Pressure Test, (200 °C)                     | Pass          |                   | IEC 60695-10-2 |
| <b>Thermal</b>                                   |               |                   |                |

|                                                                     |      |        |                      |
|---------------------------------------------------------------------|------|--------|----------------------|
| Vicat Softening Temperature                                         |      |        |                      |
| (B (50N), 50 °C/h)                                                  | 239  | °C     | ISO 306              |
| (A (10N), 50 °C/h)                                                  | >250 | °C     | ISO 306              |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 236  | °C     | ISO 75-2/B           |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | 153  | °C     | ISO 75-2/A           |
| <b>Electrical</b>                                                   |      |        |                      |
| Comparative Tracking Index (CTI)                                    | 300  | V      | IEC 60112            |
| <b>Flammable</b>                                                    |      |        |                      |
| Burning Rate                                                        |      |        |                      |
| (0.750 mm, Self-Extinguishing)                                      | 0.0  | mm/min | ISO 3795             |
| (1.50 mm, Self-Extinguishing)                                       | 0.0  | mm/min | ISO 3795             |
| (3.00 mm, Self-Extinguishing)                                       | 0.0  | mm/min | ISO 3795             |
| 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)                                                           | 875  | °C     | IEC 60695-2-13       |
| (1.5 mm)                                                            | 875  | °C     | IEC 60695-2-13       |
| (3.0 mm)                                                            | 875  | °C     | IEC 60695-2-13       |
| Oxygen Index                                                        | 33   | %      | ISO 4589-2           |
| <b>UL Information</b>                                               |      |        |                      |
| Flame Rating                                                        |      |        |                      |
| (1.5 mm)                                                            | V-2  |        | UL 94                |
| (3.0 mm)                                                            | V-0  |        | UL 94                |
| (0.75 mm)                                                           | V-2  |        | UL 94                |
| Flammability Classification                                         |      |        |                      |
| (0.75 mm)                                                           | V-2  |        | IEC 60695-11-10, -20 |
| (1.5 mm)                                                            | V-2  |        | IEC 60695-11-10, -20 |
| (3.0 mm)                                                            | V-0  |        | IEC 60695-11-10, -20 |

| Injection Parameters   |  | Nominal Value | Units  |
|------------------------|--|---------------|--------|
| Drying Time            |  | 3.0 to 4.0    | hr     |
| Drying Temperature     |  | 80            | °C     |
| Suggested Max Moisture |  | 0.040 to 0.10 | %      |
| Screw Speed            |  | <250          | mm/sec |
| Processing (Melt) Temp |  | 270 to 290    | °C     |
| Back Pressure          |  | 20 to 80      | bar    |
| Mold Temperature       |  | 60 to 100     | °C     |