

## Technical Data Sheet

### Polyflam RIPP 2000 S WHI87235



Polypropylene Copolymer

#### Product Description

Unfilled flame retardant polypropylene copolymer compound, UV stabilized for outdoor applications (i.e. stadium seats), free of halogens according to DIN VDE 0472 part 815

|                   |                                |
|-------------------|--------------------------------|
| Processing Method | Injection Molding              |
| Attribute         | Copolymer; Halogen Free        |
| Additive          | Flame Retardant; UV Stabilizer |
| Application       | Outdoor Applications; Seats    |
| Resin ID          | PP FR(53)                      |

| Typical Properties                                                  | Nominal Value | Units                   | Test Method    |
|---------------------------------------------------------------------|---------------|-------------------------|----------------|
| <b>Physical</b>                                                     |               |                         |                |
| Melt Volume Flow Rate, (230 °C/2.16 kg)                             | 13            | cm <sup>3</sup> /10 min | ISO 1133       |
| Density, (Method A)                                                 | 0.910         | g/cm <sup>3</sup>       | ISO 1183       |
| <b>Mechanical</b>                                                   |               |                         |                |
| Tensile Stress at Yield, (Type 1A, 50 mm/min)                       | 24.0          | MPa                     | ISO 527-2      |
| Tensile Strain at Yield, (Type 1A, 50 mm/min)                       | 10            | %                       | ISO 527-2      |
| Tensile Modulus, (1 mm/min, Type 1A)                                | 1100          | MPa                     | ISO 527-1      |
| <b>Impact</b>                                                       |               |                         |                |
| Charpy Impact Strength - Notched                                    |               |                         |                |
| (23 °C, Type 1, Edgewise, Notch A)                                  | 13            | kJ/m <sup>2</sup>       | ISO 179        |
| (-30 °C, Type 1, Edgewise, Notch A)                                 | 2.5           | kJ/m <sup>2</sup>       | ISO 179        |
| Charpy Impact Strength - Unnotched                                  |               |                         |                |
| (23 °C, Type 1, Edgewise)                                           | No Break      |                         | ISO 179        |
| (-30 °C, Type 1, Edgewise)                                          | 46            | kJ/m <sup>2</sup>       | ISO 179        |
| <b>Hardness</b>                                                     |               |                         |                |
| Ball Pressure Test, (120 °C)                                        | Pass          |                         | IEC 60695-10-2 |
| <b>Thermal</b>                                                      |               |                         |                |
| Vicat Softening Temperature                                         |               |                         |                |
| (B (50N), 50 °C/h)                                                  | 64.0          | °C                      | ISO 306        |
| (A (10N), 120 °C/h)                                                 | 141           | °C                      | ISO 306        |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 78.0          | °C                      | ISO 75-2/B     |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | 53.0          | °C                      | ISO 75-2/A     |

|                                  |          |        |                      |
|----------------------------------|----------|--------|----------------------|
| RTI Elec                         |          |        |                      |
| (1.5 mm)                         | 65.0     | °C     | UL 746B              |
| (3.0 mm)                         | 65.0     | °C     | UL 746B              |
| RTI Imp                          |          |        |                      |
| (1.5 mm)                         | 65.0     | °C     | UL 746B              |
| (3.0 mm)                         | 65.0     | °C     | UL 746B              |
| RTI Str                          |          |        |                      |
| (1.5 mm)                         | 65.0     | °C     | UL 746B              |
| (3.0 mm)                         | 65.0     | °C     | UL 746B              |
| <b>Electrical</b>                |          |        |                      |
| Volume Resistivity               | >1.0E+13 | ohm*m  | IEC 62631-3-1        |
| Comparative Tracking Index (CTI) | 600      | V      | IEC 60112            |
| High Amp Arc Ignition            |          |        | UL 746A              |
| Surface Resistivity              | >1.0E+15 | ohm    | IEC 60093            |
| <b>Flammable</b>                 |          |        |                      |
| Hot-wire Ignition (HWI)          |          |        | UL 746A              |
| Burning Rate                     |          |        |                      |
| (2.00 mm, Self-Extinguishing)    | 0.0      | mm/min | FMVSS 302            |
| (2.00 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)                        | 700      | °C     | IEC 60695-2-13       |
| (1.5 mm)                         | 850      | °C     | IEC 60695-2-13       |
| (3.0 mm)                         | 800      | °C     | IEC 60695-2-13       |
| Oxygen Index                     | 26       | %      | ISO 4589-2           |
| <b>UL Information</b>            |          |        |                      |
| Flammability Classification      |          |        |                      |
| (0.8 mm)                         | V-2      |        | IEC 60695-11-10, -20 |
| (1.6 mm)                         | V-2      |        | IEC 60695-11-10, -20 |
| (3.2 mm)                         | V-2      |        | IEC 60695-11-10, -20 |
| UL File Number                   | E86615   |        |                      |

| Injection Parameters   | Nominal Value | Units |
|------------------------|---------------|-------|
| Drying Time            | 2.0 to 4.0    | hr    |
| Drying Temperature     | 70 to 80      | °C    |
| Nozzle Temperature     | 210           | °C    |
| Processing (Melt) Temp | 180 to 210    | °C    |
| Front Temperature      | 200           | °C    |
| Holding Pressure       | 30.0 to 70.0  | MPa   |
| Middle Temperature     | 190           | °C    |
| Rear Temperature       | 180           | °C    |
| Injection Rate         | Slow-Moderate |       |
| Back Pressure          | 5.00 to 10.0  | MPa   |
| Mold Temperature       | 40 to 80      | °C    |
| Injection Pressure     | 80.0 to 120   | MPa   |