

## Technical Data Sheet

### Polyflam RPP 4225 CS1 LM BUE49830



Polypropylene, Homopolymer

#### Product Description

25% glass fibre reinforced flame-retardant PP-Homopolymer; halogen free

|                      |                                                                                  |
|----------------------|----------------------------------------------------------------------------------|
| Processing Method    | Injection Molding                                                                |
| Attribute            | Copper Contact Stabilized; Halogen Free; High Strength; Homopolymer; Low Density |
| Additive             | Flame Retardant                                                                  |
| Filler/Reinforcement | Glass Fiber, 25%                                                                 |
| Resin ID             | PP GF25 FR(51)                                                                   |

| Typical Properties                                                  | Nominal Value | Units                   | Test Method    |
|---------------------------------------------------------------------|---------------|-------------------------|----------------|
| <b>Physical</b>                                                     |               |                         |                |
| Melt Volume Flow Rate                                               |               |                         |                |
| (230 °C/2.16 kg)                                                    | 4.0           | cm <sup>3</sup> /10 min | ISO 1133       |
| (230 °C/5.0 kg)                                                     | 12            | cm <sup>3</sup> /10 min | ISO 1133       |
| Density, (Method A)                                                 | 1.26          | g/cm <sup>3</sup>       | ISO 1183       |
| <b>Mechanical</b>                                                   |               |                         |                |
| Tensile Strain at Break, (Type 1A, 5 mm/min)                        | 3.0           | %                       | ISO 527-2      |
| Tensile Stress at Break, (Type 1A, 5 mm/min)                        | 80.0          | MPa                     | ISO 527-2      |
| Tensile Modulus, (1 mm/min, Type 1A)                                | 7300          | MPa                     | ISO 527-1      |
| <b>Impact</b>                                                       |               |                         |                |
| Charpy Impact Strength - Notched                                    |               |                         |                |
| (23 °C, Type 1, Edgewise, Notch A)                                  | 9.0           | kJ/m <sup>2</sup>       | ISO 179        |
| (-30 °C, Type 1, Edgewise, Notch A)                                 | 8.5           | kJ/m <sup>2</sup>       | ISO 179        |
| Charpy Impact Strength - Unnotched                                  |               |                         |                |
| (23 °C, Type 1, Edgewise)                                           | 38            | kJ/m <sup>2</sup>       | ISO 179        |
| (-30 °C, Type 1, Edgewise)                                          | 33            | kJ/m <sup>2</sup>       | ISO 179        |
| <b>Hardness</b>                                                     |               |                         |                |
| Ball Pressure Test, (155 °C)                                        | Pass          |                         | IEC 60695-10-2 |
| <b>Thermal</b>                                                      |               |                         |                |
| Vicat Softening Temperature                                         |               |                         |                |
| (B (50N), 50 °C/h)                                                  | 137           | °C                      | ISO 306        |
| (A (10N), 50 °C/h)                                                  | 164           | °C                      | ISO 306        |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 157           | °C                      | ISO 75-2/B     |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | 144           | °C                      | ISO 75-2/A     |

|                                                           |          |        |                      |
|-----------------------------------------------------------|----------|--------|----------------------|
| RTI Elec                                                  |          |        |                      |
| (1.6 mm)                                                  | 65.0     | °C     | UL 746B              |
| (3.0 mm)                                                  | 65.0     | °C     | UL 746B              |
| RTI Imp                                                   |          |        |                      |
| (1.6 mm)                                                  | 65.0     | °C     | UL 746B              |
| (3.0 mm)                                                  | 65.0     | °C     | UL 746B              |
| RTI Str                                                   |          |        |                      |
| (1.6 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        |
| Dielectric Strength, (in Oil, 1.00 mm, 23 °C, 2000 V/sec) | 38       | kV/mm  | IEC 60243-1          |
| 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 | ISO 3795             |
| (2.00 mm, Self-Extinguishing)                             | 0.0      | mm/min | FMVSS 302            |
| Glow Wire Flammability Index                              |          |        |                      |
| (1.5 mm)                                                  | 960      | °C     | IEC 60695-2-12       |
| (3.0 mm)                                                  | 960      | °C     | IEC 60695-2-12       |
| Glow Wire Ignition Temperature                            |          |        |                      |
| (1.5 mm)                                                  | 850      | °C     | IEC 60695-2-13       |
| (3.0 mm)                                                  | 850      | °C     | IEC 60695-2-13       |
| Oxygen Index                                              | 44       | %      | ISO 4589-2           |
| <b>UL Information</b>                                     |          |        |                      |
| Flame Rating                                              |          |        |                      |
| (1.6 mm)                                                  | V-0      |        | UL 94                |
| (3.0 mm)                                                  | 5VA      |        | UL 94                |
| (3.0 mm)                                                  | V-0      |        | UL 94                |
| (0.8 mm)                                                  | V-2      |        | UL 94                |
| Flammability Classification                               |          |        |                      |
| (0.8 mm)                                                  | V-2      |        | IEC 60695-11-10, -20 |
| (1.6 mm)                                                  | V-0      |        | IEC 60695-11-10, -20 |
| (3.0 mm)                                                  | 5VA      |        | IEC 60695-11-10, -20 |
| (3.0 mm)                                                  | V-0      |        | 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     | 220               | °C     |
| Screw Speed            | <300              | mm/sec |
| Processing (Melt) Temp | 200 to 230        | °C     |
| Front Temperature      | 210               | °C     |
| Holding Pressure       | 40.0 to 90.0      | MPa    |
| Middle Temperature     | 200               | °C     |
| Rear Temperature       | 180               | °C     |
| Injection Rate         | Slow-<br>Moderate |        |
| Back Pressure          | 5.00 to 10.0      | MPa    |
| Mold Temperature       | 40 to 80          | °C     |
| Injection Pressure     | 80.0 to 120       | MPa    |
| Cushion                | <5.00             | mm     |