

## Technical Data Sheet

### Polyflam RABS 3000 NAT



Acrylonitrile Butadiene Styrene

#### Product Description

Flame retardant ABS standard grade without PBDE and higher stability

|                   |                   |
|-------------------|-------------------|
| Processing Method | Injection Molding |
| Additive          | Flame Retardant   |
| Resin ID          | ABS FR(17)        |

| Typical Properties                                                  | Nominal Value | Units                   | Test Method    |
|---------------------------------------------------------------------|---------------|-------------------------|----------------|
| <b>Physical</b>                                                     |               |                         |                |
| Melt Volume Flow Rate, (220 °C/10.0 kg)                             | 30            | cm <sup>3</sup> /10 min | ISO 1133       |
| Density, (Method A)                                                 | 1.17          | g/cm <sup>3</sup>       | ISO 1183       |
| <b>Mechanical</b>                                                   |               |                         |                |
| Tensile Stress at Yield, (Type 1A, 50 mm/min)                       | 46.0          | MPa                     | ISO 527-2      |
| Flexural Modulus, (2.0 mm/min)                                      | 2500          | MPa                     | ISO 178        |
| Tensile Strain at Yield, (Type 1A, 50 mm/min)                       | 2.7           | %                       | ISO 527-2      |
| Tensile Modulus, (1 mm/min, Type 1A)                                | 2500          | MPa                     | ISO 527-1      |
| Flexural Stress                                                     |               |                         |                |
| (2.0 mm/min, 3.5%)                                                  | 70.0          | MPa                     | ISO 178        |
| (2.0 mm/min, 4.5%)                                                  | 72.0          | MPa                     | ISO 178        |
| <b>Impact</b>                                                       |               |                         |                |
| Charpy Impact Strength - Notched                                    |               |                         |                |
| (23 °C, Type 1, Edgewise, Notch A)                                  | 10            | kJ/m <sup>2</sup>       | ISO 179        |
| (-30 °C, Type 1, Edgewise, Notch A)                                 | 5.0           | 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)                                          | 45            | kJ/m <sup>2</sup>       | ISO 179        |
| <b>Hardness</b>                                                     |               |                         |                |
| Ball Pressure Test, (90 °C)                                         | Pass          |                         | IEC 60695-10-2 |
| <b>Thermal</b>                                                      |               |                         |                |
| Vicat Softening Temperature                                         |               |                         |                |
| (B (50N), 50 °C/h)                                                  | 94.0          | °C                      | ISO 306        |
| (A (10N), 50 °C/h)                                                  | 106           | °C                      | ISO 306        |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 89.0          | °C                      | ISO 75-2/B     |
| Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise) | 83.0          | °C                      | ISO 75-2/A     |

|                                |               |              |                      |
|--------------------------------|---------------|--------------|----------------------|
| RTI Elec                       |               |              |                      |
| (1.5 mm)                       | 60.0          | °C           | UL 746B              |
| (3.0 mm)                       | 60.0          | °C           | UL 746B              |
| RTI Imp                        |               |              |                      |
| (1.5 mm)                       | 60.0          | °C           | UL 746B              |
| (3.0 mm)                       | 60.0          | °C           | UL 746B              |
| RTI Str                        |               |              |                      |
| (1.5 mm)                       | 60.0          | °C           | UL 746B              |
| (3.0 mm)                       | 60.0          | °C           | UL 746B              |
| <b>Electrical</b>              |               |              |                      |
| Volume Resistivity             | >1.0E+13      | ohm*m        | IEC 62631-3-1        |
| 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)                       | 700           | °C           | IEC 60695-2-13       |
| (3.0 mm)                       | 700           | °C           | IEC 60695-2-13       |
| <b>UL Information</b>          |               |              |                      |
| Flame Rating                   |               |              |                      |
| (1.5 mm)                       | V-0           |              | UL 94                |
| (3.0 mm)                       | V-0           |              | UL 94                |
| Flammability Classification    |               |              |                      |
| (1.6 mm)                       | V-0           |              | IEC 60695-11-10, -20 |
| (3.2 mm)                       | V-0           |              | IEC 60695-11-10, -20 |
| UL File Number                 | E86615        |              |                      |
| <b>Injection Parameters</b>    |               |              |                      |
|                                | <b>Value</b>  | <b>Units</b> |                      |
| Drying Time                    | 2.0 to 4.0    | hr           |                      |
| Drying Temperature             | 70 to 80      | °C           |                      |
| Screw Speed                    | <300          | mm/sec       |                      |
| Processing (Melt) Temp         | 220 to 240    | °C           |                      |
| Injection Rate                 | Slow-Moderate |              |                      |
| Back Pressure                  | 5.00 to 10.0  | MPa          |                      |
| Mold Temperature               | 40 to 60      | °C           |                      |