

Technical Data Sheet

Polyflam RABS 90000 UV5 GRY60450

Acrylonitrile Butadiene Styrene

Product Description

Flame retardant ABS standard grade without PBDE and higher thermal stability

| | |
|--------------------------|---|
| Processing Method | Injection Molding |
| Attribute | Good Processability; Good Thermal Stability; Non Blooming |
| Additive | Flame Retardant |
| Resin ID | ABS FR17 |

| Typical Properties | Nominal Value | Units | Test Method |
|---|----------------------|-------------------------|--------------------|
| Physical | | | |
| Melt Volume Flow Rate, (220 °C/10.0 kg) | 30 | cm ³ /10 min | ISO 1133 |
| Density, (Method A) | 1.20 | g/cm ³ | ISO 1183 |
| Mechanical | | | |
| Tensile Stress at Yield, (Type 1A, 50 mm/min) | 40.0 | MPa | ISO 527-2 |
| Tensile Strain at Yield, (Type 1A, 50 mm/min) | 3.0 | % | ISO 527-2 |
| Tensile Modulus, (1 mm/min, Type 1A) | 2200 | MPa | ISO 527-1 |
| Impact | | | |
| Charpy Impact Strength - Notched | | | |
| (23 °C, Type 1, Edgewise, Notch A) | 10 | kJ/m ² | ISO 179 |
| (-30 °C, Type 1, Edgewise, Notch A) | 5.0 | kJ/m ² | ISO 179 |
| Charpy Impact Strength - Unnotched | | | |
| (23 °C, Type 1, Edgewise) | 80 | kJ/m ² | ISO 179 |
| (-30 °C, Type 1, Edgewise) | 45 | kJ/m ² | ISO 179 |
| Hardness | | | |
| Ball Indentation Hardness | 113 | MPa | ISO 2039-1 |
| Ball Pressure Test, (90 °C) | Pass | | IEC 60695-10-2 |
| Thermal | | | |
| Vicat Softening Temperature | | | |
| (B (50N), 50 °C/h) | 96.0 | °C | ISO 306 |
| (A (10N), 50 °C/h) | 105 | °C | ISO 306 |
| Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise) | 92.0 | °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) | 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 |

Electrical

| | | | |
|----------------------------------|----------|-------|---------------|
| Volume Resistivity | >1.0E+13 | ohm*m | IEC 62631-3-1 |
| Comparative Tracking Index (CTI) | 475 | V | IEC 60112 |
| High Amp Arc Ignition | | | UL 746A |
| Surface Resistivity | >1.0E+15 | ohm | IEC 60093 |

Flammable

| | | | |
|--------------------------------|-----|--------|----------------|
| 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) | 725 | °C | IEC 60695-2-13 |
| (3.0 mm) | 725 | °C | IEC 60695-2-13 |
| Oxygen Index | 28 | % | ISO 4589-2 |

UL Information

| | | | |
|-----------------------------|--------|--|----------------------|
| Flame Rating | | | |
| (1.5 mm) | V-0 | | UL 94 |
| (3.0 mm) | V-0 | | UL 94 |
| Flammability Classification | | | |
| (1.5 mm) | V-0 | | 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 |
| 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 |