

Arnite® TV4 230 SF
Envalior - Polybutylene Terephthalate
General Information
Product Description

15% Glass Fiber Reinforced, Flame Retardant, High Flow

General

| | |
|------------------------|---|
| Material Status | • Commercial: Active |
| Availability | • Africa & Middle East • Europe • North America • Asia Pacific • Latin America |
| Filler / Reinforcement | • Glass Fiber, 15% Filler by Weight |
| Features | • Flame Retardant • High Flow |
| Processing Method | • Injection Molding |
| Resin ID | • PBT-GF15 FR(17) |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--|---------------|------------------------|-------------|
| Density | 1.56 | g/cm ³ | ISO 1183 |
| Melt Mass-Flow Rate (MFR) (250°C/2.16 kg) | 9.0 | g/10 min | ISO 1133 |
| Melt Volume-Flow Rate (MVR) (250°C/2.16 kg) | 7.0 | cm ³ /10min | ISO 1133 |
| Molding Shrinkage | | | ISO 294-4 |
| Across Flow | 1.2 | % | |
| Flow | 0.90 | % | |
| Water Absorption (Saturation, 73°F) | 0.30 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 0.15 | % | ISO 62 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Modulus | | | ISO 527-1 |
| -- | 1.02E+6 | psi | |
| -40°F | 1.10E+6 | psi | |
| 212°F | 450000 | psi | |
| 248°F | 392000 | psi | |
| 320°F | 261000 | psi | |
| 356°F | 203000 | psi | |
| Tensile Stress | | | ISO 527-2 |
| Break | 15200 | psi | |
| Break, -40°F | 19300 | psi | |
| Break, 212°F | 7980 | psi | |
| Break, 248°F | 7250 | psi | |
| Break, 320°F | 5800 | psi | |
| Break, 356°F | 5080 | psi | |
| Tensile Strain | | | ISO 527-2 |
| Break | 2.9 | % | |
| Break, -40°F | 2.5 | % | |
| Break, 248°F | 5.5 | % | |
| Break, 320°F | 7.0 | % | |
| Break, 356°F | 8.0 | % | |
| Flexural Modulus | | | ISO 178 |
| -- | 957000 | psi | |
| 248°F | 392000 | psi | |
| 320°F | 268000 | psi | |
| Flexural Stress | | | ISO 178 |



| | | | |
|---|---|---------------------------|----------------------|
| -- | | 23200 psi | |
| 248°F | | 10200 psi | |
| 320°F | | 6530 psi | |
| Impact | | Nominal Value | Unit |
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -22°F | | 2.9 ft·lb/in ² | |
| 73°F | | 2.9 ft·lb/in ² | |
| Charpy Unnotched Impact Strength | | | ISO 179/1eU |
| -22°F | | 12 ft·lb/in ² | |
| 73°F | | 17 ft·lb/in ² | |
| Thermal | | Nominal Value | Unit |
| Deflection Temperature Under Load (66 psi, Unannealed) | | 419 °F | ISO 75-2/B |
| Deflection Temperature Under Load (264 psi, Unannealed) | | 392 °F | ISO 75-2/A |
| Melting Temperature ² | | 437 °F | ISO 11357-3 |
| CLTE - Flow | | 2.8E-5 in/in/°F | ISO 11359-2 |
| CLTE - Transverse | | 4.4E-5 in/in/°F | ISO 11359-2 |
| RTI Elec (0.030 in) | | 266 °F | UL 746B |
| RTI Imp (0.030 in) | | 284 °F | UL 746B |
| RTI Str (0.030 in) | | 266 °F | UL 746B |
| Electrical | | Nominal Value | Unit |
| Volume Resistivity | | > 1.0E+13 ohms·m | IEC 62631-3-1 |
| Electric Strength | | 710 V/mil | IEC 60243-1 |
| Relative Permittivity | | | IEC 62631-2-1 |
| 100 Hz | | 3.70 | |
| 1 MHz | | 3.50 | |
| Dissipation Factor | | | IEC 62631-2-1 |
| 100 Hz | | 2.5E-3 | |
| 1 MHz | | 0.014 | |
| Comparative Tracking Index (CTI) | | PLC 2 | UL 746A |
| Comparative Tracking Index | | 250 V | IEC 60112 |
| Flammability | | Nominal Value | Unit |
| Flame Rating | | | UL 94 |
| 0.06 in | • | V-0 | |
| | • | 5VB | |
| 0.12 in | | V-0 | |
| Flammability Classification | | | IEC 60695-11-10, -20 |
| 0.030 in | | V-0 | |
| 0.06 in | • | V-0 | |
| | • | 5VB | |
| 0.12 in | | V-0 | |
| Glow Wire Flammability Index | | | IEC 60695-2-12 |
| 0.030 in | | 1760 °F | |
| 0.06 in | | 1760 °F | |
| Glow Wire Ignition Temperature | | | IEC 60695-2-13 |
| 0.030 in | | 1470 °F | |
| 0.06 in | | 1340 °F | |

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min

