

Arnite® TV4 240

 Envalior - *Polybutylene Terephthalate*

General Information

Product Description

20% Glass Fiber Reinforced

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Processing Method	• Injection Molding
Resin ID	• PBT-GF20

 Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.45	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	19	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.3	%	
Flow	0.50	%	
Water Absorption (Saturation, 73°F)	0.30	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ISO 527-1
--	1.04E+6	psi	
-40°F	1.17E+6	psi	
212°F	479000	psi	
248°F	435000	psi	
320°F	363000	psi	
356°F	319000	psi	
Tensile Stress			ISO 527-2
Break	17400	psi	
Break, -40°F	22500	psi	
Break, 212°F	9430	psi	
Break, 248°F	8700	psi	
Break, 320°F	6530	psi	
Break, 356°F	5510	psi	
Tensile Strain			ISO 527-2
Break	3.3	%	
Break, -40°F	2.4	%	
Break, 248°F	6.5	%	
Break, 320°F	6.7	%	
Break, 356°F	6.7	%	
Flexural Modulus			ISO 178
--	1.00E+6	psi	
248°F	435000	psi	
320°F	363000	psi	
Flexural Stress			ISO 178
--	27600	psi	
248°F	12300	psi	



320°F	9430 psi	
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179/1eA
-22°F	3.3 ft·lb/in ²	
73°F	3.4 ft·lb/in ²	
Charpy Unnotched Impact Strength		ISO 179/1eU
-22°F	19 ft·lb/in ²	
73°F	21 ft·lb/in ²	
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	428 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	401 °F	ISO 75-2/A
Melting Temperature ²	437 °F	ISO 11357-3
CLTE - Flow	2.2E-5 in/in/°F	ISO 11359-2
CLTE - Transverse	4.4E-5 in/in/°F	ISO 11359-2
RTI Elec (0.030 in)	284 °F	UL 746B
RTI Imp (0.030 in)	266 °F	UL 746B
RTI Str (0.030 in)	266 °F	UL 746B
Effective Thermal Diffusivity	1.72E-4 in ² /s	
Electrical	Nominal Value Unit	Test Method
Volume Resistivity	> 1.0E+13 ohms·m	IEC 62631-3-1
Electric Strength	760 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	2.0E-3	
1 MHz	0.018	
Comparative Tracking Index (CTI)	PLC 1	UL 746A
Comparative Tracking Index	325 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.06 in	HB	
0.12 in	HB	
Flammability Classification		IEC 60695-11-10, -20
0.030 in	HB	
0.06 in	HB	
0.12 in	HB	
Glow Wire Flammability Index		IEC 60695-2-12
0.031 in	1340 °F	
0.06 in	1290 °F	
Oxygen Index	20 %	ISO 4589-2
Fill Analysis	Nominal Value Unit	Test Method
Melt Density	1.22 g/cm ³	
Melt Specific Heat	0.442 Btu/lb/°F	
Melt Thermal Conductivity	1.7 Btu·in/hr/ft ² /°F	ASTM E1461

Notes

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

² 10°C/min

