

**Arnite® TV4 241 SN**
*Envalior - Polybutylene Terephthalate*
**General Information**
**Product Description**

20% Glass Fiber Reinforced, Flame Retardant

**General**

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Features	• Flame Retardant
Processing Method	• Injection Molding
Resin ID	• PBT-GF20 FR(17)

**Properties <sup>1</sup>**

Physical	Nominal Value	Unit	Test Method
Density	1.59	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	25	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	19	cm <sup>3</sup> /10min	ISO 1133
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ISO 527-1
--	1.19E+6	psi	
-40°F	1.38E+6	psi	
212°F	566000	psi	
248°F	515000	psi	
320°F	406000	psi	
356°F	348000	psi	
Tensile Stress			ISO 527-2
Break	16000	psi	
Break, -40°F	21800	psi	
Break, 212°F	8700	psi	
Break, 248°F	7980	psi	
Break, 320°F	6530	psi	
Break, 356°F	5800	psi	
Tensile Strain			ISO 527-2
Break	2.5	%	
Break, -40°F	2.5	%	
Break, 248°F	6.0	%	
Break, 320°F	7.0	%	
Break, 356°F	7.5	%	
Flexural Modulus			ISO 178
--	1.12E+6	psi	
248°F	493000	psi	
320°F	392000	psi	
Flexural Stress			ISO 178
--	23900	psi	
248°F	12300	psi	
320°F	9430	psi	



<b>Impact</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.9	ft·lb/in <sup>2</sup>	
73°F	3.3	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	24	ft·lb/in <sup>2</sup>	
73°F	24	ft·lb/in <sup>2</sup>	
<b>Thermal</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load (66 psi, Unannealed)	428	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	410	°F	ISO 75-2/A
Melting Temperature <sup>2</sup>	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)	284	°F	UL 746B
Effective Thermal Diffusivity	8.28E-5	in <sup>2</sup> /s	
<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Volume Resistivity	> 1.0E+13	ohms·m	IEC 62631-3-1
Relative Permittivity			IEC 62631-2-1
100 Hz	3.20		
1 MHz	3.20		
Dissipation Factor			IEC 62631-2-1
100 Hz	1.0E-3		
1 MHz	0.014		
Comparative Tracking Index (CTI)	PLC 3		UL 746A
Comparative Tracking Index	225	V	IEC 60112
<b>Flammability</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Flame Rating			UL 94
0.06 in	V-0		
0.12 in	V-0		
Flammability Classification			IEC 60695-11-10, -20
0.06 in	V-0		
0.12 in	V-0		
0.030 in	V-2		
<b>Fill Analysis</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Melt Density	1.36	g/cm <sup>3</sup>	
Melt Specific Heat	0.447	Btu/lb/°F	
Melt Thermal Conductivity	0.94	Btu·in/hr/ft <sup>2</sup> /°F	ASTM E1461

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min

