

Arnitel® UM551-V
Envalior - Thermoplastic Copolyester Elastomer
General Information
Product Description

Flame Retardant (halogen- phosphorous-free)

Due to limited hydrolysis resistance, this material should only be used in dry environments.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Features	• Flame Retardant	• Halogen Free	• Low (to None) Phosphorus Content
Processing Method	• Extrusion	• Injection Molding	
Resin ID	• TPC-ES FR		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.28	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	14	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	15	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.4	%	
Flow	1.4	%	
Water Absorption (Saturation, 73°F)	0.60	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.25	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	36300	psi	ISO 527-1
Tensile Stress (Yield)	2180	psi	ISO 527-2
Tensile Stress (Break)	3920	psi	ISO 527-2
Tensile Stress			ISO 527-2
10% Strain	1890	psi	
100% Strain	2540	psi	
Tensile Strain (Yield)	22	%	ISO 527-2
Nominal Tensile Strain at Break	• > 50 %		ISO 527-2
	• 380		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	No Break		ISO 179/1eA
Notched Izod Impact Strength (73°F)	No Break		ISO 180/1A
Hardness	Nominal Value	Unit	Test Method
Shore Hardness			ISO 868
Shore D, 3 sec	55		
Shore D, 15 sec	55		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	185	°F	ISO 75-2/B
Glass Transition Temperature ²	-18.4	°F	ISO 11357-2
Vicat Softening Temperature	194	°F	ISO 306/B50
Melting Temperature ²	392	°F	ISO 11357-3
RTI Elec (0.06 in)	122	°F	UL 746B
RTI Imp (0.06 in)	122	°F	UL 746B
RTI Str (0.06 in)	122	°F	UL 746B



Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+13	ohms·m	IEC 62631-3-1
Electric Strength	510	V/mil	IEC 60243-1
Relative Permittivity (100 Hz)	5.20		IEC 62631-2-1
Dissipation Factor (100 Hz)	2.0E-6		IEC 62631-2-1
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	V-2		UL 94
Flammability Classification (0.06 in)	V-2		IEC 60695-11-10, -20

Notes

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

² 10°C/min

