

Envalior Akulon® K223-TP4

Impact Modified
 Former DSM Engineering Plastics product line is now with Envalior.

Physical Properties	Metric	English	Comments
Density	1.07 g/cc	0.0387 lb/in ³	ISO 1183
Water Absorption	8.5 %	8.5 %	Sim. ISO 62
Moisture Absorption	2.30 %	2.30 %	Humidity; Sim. ISO 62
Linear Mold Shrinkage, Flow	0.014 cm/cm	0.014 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.017 cm/cm	0.017 in/in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	Nominal; ISO 527-1/-2
Elongation at Yield	4.0 %	4.0 %	ISO 527-1/-2
Tensile Modulus	2.00 GPa	290 ksi	ISO 527-1/-2
Flexural Strength	65.0 MPa	9430 psi	ISO 178
Flexural Modulus	1.60 GPa	232 ksi	ISO 178
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	1.80 J/cm ² @Temperature -30.0 °C	8.57 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	6.50 J/cm ² @Temperature 23.0 °C	30.9 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Electrical Properties	Metric	English	Comments
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Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60250
Dielectric Constant	2.7 @Frequency 1e+6 Hz	2.7 @Frequency 1e+6 Hz	IEC 60250
	3.1 @Frequency 100 Hz	3.1 @Frequency 100 Hz	IEC 60250
Dielectric Strength	27.0 kV/mm	686 kV/in	IEC 60243-1
Dissipation Factor	0.0030 @Frequency 100 Hz	0.0030 @Frequency 100 Hz	IEC 60250
	0.016 @Frequency 1e+6 Hz	0.016 @Frequency 1e+6 Hz	IEC 60250

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	120 $\mu\text{m}/\text{m}^{\circ}\text{C}$	66.7 $\mu\text{in}/\text{in}^{\circ}\text{F}$	ISO 11359-1/-2
CTE, linear, Transverse to Flow	120 $\mu\text{m}/\text{m}^{\circ}\text{C}$	66.7 $\mu\text{in}/\text{in}^{\circ}\text{F}$	ISO 11359-1/-2
Deflection Temperature at 0.46 MPa (66 psi)	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	55.0 $^{\circ}\text{C}$	131 $^{\circ}\text{F}$	ISO 75-1/-2
Flammability, UL94	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	IEC 60695-11-10
Glow Wire Ignition Temperature	725 $^{\circ}\text{C}$ @Thickness 2.00 mm	1340 $^{\circ}\text{F}$ @Thickness 0.0787 in	IEC 60695-2-13
	725 $^{\circ}\text{C}$ @Thickness 1.50 mm	1340 $^{\circ}\text{F}$ @Thickness 0.0591 in	IEC 60695-2-13
Glow Wire Flammability Index	700 $^{\circ}\text{C}$ @Thickness 2.00 mm	1290 $^{\circ}\text{F}$ @Thickness 0.0787 in	IEC 60695-2-12
	700 $^{\circ}\text{C}$ @Thickness 1.50 mm	1290 $^{\circ}\text{F}$ @Thickness 0.0591 in	IEC 60695-2-12