

Envalior Akulon S223-PG8

40% Glass Reinforced, Impact Modified
Former DSM Engineering Plastics product line is now with Envalior.

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	dry; ISO 1183
Water Absorption	4.5 %	4.5 %	Sim. To ISO 62
Moisture Absorption	1.20 %	1.20 %	Sim. To ISO 62

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	125 MPa	18100 psi	cond; ISO 527-1/-2
	175 MPa	25400 psi	dry; ISO 527-1/-2
Elongation at Break	3.5 %	3.5 %	dry; ISO 527-1/-2
	5.0 %	5.0 %	cond; ISO 527-1/-2
Tensile Modulus	7.50 GPa	1090 ksi	cond; ISO 527-1/-2
	11.5 GPa	1670 ksi	dry; ISO 527-1/-2
Charpy Impact Unnotched	9.50 J/cm ² @Temperature 23.0 °C	45.2 ft-lb/in ² @Temperature 73.4 °F	dry; ISO 179/1eU
	9.50 J/cm ² @Temperature -30.0 °C	45.2 ft-lb/in ² @Temperature -22.0 °F	dry; ISO 179/1eU
	10.0 J/cm ² @Temperature 23.0 °C	47.6 ft-lb/in ² @Temperature 73.4 °F	cond; ISO 179/1eU
	10.0 J/cm ² @Temperature -30.0 °C	47.6 ft-lb/in ² @Temperature -22.0 °F	cond; ISO 179/1eU
Charpy Impact, Notched	1.40 J/cm ² @Temperature -30.0 °C	6.66 ft-lb/in ² @Temperature -22.0 °F	cond; ISO 179/1eA
	1.40 J/cm ² @Temperature -30.0 °C	6.66 ft-lb/in ² @Temperature -22.0 °F	dry; ISO 179/1eA
	2.00 J/cm ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	dry; ISO 179/1eA
	3.00 J/cm ² @Temperature 23.0 °C	14.3 ft-lb/in ² @Temperature 73.4 °F	cond; ISO 179/1eA

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	cond; IEC 60093
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	dry; IEC 60093
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	cond; IEC 60093

Dielectric Constant	3.3 @Frequency 1e+6 Hz	3.3 @Frequency 1e+6 Hz	dry; IEC 60250
	3.5 @Frequency 100 Hz	3.5 @Frequency 100 Hz	dry; IEC 60250
	4.5 @Frequency 1e+6 Hz	4.5 @Frequency 1e+6 Hz	cond; IEC 60250
	14 @Frequency 100 Hz	14 @Frequency 100 Hz	cond; IEC 60250
Dielectric Strength	20.0 kV/mm	508 kV/in	cond; IEC 60243-1
	25.0 kV/mm	635 kV/in	dry; IEC 60243-1
Dissipation Factor	0.0090 @Frequency 100 Hz	0.0090 @Frequency 100 Hz	dry; IEC 60250
	0.015 @Frequency 1e+6 Hz	0.015 @Frequency 1e+6 Hz	dry; IEC 60250
	0.12 @Frequency 1e+6 Hz	0.12 @Frequency 1e+6 Hz	cond; IEC 60250
	0.30 @Frequency 100 Hz	0.30 @Frequency 100 Hz	cond; IEC 60250
Comparative Tracking Index	600 V	600 V	cond; IEC 60112
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	20.0 $\mu\text{m}/\text{m}^{\circ}\text{C}$	11.1 $\mu\text{in}/\text{in}^{\circ}\text{F}$	dry; ISO 11359-1/-2
CTE, linear, Transverse to Flow	60.0 $\mu\text{m}/\text{m}^{\circ}\text{C}$	33.3 $\mu\text{in}/\text{in}^{\circ}\text{F}$	dry; ISO 11359-1/-2
Melting Point	260 $^{\circ}\text{C}$	500 $^{\circ}\text{F}$	10 $^{\circ}\text{C}/\text{min}$; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	260 $^{\circ}\text{C}$	500 $^{\circ}\text{F}$	dry; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	245 $^{\circ}\text{C}$	473 $^{\circ}\text{F}$	dry; ISO 75-1/-2