

HZO Sentinel Zero™ Material Properties



Environmental Properties	HZO Sentinel Zero	Test Specification
Insulation Resistance (Ω)	$> 1 \times 10^{11}$	IPC TM-650 2.6.3.7
Temperature and Humidity Aging	Pass	J-STD-004B (3 days)
Moisture Insulation Resistance (Ω)	$> 1 \times 10^{10}$	IPC TM-650 2.6.3.4
Flammability	Pass [V0]	UL94
Breakdown Temperature ($^{\circ}\text{C}$)	> 369	TGA (10% wt. loss in air)

Chemical Properties	HZO Sentinel Zero	Test Specification
Water Contact Angle ($^{\circ}$)	> 103	Sessile Drop Method
Oil Contact Angle ($^{\circ}$)	> 60	Sessile Drop Method
Surface Energy (Dynes/cm)	25	ISO 8296, Dyne Pens
Halogen-free	Yes	Self-Assessment
RoHS Compliant	Yes	Self-Assessment
Biocompatible	Yes	ISO 10993-5

Optical Properties	HZO Sentinel Zero	Test Specification
Transparency - Visible Light	Pass	IPC CC-830B 3.5.2

Physical Properties	HZO Sentinel Zero	Test Specification
Appearance	Pass	IPC CC-830B 3.5.2

Electrical Properties	HZO Sentinel Zero	Test Specification
Dielectric Constant (1 MHz)	3.5	CV Plotter and Mercury Probe
Loss Tangent (1 MHz)	< 0.01	CV Plotter and Mercury Probe
Dielectric Strength (V/m)	$> 5 \times 10^8$	ASTM-D149
Dielectric Withstanding Voltage (V)	> 1500	IPC TM-650 2.5.7.1
Dielectric Withstanding Voltage	Pass	IPC-CC-830C 3.6.1