



ESD-Safe Products

Protect valuable contents from costly electrostatic discharge (ESD) and static electricity.

- Electronics
- Telecommunications
- Computers

LEWISBins+ ESD materials conform to ANSI/ESD S20.20*1999 requirements for ESD packaging. This standard requires conductive materials surface resistance to be $<1.0 \times 10^4$ ohms and dissipative materials to be $>1.0 \times 10^4$ ohms to $<1.0 \times 10^{11}$ ohms when tested per EOS/ESD S11.11. The materials also conform to the static decay requirement of FTM-101B, Method 4046.1 dissipating a 5,000 volt charge to 0 when grounded in less than 2 seconds. Contact your LEWISBins+ sales representative for more details on other dissipative materials that are available.



Conductive Material - XL Material is a thermoplastic polypropylene material based upon carbon black that has a surface resistance of less than 1.0×10^4 ohms or surface resistivity of $< 1.0 \times 10^5$ ohms/square. XL material has a static decay rate from 5,000 volts to 0 of less than 2 seconds. This material has a useful temperature range of 40°F to 225°F, with intermittent use recommended at the higher end of the temperature range. The electrical properties of this material are permanent and unaffected by washing.

Dissipative Material - LS Material is a polypropylene material that is on upper end of the dissipative range. The material has a surface resistance greater than or equal to 1.0×10^8 ohms, but less than 1.0×10^{11} ohms or surface resistivity greater than or equal to 1.0×10^9 ohms/square, but less than 1.0×10^{12} ohms/square. LS material has a static decay rate from 5,000 volts to 0 of less than 2 seconds. This material has a useful temperature range of 40°F to 225°F, with intermittent use recommended at the higher end of the temperature range. Electrical properties are affected by humidity. This material is available on a made-to-order basis only.

Dissipative Material - SD SMC Material is a thermoset polyester based material that is on the lower end of the dissipative range. The material has a surface resistance greater than or equal to 1.0×10^4 , but less than or equal to 5.0×10^8 ohms/square and a surface resistivity greater than or equal to 1.0×10^5 ohms/square, but less than or equal to 5.0×10^9 ohms/square. This material has a useful temperature range of -60°F to 250°F, is autoclavable and does not melt at high temperatures making it ideal for handling hot parts. The electrical properties of this material are permanent and unaffected by washing.

ESD-Safe Materials

Property	Test Method Units	Conductive Material	Dissipative Materials	
		XL	LS	SD SMC
Surface Resistivity	ASTM D257 (ohms/square)	$< 1.0 \times 10^5$	$\geq 1.0 \times 10^9$ $< 1.0 \times 10^{12}$	$\geq 1.0 \times 10^9$ $\leq 5.0 \times 10^9$
Surface Resistance	EOS/ESD S11.11 (ohms)	$< 1.0 \times 10^4$	$\geq 1.0 \times 10^8$ $< 1.0 \times 10^{11}$	$\geq 1.0 \times 10^4$ $\leq 5.0 \times 10^8$
Static Decay	FTM-101B Method 4046.1 (seconds)	< 2 seconds	< 2 seconds	< 2 seconds
Temperature Range	°F	40°F to 225°F	40°F to 225°F	-60°F to 250°F

Note: At upper end of temperature range intermittent use is recommended.

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