Hybrid Thermal/EMI Absorber

CoolZorb 500 Series

HYBRID THERMAL/EMI ABSORBER

CoolZorb 500 is a 2nd generation hybrid absorber/thermal management material that is used for EMI mitigation. The product is used like a traditional thermal interface material between a heat source such as an IC and a heat sink or other heat transfer device or metal chassis. CoolZorb 500 also functions to suppress unwanted energy coupling, resonances or surface currents which cause board level EMI issues.

FEATURES AND BENEFITS

- Great thermal conductivity with good EMI suppression within 1-90GHz
- Inherent surface tack typical of standard thermal gap fillers
- Compliant with minimal component stress during assembly
- Meets UL 94 V-0 flame requirements

VALUE

- Performance advantage comes from dual functional properties of elevated thermal conductivity and EMI reduction
- Improved reliability performance of electronics
  - Better signal integrity due to reduction of EMI
  - Consistent performance of electronics due to temperature stability and low outgassing properties of product
- Improved EMC performance and resultant lower cost to meet compliance requirements
- Environmentally friendly solution that meets regulatory requirements including RoHS and REACH

TYPICAL PROPERTIES	DATA	TEST METHOD
Color	Dark gray	Visual
Thermal conductivity	4.0W/m-K	ASTM D5470
Density	3.5 g/cc	ASTM D792
Hardness (3 sec)	59.5 Shore 00	ASTM D2240
Tensile strength	17.3 psi	ASTM D638
Temperature Range	-40°C to 175°C	NA
UL Flammability	UL 94 V-0	UL
Volume resistivity	8 x 10^{13} Ω*cm	ASTM D257
Outgassing (TML)	0.31%	ASTM E595-07
Outgassing (CVCM)	0.04%	ASTM E595-07
Coefficient of Thermal Expansion (CTE)	214 µm/mC	IPC-TM-650 2.4.41
EMI Attenuation @ 10 GHz	22.4 dB/cm	
EMI Attenuation @ 20 GHz	28.4 dB/cm	
Standard Thickness range	.020”-.200” (1.0-5.1mm)	
Thickness Tolerance	+/- 10% of nominal	

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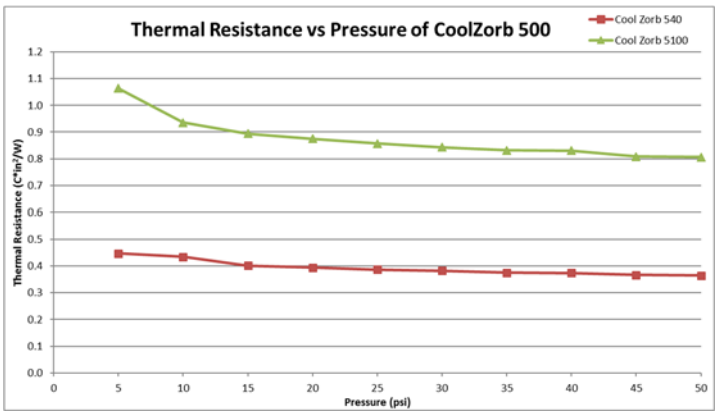
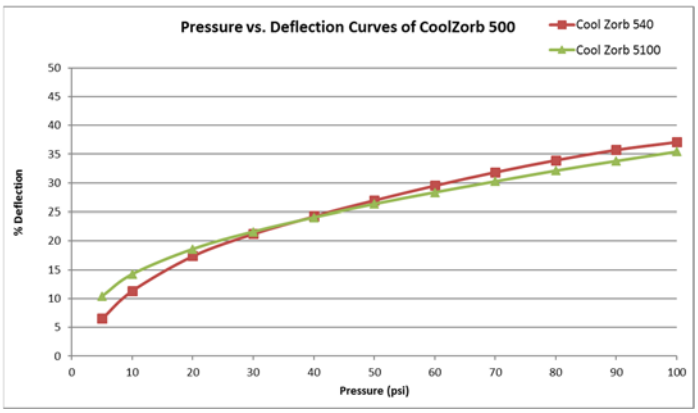
www.lairdtech.com

Hybrid Thermal/EMI Absorber

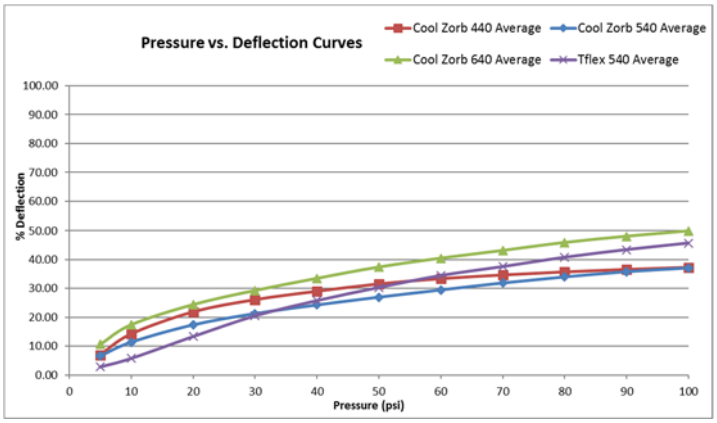
CoolZorb 500 Thermal resistance at 50C (ASTM D5470)



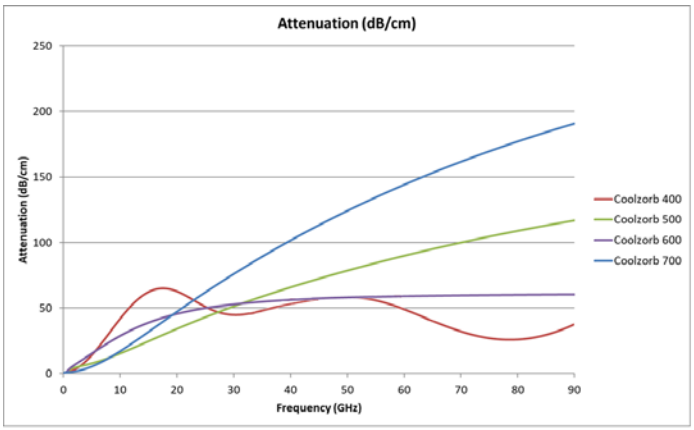
CoolZorb 500 Percent Deflection (ASTM D575)



CoolZorb Deflection Comparison (ASTM D575)



CoolZorb Attenuation (dB/cm)



AVAILABILITY

- Standard sheet size is 18” X 18”
- Thickness availability range is 0.020” - 0.200” (0.5mm- 5.1mm)
- Common standards for thickness are 0.020”, 0.030”, 0.040”, 0.060”and 0.080” (0.5, 0.75, 1.0, 1.5 and 2.0mm)
- No charge samples are available in 4” X 4” size for each of the above common thicknesses

PART NUMBER SYSTEM

- PRODUCTION sheets (18”X18”) use the following designation when ordering: A17557-XXX where XXX is the sheet thickness in thousandths of an inch, example A17557-040 for 0.040”x18”x18”
- SAMPLE sizes of 0.020”, 0.030”, 0.040”, 0.060” and 0.080” thicknesses are available without charge. 4” x 4” pieces are ordered with the part numbers CZ500-020S, CZ500-030S, CZ500-040S, CZ500-060S and CZ500-080S. Other sizes may be available with NRE charge.

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