



### HYBRID THERMAL/EMI ABSORBER

CoolZorb 500 is a 2<sup>nd</sup> 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

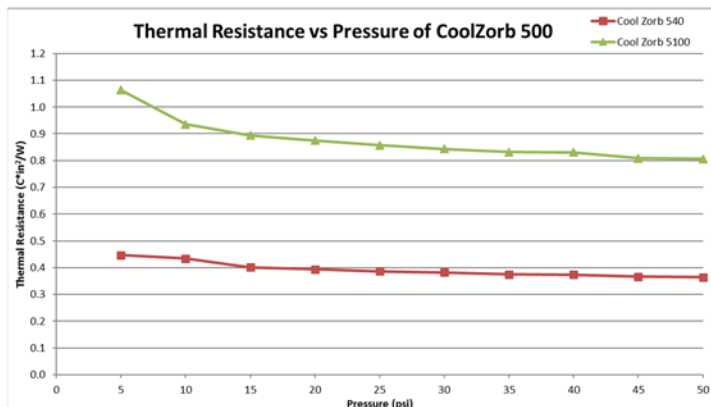
- Great thermal conductivity with good EMI suppression within 1-90GHz
- Inherent surface tack typical of standard thermal gap fillers
- Compliant with minimal component stress during assembly
- Meets UL 94 V-0 flame requirements

### VALUE

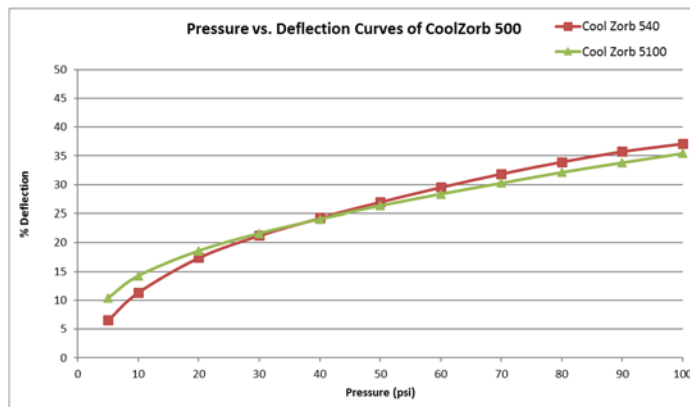
- Performance advantage comes from dual functional properties of elevated thermal conductivity and EMI reduction
- Improved reliability performance of electronics
  - Better signal integrity due to reduction of EMI
  - Consistent performance of electronics due to temperature stability and low outgassing 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	$8 \times 10^{13} \Omega \cdot \text{cm}$	ASTM D257
Outgassing (TML)	0.31%	ASTM E595-07
Outgassing (CVCM)	0.04%	ASTM E595-07
Coefficient of Thermal Expansion (CTE)	214 $\mu\text{m}/\text{m}\cdot\text{C}$	IPC-TM-650 2.4.41
EMI Attenuation @ 10 GHz	22.4 dB/cm	
EMI Attenuation @ 20 GHz	34.2 dB/cm	
Standard Thickness range	.020"-.200" (1.0-5.1mm)	
Thickness Tolerance	+/- 10% of nominal	

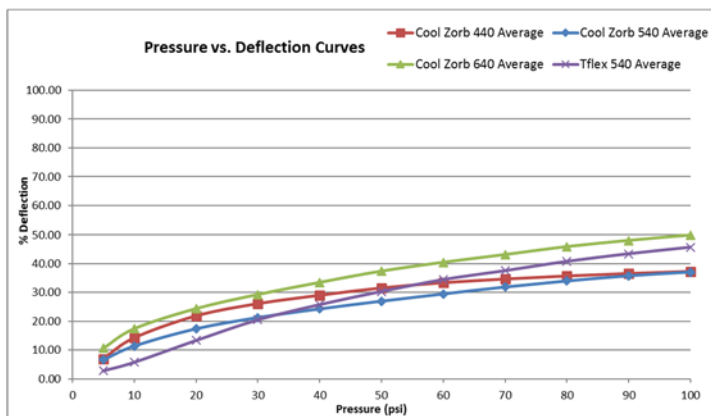
### CoolZorb 500 Thermal resistance at 50C (ASTM D5470)



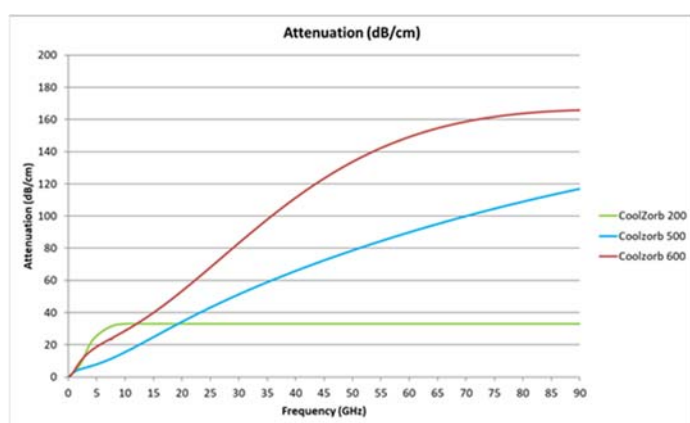
### CoolZorb 500 Percent Deflection (ASTM D575)



### 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.

RFP-DS-COOLZORB 500 050119