

# Hybrid Thermal/EMI Absorber

## CoolZorb 600 Series



### HYBRID THERMAL/EMI ABSORBER

CoolZorb 600 is a 2<sup>nd</sup> generation hybrid absorber/thermal management material that is used for EMI mitigation. This product is used like a traditional thermal interface material between heat source such as an IC and heat sink or other heat transfer device or metal chassis. CoolZorb 600 also functions to suppress unwanted energy coupling, resonances or surface currents causing board level EMI issues.

### FEATURES AND BENEFITS

- Good 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

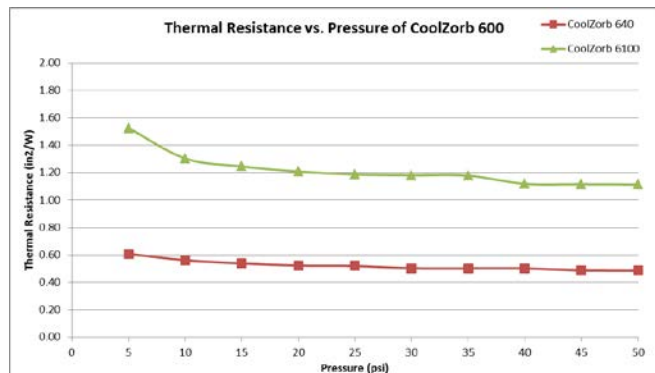
- Dual functional properties of thermal conductivity and EMI reduction provide two in one solution for easier design and assembly and lower cost of ownership
- Improved reliability performance of electronics
  - Better signal integrity due to reduction of EMI
  - Consistent performance of electronics 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                     | TYPICAL DATA                              | TEST METHOD       |
|--|---|-------------------|
| Color                                  | Dark gray                                 | Visual            |
| Thermal conductivity                   | 3.0W/m-K                                  | ASTM D5470        |
| Density                                | 4.2 g/cc                                  | ASTM D792         |
| Hardness                               | 60 Shore 00                               | ASTM D2240        |
| Tensile strength                       | 13.5 psi                                  | ASTM D638         |
| Temperature Range                      | -40°C to 175°C                            | NA                |
| UL Flammability                        | 94 V0                                     | UL                |
| Volume resistivity                     | $3 \times 10^{13} \Omega \cdot \text{cm}$ | ASTM D257         |
| Outgassing (TML)                       | 0.37%                                     | ASTM E595-07      |
| Outgassing (CVCM)                      | 0.04%                                     | ASTM E595-07      |
| Coefficient of Thermal Expansion (CTE) | 99.05 $\mu\text{m/m}^\circ\text{C}$       | IPC-TM-650 2.4.41 |
| EMI Attenuation @ 10 GHz               | 28.6 dB/cm                                |                   |
| EMI Attenuation @ 20 GHz               | 53.3 dB/cm                                |                   |
| Standard Thickness range               | .020"-.200" (1.0-5.1mm)                   |                   |
| Thickness Tolerance                    | +/- 10%                                   |                   |

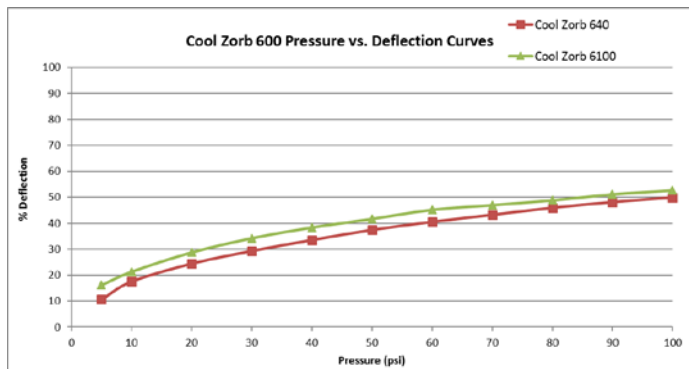
Americas: +1.866.928.8181  
Europe: +49.(0).8031.2460.0  
Asia: +86.755.2714.1166

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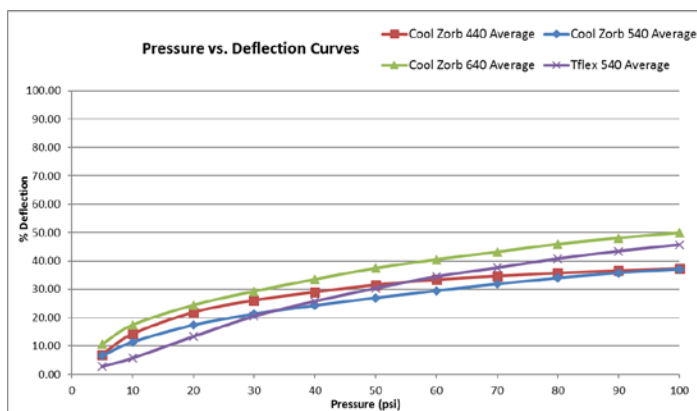
CoolZorb 600 Thermal resistance at 50C (ASTM D5470)



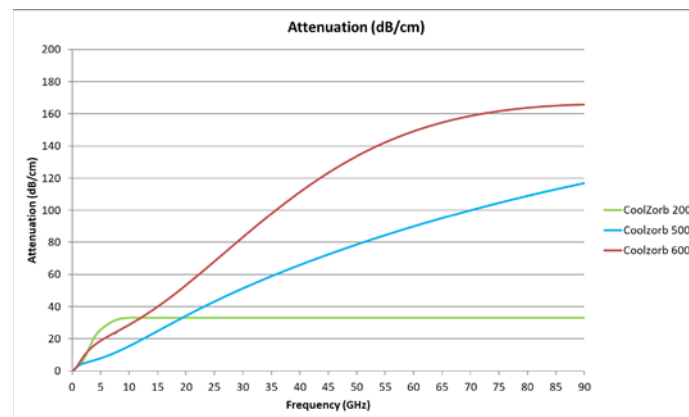
CoolZorb 600 Percent Deflection (ASTM D575)



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: A17556-XXX where XXX is the sheet thickness in thousandths of an inch, example A17556-040 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 CZ600-020S, CZ600-030S, CZ600-040S, CZ600-060S and CZ600-080S. Other sizes may be available with NRE charge.

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