

**COORSTEK**  
*Amazing Solutions.®*



**THERMTILE™  
CERAMIC**

**HEAT SINKS &  
INSULATORS**

# THERMTILE™ CERAMIC HEAT SINKS AND ELECTRICAL INSULATORS

## Optimize Component Life and Performance

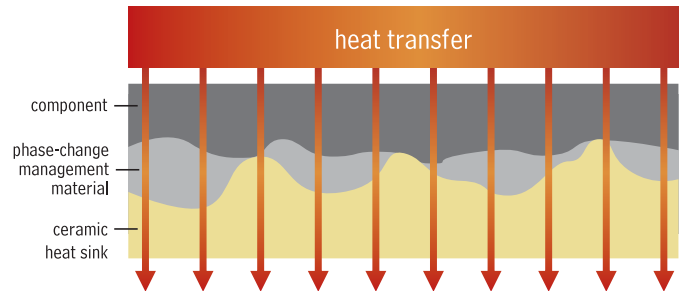
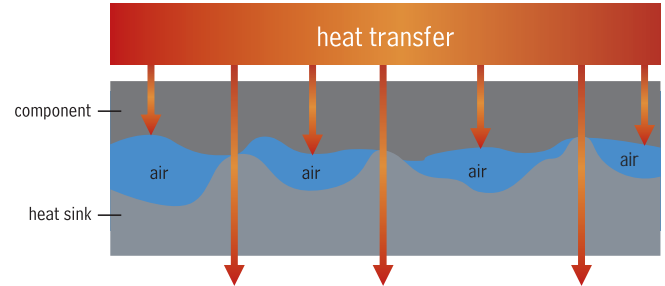
A natural choice for both electrical insulation and heat diffusion, our ThermTile™ ceramic tiles and films serve the power generation industry and are used to lower the power chip's operating temperature by dissipating heat build-up. These sinks and insulators extend component life and enhance performance.

## Phase Change Thermal Management Material

Because of our innovative application techniques, this specialized phase-change material easily and effectively contacts the power chip, ceramic tile, and aluminum heat sink. Our extremely consistent material thickness coverage dramatically reduces seepage and bare-contact situations over traditional application methods and optimizes heat dissipation performance while maintaining superior electrical insulation.

## Avoid Material and Labor Waste

- Reduce expensive material waste with cleanly-applied phase-change material
- Speed your assembly process dramatically with ready-to-assemble ThermTile™ packages
- Phase-change material is solid at room temperature and easily handled in manufacturing and assembly environments
- Mess and waste associated with traditional thermal management grease are eliminated

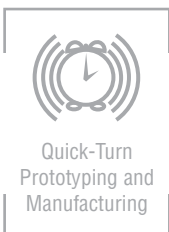


## Experts in Electronic Technical Ceramics

Since 1910, we've manufactured ceramics for a variety of industries and have provided specialty electronic components for several decades. We help you choose the right material and configuration for optimal product performance.

## Call us today!

We're ready to help improve yields now!  
Call +44.1592.630505 for more information.



Property	Units	Test	AD-96	
			Nom. 96% Al.O.	Nom. 99.5% Al.O.
Density	gm/cc	ASTM-C 20	3.72	3.90
Hardness	GPa (kg/mm <sup>2</sup> )	Knoop 1000 gm	11.5 (1175)	14.1 (1440)
Thermal Conductivity, 20° C	W/m °K	ASTM-C408	24.7	30.0
CTE, 20° C	1X 10 <sup>-6</sup> / °C	ASTM-C372	8.2	8.2
Thermal Shock Resistance, DTc	°C	NOTE 3	250	200
Maximum Use Temperature	°C	NO-LOAD COND.	1700	1750
Volume Resistivity, 25° C	Ohm-cm	ASTM-D1829	< 10 <sup>14</sup>	> 10 <sup>14</sup>
Volume Resistivity, 500° C	Ohm-cm	ASTM-D1829	4 x 10 <sup>9</sup>	2 x 10 <sup>10</sup>
Volume Resistivity, 1000° C	Ohm-cm	ASTM-D1829	1 x 10 <sup>9</sup>	2 x 10 <sup>9</sup>

Property	Test	Phase-Change Mgmt Material
Colour	visual	Grey
Thickness	ASTM-D374	0.05 mm – 0.1 mm
Thermal Conductivity	ASTM-D5470	1Wm <sup>-1</sup> K <sup>-1</sup>
Contact Thermal Resistance	ASTM-E1530	0.05° C-in/W
Melt Point	ASTM-E794	43.8° C
Volume Resistivity	ASTM-D257	10 Ohm/m
Continuous Use Temp. Max	-	150° C

CoorsTek & Amazing Solutions are registered trademarks of CoorsTek, Inc. ThermTile is a trademark of CoorsTek, Inc. OpX is a servicemark of CoorsTek, Inc.

**Note:** The chart is intended to illustrate typical properties. Engineering data is representative. Property values vary somewhat with method of manufacture, size, and shape of part. This data is not to be construed as absolute and does not constitute a warranty for which we assume legal responsibility.