Advanced Energy Technologies
a subsidiary of GrafTech International Holdings Inc.

eGRAF®

HITHERM™ HT-C3200 Thermal Interface Material

Technical Data Sheet 319

Product Overview

eGRAF® HITHERM™ HT-C3200 thermal interface materials are designed for use in applications requiring reliable performance, low contact resistance, long life, low maintenance and high thermal conductivity. The flexible graphite materials is die-cut to ensure exact fit and reduce module-to-module variation during assembly. The compressibility of the material improves surface contact, reducing thermal impedance and can compensate up to 125µ of flatness variation between the contact surfaces while the high in-plane thermal conductivity reduces hot spots.

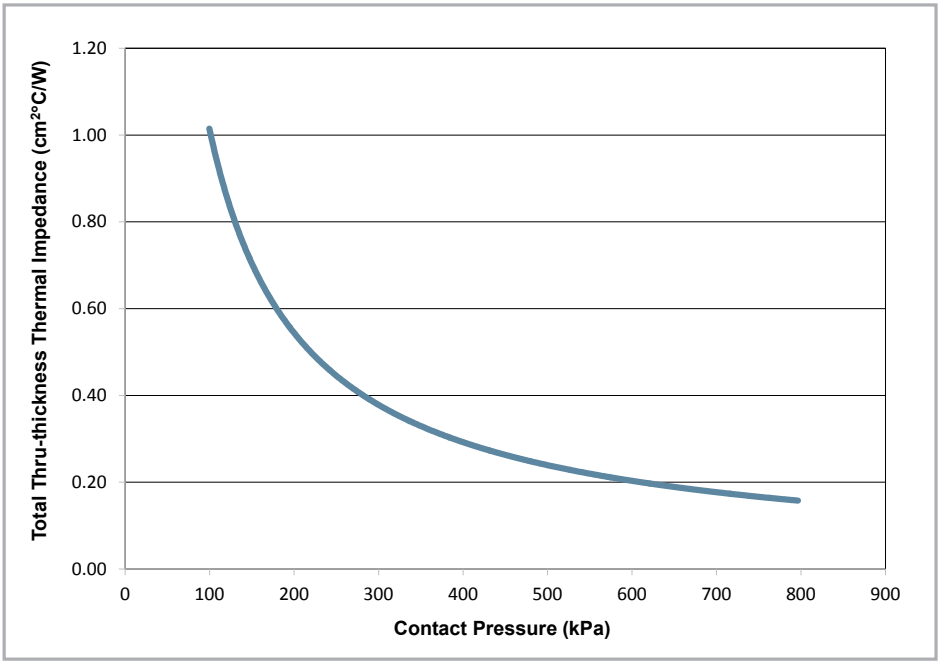
Applications

- Power modules such as IGBT, RF devices used in:
  - UPS and inverters
  - Motor drives
  - Base stations
  - Power supply modules, rectifiers and chargers
  - High performance computers and servers

Typical Properties at Room Temperature[1]

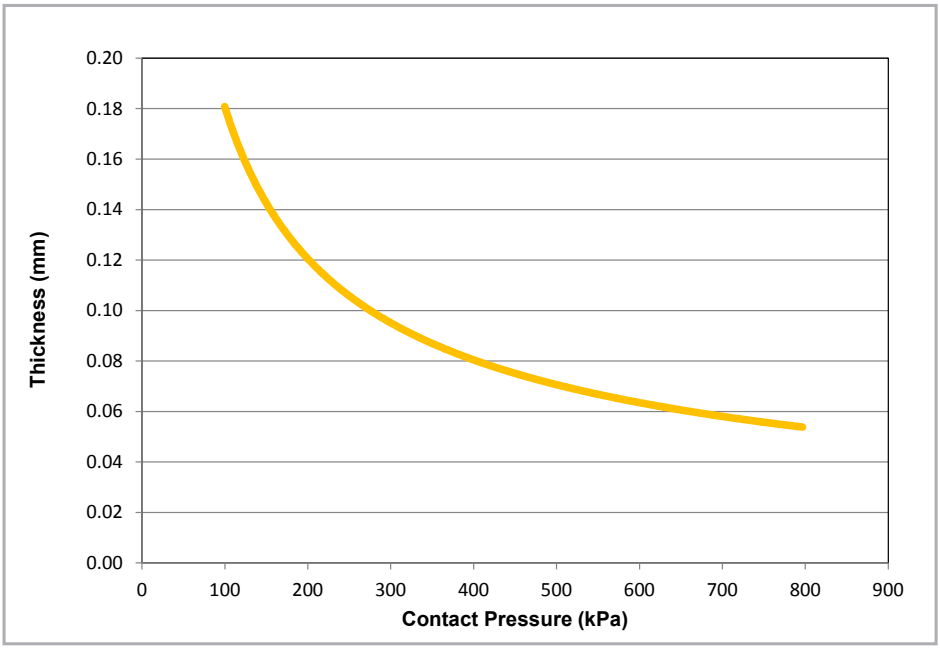
Characteristic	Unit	Typical Value
Thermal Impedance @ 200 kPa (K-cm²/W)	K-cm²/W	0.49
Thermal Impedance @ 700 kPa (K-cm²/W)	K-cm²/W	0.18
Typical Thermal Conductivity[2] @ 700 kPa Through-Thickness ● In-Plane	W/mK	7 ● 800
Typical Starting Thickness	µm inches	200 ± 20 0.008 ± 0.001
Coefficient of Thermal Expansion Through-Thickness ● In-Plane	ppm/°C	27 ● -0.4
Electrical Conductivity Through-Thickness ● In-Plane	S/cm	5 ● 19,000
Flammability Rating (UL)	-	Compliant
Operating Temperature	°C	-40 to +400
Specific Heat @ 25°C	J/g-°C	0.80
RoHS Compliant	-	Yes
Halogen Free	-	Yes

Thermal Impedance vs Pressure



Thermal impedance reduces significantly with pressure

Thickness Under Compression



Material compressibility improves contact and performance

Notes:
[1] Properties listed are typical and cannot be used as accept/reject specifications.
[2] In-Plane conductivity at ambient temperature determined using Angstrom's Method.
Thru-thickness conductivity determined using ASTM D5470 Modified Method.

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4.19.2017