

# NeoNxGen® N500 Graphite Heat Spreaders and HiTherm™ Graphite Thermal Interface Materials – High Performance in Space Applications

## NeoNxGen® N500 Product Overview

With the highest mass-to-heat-spreading ratio of any commercial material, NeoGraf Solution's NeoNxGen® N500 is a next-generation graphite heat-spreading solution designed for the most demanding space applications. NeoNxGen N500 is an easy-to-use multilayer laminate made entirely of 100% graphite, with no adhesives or bonding agents.

## Applications

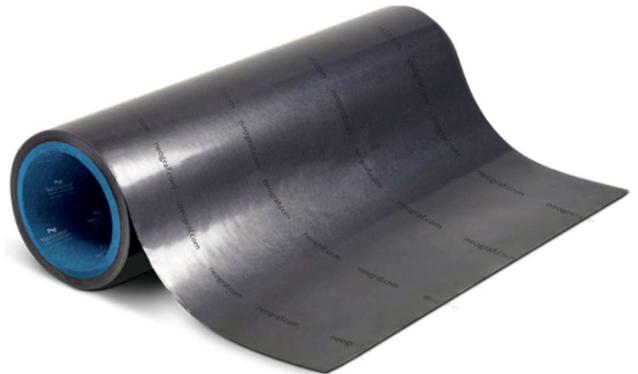
NeoNxGen N500 is an advanced graphite material that can be laminated with plastics and adhesive tapes. The graphite can also be die-cut into a desired shape for easy peel-and-stick application.

Typically, NeoNxGen N500 is used in the following space applications:

- Thermal radiators
- Electronics cooling
- Thermal shielding

## Advantages of the NeoNxGen Materials

- High thermal conductivity (up to 1000 W/m·K)
- The highest mass-to-heat spreading ratio
- Adhesive-free composite, 100% graphite
- Meets NASA outgassing standards
- Stable in extreme temperature space environments (-250 to 2800 °C)



## High Thermal Conductivity



for shielding or isolating components in advanced electronics, aerospace, and battery systems.

Unlike metals such as copper, aluminum, and stainless steel, NeoNxGen N500 excels due to its highly anisotropic properties. Its in-plane conductivity is significantly higher than its through-plane conductivity, typically 900-1000 W/m·K. This allows heat to rapidly spread across the X-Y plane, reducing hot spots, balancing surface temperatures, and protecting temperature-sensitive components. The low Z-direction (through-plane) conductivity limits unwanted heat transfer between layers, making it particularly valuable

## HiTherm™ HT-C3200 Compressible Graphite TIM

HiTherm™ HT-C3200 is a highly compressible, 100% graphite TIM that is ideal for satellites, spacecraft, and other aerospace applications. It features very high in-plane thermal conductivity, reliable performance over a broad temperature range (-250 to +2800°C), and extremely low outgassing. The HT-C3200 series is optimized for insulated-gate bipolar transistors (IGBTs), rectifiers, high-power modules, power drives, and RF devices commonly used in aerospace and space systems.



### Proven in Space

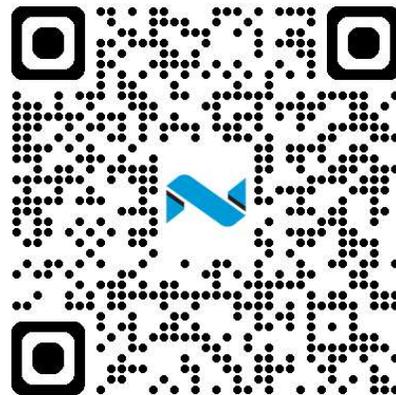
Because NeoGraf's HiTherm HT-C3200 TIM is 100% carbon/graphite, it does not outgas, dry out, or pump out, and it remains stable across temperature extremes, making it ideal for use in vacuum and space environments.

HiTherm products have been used on the International Space Station, the Hubble Space Telescope, commercial communications satellites, and continue to be used on satellites and space electronics systems.

### The NeoGraf HiTherm Advantage

NeoGraf's HiTherm Thermal Interface Materials are engineered for spacecraft and satellite hardware, delivering thermal management solutions that excel in extreme environments and meet NASA's outgassing criteria for space use.

- Through-Plane Thermal Conductivity of 16 W/m·K.
- In-Plane Thermal Conductivity of 700 W/m·K.
- Meets NASA outgassing standards.
- Extreme Temperature Stability.
- Proven Heritage: Flown and validated across NASA and commercial space missions.
- Custom Solutions: We design thermal interface materials, heat spreaders, and flexible graphite films for any current or future spacecraft application.



## LEAD. CREATE. CONNECT.

All products are made or assembled in Lakewood, Ohio, USA  
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