



### Product Description

Thermal Greases are designed to perform low thermal resistance between high watt density chips like CPUs, GPUs, ASICs, Northbridge chipsets and heat sink. They provide high thermal conductivity, minimum bonding thickness, and surface wetting. They also provide outstanding reliability while remaining stable through all industry standard reliability testing. It can be easily screen printed and stenciled onto the heat sink or heat spreader.

### Features and Benefits

- **21-431** offers extremely low thermal resistance at thin bonding line thickness. It can be easily applied with the Solvent-free formula.
- **21-430** offers various applications with customized viscosity (100,000 to 300,000 cps). It offers low thermal resistance at extremely thin bonding line thickness of 0.025 mm.
- **21-440** offers a high thermal conductivity of 3.8W/mK while achieving thin bonding line thickness
- **21-450** offers a high thermal conductivity of 4.0W/mK while achieving thin bonding line thickness. Its silicone-free formulation provides thermal solution for LED or other silicone-sensitive applications.

### Typical Applications

- CPUs (Notebooks, Desktops, Servers)
- LED Solid State Lighting
- GPUs
- Northbridge Chipsets
- ASICs Chips

## Technical Data

PROPERTY	21-431	21-430	21-440	21-450	TEST METHOD
Color	Grey	Grey	Grey	Grey	Visual
Viscosity (cps)	<150,000	Customized (50,000 ~150,000)	<150,000	<250,000	Brookfield Viscometer TE spindle at 10rpm
Density (g/cc)	2.7	2.6	2.73	2.57	ASTM D792
Flame Rating	V-0	V-0	V-0	V-0	UL 94
Continuous Temperature (°C)	-40~150	-40~150	-40~150	-40~150	
<b>THERMAL</b>					
Thermal Conductivity (W/m-K)	3.1	3.0	3.8	4.0	ASTM D5470
Thermal Resistance (cm <sup>2</sup> °C/W) @20psi)	0.024	0.025	0.022	0.021	ASTM D5470
Thermal Resistance (cm <sup>2</sup> °C/W) @50psi)	0.020	0.021	0.018	0.017	
<b>ELECTRICAL</b>					
Volume Resistivity (Ohm-cm)	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	ASTM D527
<b>REGULATORY</b>					
Self Life @ 25°C	12months	6 months	6 months	6 months	

Solvent evaporates within 2 hours at 60°C or 8 hours at room temperature. After solvent evaporation, the grease will remain soft and pliable. The solvent in the formulation adjusts viscosity for easier application and mixing with no effect on final performance.

## Standard Cartridge Package

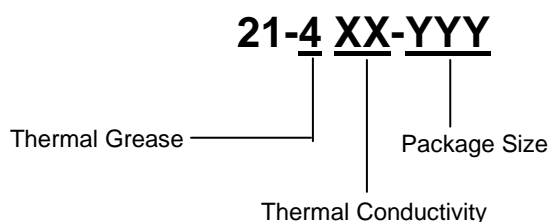
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Thermal Greases are supplied in the package of 2 kg (1litre), 8kg (1 gallon) and 30 kg (5 gallon).

## Ordering Information

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Please use this part number system when ordering Thermal Greases:



### Part Number Examples

21-431-020-0003 = Thermal Grease 21-431 in a 2 kg (1 Litre) Container

21-431-300-0003 = Thermal Grease 21-431 in a 30 kg (5 Gallon) Pail I

## Contact Information

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JONES TECH PLC

ADD: 3 DongHuanZhong Road, Beijing Economical & Technological Development Area

Beijing 100176 China

TEL: +86 10 67862636

FAX: +86 10 67860291

E-mail: [sales@jones-corp.com](mailto:sales@jones-corp.com)

[www.jones-corp.com](http://www.jones-corp.com)