



## G2Nan Sheet



**G2Nan Sheet (GS) is a thermal interface material made from Graphene Nanoplatelets: it has very high thermal conductivity on plane and it is one of the most performing solution for providing:**

- 1. Thermal transfer and management.***
- 2. Heat-sinking in limited spaces.***
- 3. Supplementary heat-sinking in addition to conventional means.***
- 4. heating dispersion of ultrasound transducers without altering ultrasound signals (\* GS-15 UH).***

# G2Nan Sheet (GS)



Nanasa GS is a lightweight product realized from our new nanoparticles G2Nan. G2Nan consist of small stacks of graphene obtained by a special exfoliation process of expanded graphite. From these products we obtain a thin and flexible sheet with very high thermal dissipation and management.

## Features

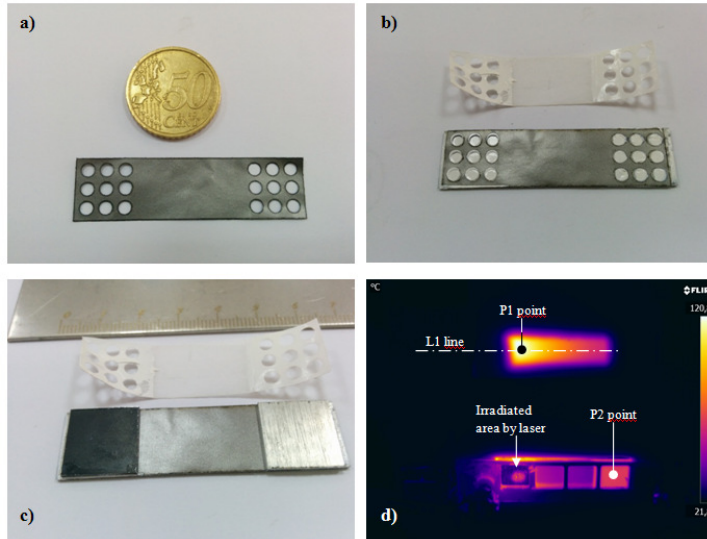
- ✓ High thermal conductivity in plane.
- ✓ Lightweight: 1 – 1,7 g/cm<sup>3</sup>.
- ✓ High Flexibility; easy to be shaped and adhesivized on different substrates.
- ✓ High temperature resistance.
- ✓ Ultrasound transparency (\*GS-15 UH).
- ✓ Flame retardant .
- ✓ High electromagnetic shielding.
- ✓ High electrical conductivity.

		GS-50	GS-80	GS-15 UH
Thickness (μm)		50	50-80	10-15
Max. Sheet size (mm)		400x400	400x400	120x120
Density (g/cm <sup>3</sup> )		1,5 – 1,7	1,2-1,5	1,2
Thermal conductivity (W/mK)	X, Y direction	> 1600	800-900	1000
	Z direction	50	50	50
Specific Heat @ 25°C (J/g°K)		0,8	0,8	0,8
Thermal diffusivity (cm <sup>2</sup> /s)		14-16	8-9	10
Sheet Resistance (Ohm/sq.)		< 0,1	1-3	1-3
Bending (Cycles)		> 10000	> 30000	> 30000
Heat Resistance (°C)		500	300	200
RoHS compliant		✓	✓	✓

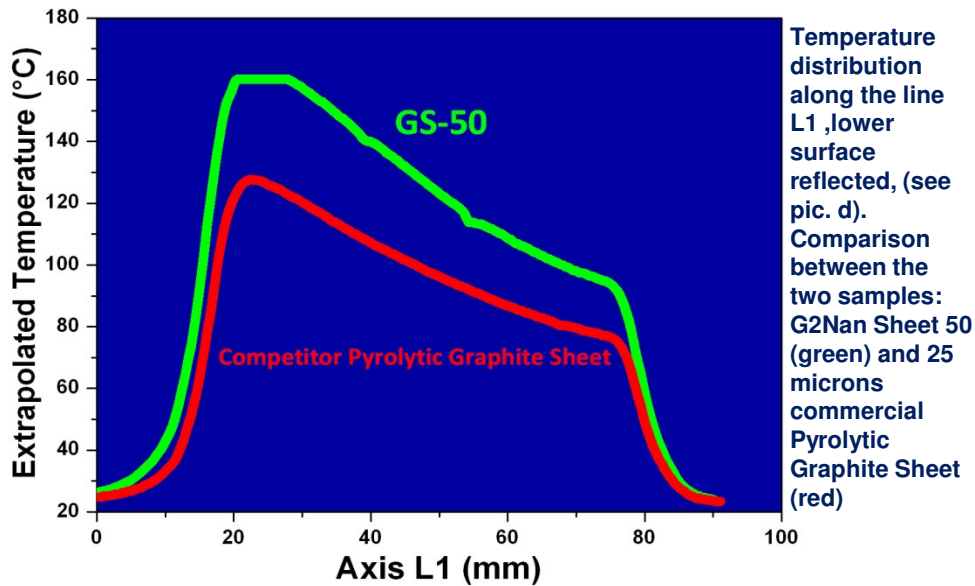
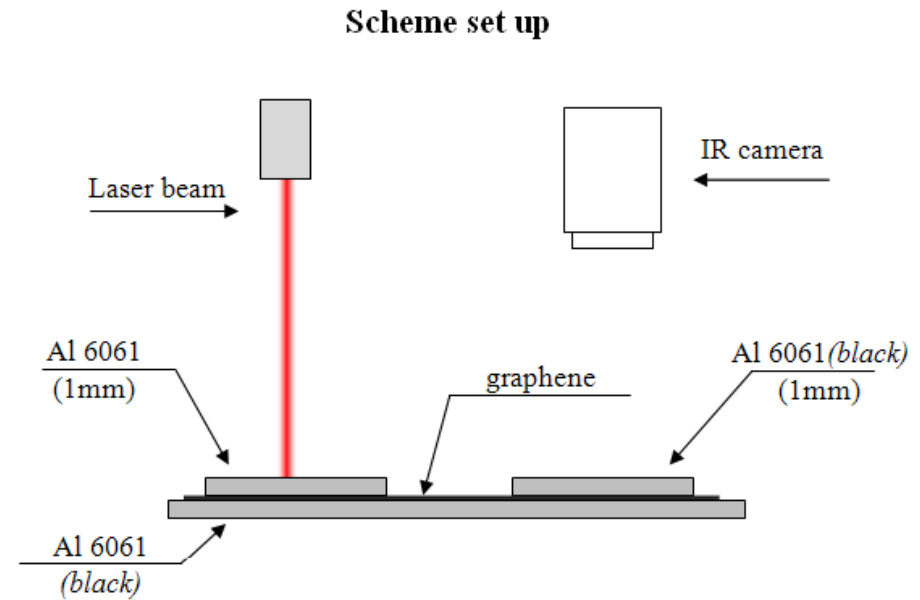
Typical values measured in our labs. Results are not guaranteed.

[www.nanesa.com](http://www.nanesa.com)

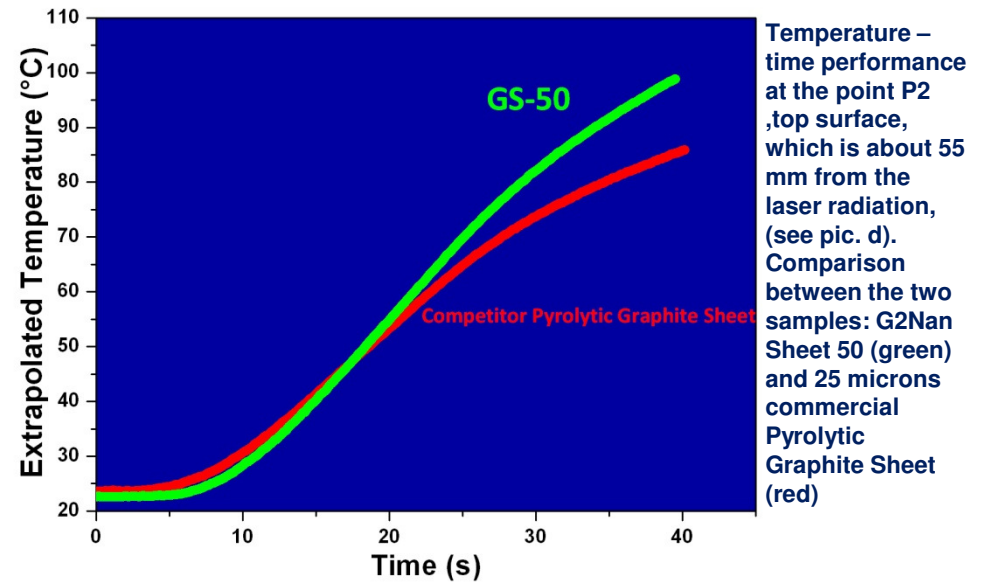
# Comparison with competitor products



**Specimens preparation:**  
 a) Laser-cut Graphite/Gaphene Sheets; b) applying thermal paste in the holes; c) the specimen; d) IR image with highlighted points and the line of Temperature measured



Temperature distribution along the line L1 ,lower surface reflected, (see pic. d). Comparison between the two samples: G2Nan Sheet 50 (green) and 25 microns commercial Pyrolytic Graphite Sheet (red)



Temperature – time performance at the point P2 ,top surface, which is about 55 mm from the laser radiation, (see pic. d). Comparison between the two samples: G2Nan Sheet 50 (green) and 25 microns commercial Pyrolytic Graphite Sheet (red)

# G2Nan Sheet

NANESA

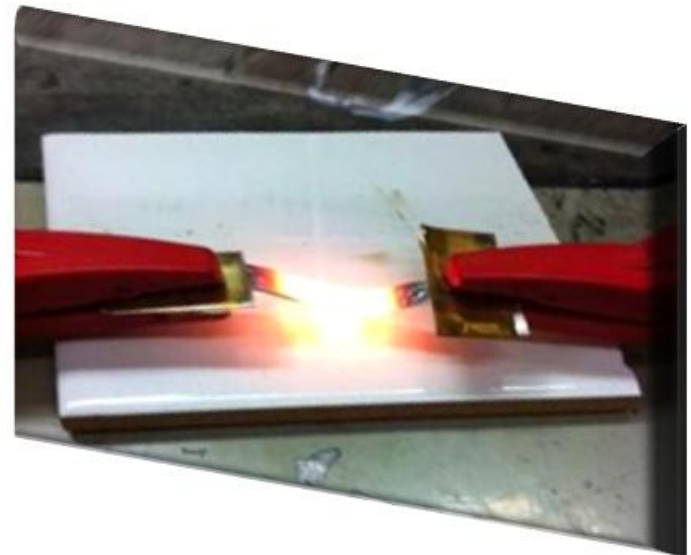
Nanesa, starting from G2Nan, produces also innovative sheet with polymer as binder. The sheet thickness can vary from a minimum of 10 to over than 100  $\mu\text{m}$ .

These materials show very high performance in Thermal dissipation and management, high conductivity and EMI shielding proprieties. The sheet can be also supported by tissue, nonwoven, paper o technical supports. for special requests and customizations please contact technical support:

[grafene@nanesa.com](mailto:grafene@nanesa.com)

*“Nanesa can develops the possibility to apply these new material over a lot of different kind of surfaces, using high conductive interface materials as linkers (conductive glue or pastes)”*

[www.nanesa.com](http://www.nanesa.com)



## *Nanese is a partner of Graphene Flagship*

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