



# High Performance INTEL Heatspreader V1



## High Performance Cooling Solutions – Made in Germany

The Intel High Performance Heatspreader V1 is made of nickel-plated copper and offers a 207% larger surface area compared to the Integrated Heatspreader (IHS) from Intel. For the best possible contact with the cooler, the upgrade heatspreader from Thermal Grizzly has a diamond-milled precision surface and can be used with standard air and water coolers. Please note that the Intel High Performance Heatspreader V1 is only compatible with delidded Intel processors. An up-to-date list of all verified compatible processors is available online.

## With increased surface area for maximum heat dissipation

By replacing the IHS with an Intel High Performance Heatspreader V1 (HPHS), the surface area of the heat sink is increased by 207 percent. At the same time, the Integrated Loading Mechanism (ILM) of the main-board is replaced, which also increases the volume so that the thermal saturation of the heat spreader is slower. By omitting the ILM, the contact pressure of the CPU in the socket is also evenly distributed. The diamond-milled surface of the Intel High Performance Heatspreader V1 made of copper offers a maximum flat surface and therefore an optimum contact surface for coolers.

In internal tests\*, the Intel High Performance Heatspreader V1 delivered impressive results. An Intel Core i5-14600K was tested at a clock rate of 5.6 GHz and a core voltage of 1.4 volts (vCore) in Cinebench R23 in a custom loop with a Watercool MO-RA3, including four Noctua 200 mm fans. An Alphacool Core 1 was used as the water cooler. With the standard IHS and a contact frame, an average temperature of 92.1 degrees Celsius was measured. With the Intel V1 High Performance Heatspreader, this average value was reduced by 14.8 °C to 77.3 degrees.

### Technical data

Unit:	Value/Description:
Material:	copper, nickel plated
Color:	silver
Typical application:	Upgrade heatspreader with increased surface area
Height above CPU die:	2.76 mm
Length:	70 mm
Width:	53 mm
Total height:	5,7 mm
Package size:	10,5x9,5x2 cm
*Gross weight:	136g
*Net weight:	103g
EAN-Code:	4260711990991
Item number:	TG-HPHS-i-V1
PU:	14 Pcs.

\*Net weight is the total weight of an article excluding the weight of packaging and accessories. The gross weight refers to the total weight of the product including accessories and packaging. Slight weight deviations are possible due to production factors.

## Short information

- Replaces ILM and heatspreader
  - 207% larger surface area
  - Made from nickel-plated copper
  - Diamond milled precision surface
  - Compatible with air and water coolers
  - CPU compatibility list available online
  - Only for delidded CPUs!
- Attention: Loss of warranty!

The nickel-plated surface of the Intel High Performance Heatspreader V1 is compatible with traditional thermal pastes and gallium-based liquid metals. The nickel forms a barrier layer between the liquid metal and the copper cooler so that liquid metal does not diffuse into the copper and alloy formation is minimized. This means that multiple applications of liquid metal are generally not necessary. We recommend using liquid metal between the CPU die and the Intel V1 High Performance Heatspreader. Thermal conductive agents such as thermal paste, thermal pads and liquid metal can be used between the HPHS and the cooler. Please note that delidding the processor is at your own risk and will invalidate the warranty!

\*\*\*It should be noted that the temperature improvements achieved depend on several factors. In addition to the quality of the individual processors ("Silicon Lottery"), test results are also influenced by the room temperature and the cooling system used. With a custom water cooling system, for example, the cooling performance depends on factors such as the pump speed and the fans and radiators used. The specified values are guide values that may be higher or lower in individual cases.

## Quality without compromise: Made in Germany

The Intel High Performance Heatspreader V1 is manufactured to the highest quality standards at our production site in Germany. The entire production chain is continuously monitored by our expertly trained staff. Particular attention is paid to the diamond-milled precision surface, which is specially protected from contamination during the production chain.

## Scope of Delivery

- 1x Intel High Performance Heatspreader V1
- 4x pan head screws UNC thread
- 1x hexagon socket wrench
- 1x Torx angle wrench

## Where it is worthwhile?

With its superior heat dissipation capabilities, the Intel High Performance Heatspreader V1 is recommended for many areas of application:

- Gaming PCs with AiO or custom water cooling
- Desktop workstations with high CPU loads
- Extreme overclocking with dry ice or liquid nitrogen
- Air-cooled mini-ITX systems with small top-blower coolers
- Silent PCs with large tower coolers and Fans with low speed

## Note on the use of KryoSheet and monoblocks

The Intel High Performance Heatspreader V1 has been extensively tested internally in various application scenarios. During development, great emphasis was placed on stable operation of the processor and RAM. For example, the Intel High Performance Heatspreader V1 is mounted in such a way that the outer edges of the cooler do not rest on the mainboard. In our test series, KryoSheet in combination with the Intel High Performance Heatspreader V1 was unable to achieve any significant improvements in terms of temperature and was problematic in terms of contact pressure. For this reason, we cannot recommend the use of thermal pads because their additional thickness has a strong influence on the contact pressure and can therefore impair the function.

When using mono blocks for the mainboard, the mounting height and thermal pads may need to be adjusted. It is important to check whether there is contact between the Intel High Performance Heatspreader V1 and the mono block. If you have any questions, you can contact Thermal Grizzly support at any time.

## Compatibility note

The Intel High Performance Heatspreader V1 is compatible with the following processors:

- Intel 12th Gen CPUs
- Intel 13th Gen CPUs
- Intel 14th Gen CPUs

Attention: Removing the heatspreader ("delidding") of a processor is at your own risk! The manufacturer's warranty expires when the CPU is delidded! Damage caused by delidding the CPU is not covered by the manufacturer's warranty!

Removing the Integrated Loading Mechanism (ILM) of the mainboard may invalidate the manufacturer's warranty of the mainboard manufacturer!

## Trademark Information

Thermal Grizzly is a registered trademark.

## Please note

The data in this technical data sheet are based on our current knowledge and experience. Due to the large amount of possible factors, this should not be construed as to release the users from doing their own tests and screening. No legally binding assurance of specific properties or applicability for a concrete purpose should be derived from these data. Please consider contacting us for further detail. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.