

## Alphacool Core 2-component heat conducting adhesive

Alphacool article number: 13004

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### Quick Info

Alphacool 2-part thermal adhesive is perfect for mounting coolers onto items such as motherboard VRMs. The 2-part epoxy-based adhesive is the optimal choice when coolers need to be mounted more securely onto the CPU or GPU of single-board computers (Raspberry Pi, ODROID, Arduino, Cubieboard etc.). The field of application is so wide that even coolers on electronic components in power amplifiers or RC vehicles can be reliably and stably bonded.

- Electrically non-conductive
- High thermal conductivity
- Versatile

### Scope of delivery

1x Alphacool Compound Black (adhesive) 4g applicator  
1x Alphacool Compound Yellow (activator) 1g applicator  
2x plastic spatula

## Technical data

Mixing ratio (adhesive : activator)	4 : 1
Thermal conductivity	0,9 W/mK
Surface curing (at 25°C)	2 h
Total curing (at 25°C)	5-7 Days
Boiling point	>200°C
Flash point	>88°C
Specific gravity (yellow component)	0,97 g/cm <sup>3</sup>
Specific gravity (black component)	2,08 g/cm <sup>3</sup>

## Ingredients (component black)

Aluminium nitride	70 - 73 %
Epoxy resin	20 - 22 %
Epoxy diluent	4 - 6 %
Carbon black	0,5 - 1 %
Substituted silane	0.1 - 0.2 %
Total weight	4 g

## Ingredients (component yellow)

Polyamide	80 - 100 %
Additive	0 - 5 %
Total weight	1 g

## Download links

Safety data sheets	<a href="#">13004_Alphacool_Core_2-component_heat_conducting_adhesive_SDS(1).pdf</a> <a href="#">13004_Alphacool_Core_2-component_heat_conducting_adhesive_SDS(2).pdf</a>
Product pictures	<a href="#">13004_Alphacool_Core_2-component_heat_conducting_adhesive_pics.zip</a>

## Packaging dimensions per unit

L x W x H	200 x 110 x 15 mm
Weight	21 g

## Other data

Certificates	CE, FC, RoHS
EAN	4250197130042
Customs code	0

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### **Properties**

The Alphacool 2-part thermal adhesive is electrically non-conductive. The high metallic content of aluminium nitride (70 - 73 %) guarantees optimal thermal conductivity (0.9 W/mK). The thermal adhesive creates a stable adhesive bond. Due to the material composition, mechanical variances between the components to be bonded can also be compensated well. Surface curing is achieved after 2h (at 25°C ambient temperature). Complete curing takes place within 5 to 7 days (at 25°C ambient temperature).

### **Application**

All surfaces must be clean and free of grease, dust or contaminants. Important: The processing time is limited! As a rule, the processing time is about 10 minutes until the adhesive starts to cure. Adhesive (black) and applicator (yellow) must be thoroughly mixed in a ratio of 4:1 on a clean surface for approx. 2 to 3 minutes with a spatula. Perfect mixing is important to ensure an optimum bond. The two-part adhesive can then be applied thinly to the surfaces to be bonded using a spatula. Finally, the components to be bonded are pressed together. Higher ambient temperatures during processing ensure effective curing of the adhesive and increase strength at higher temperatures.