

# Thermal Paste Application Guide:

In this guide, we will be going over one of the most important steps in assembling your PC: **applying thermal paste**.

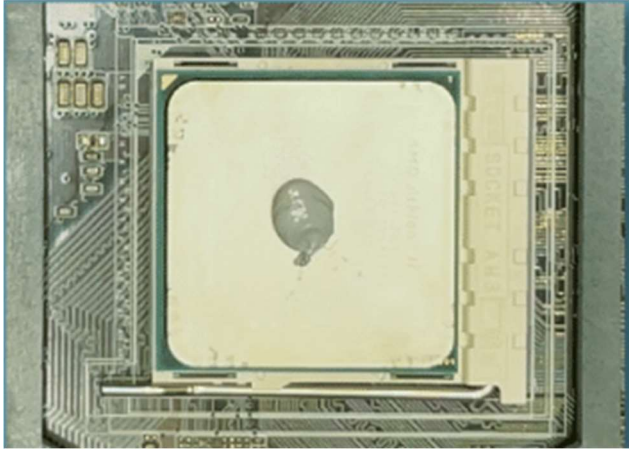
Thermal paste is a substance that increases the efficiency of heat transfer between a CPU or a graphics card and a heatsink. It is a dense product that is conductive to heat but not to electricity. It comes in small syringes for trouble-free application.

Applying thermal paste correctly can make a significant difference in the performance and longevity of your PC components. Too little or too much thermal paste can cause overheating, instability, or even damage to your hardware. Therefore, it is essential to know the best methods to apply thermal paste for your CPU.

In this guide, we will explain the pros and cons of four common methods to apply thermal paste: The Tea method, the X method, the Line method, and the Spreader method. By the end of this guide, you will be able to choose the best method for your PC build and apply thermal paste like a pro.

**NOTE: IF YOU ARE USING A 'LIQUID METAL' THERMAL PASTE LIKE THERMAL GRIZZLY CONDUCTIONAUT (90% OF THE TIME THIS IS NOT NEEDED), PLEASE KEEP IN MIND IT IS ELECTRICALLY CONDUCTIVE AND CAN DAMAGE YOUR COMPONENTS! SO BE EXTREMELY CAREFUL AND TAKE EVERY PRECAUTION POSSIBLE. THE SAFEST, AND THE MOST RELIABLE METHOD FOR LIQUID METAL WILL BE THE SPREADER METHOD WITH A COTTON SWAB, AS IT PREVENTS EXCESS LIQUID METAL SPILLING ONTO YOUR BOARD WHEN THE COOLER IS INSTALLED.**

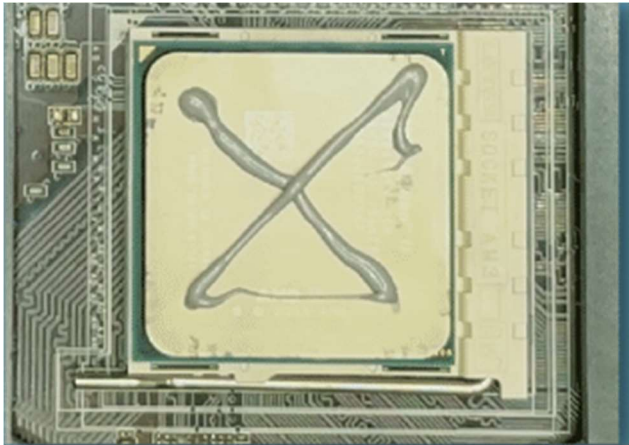
## Pea Method:



Instructions: apply a small pea sized amount of thermal paste in the very center of the CPU, and let the CPU cooler itself spread it out on contact.

- Pros: Easy, most Common pattern.
- Cons: Not good for bigger CPUs, easily under/overapplied, hard to judge how much is being used

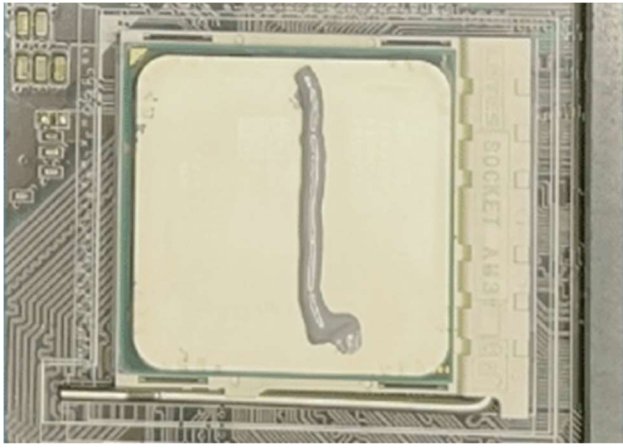
## X Method:



Instructions: draw two lines from corner to corner that converge in the middle of the CPU, forming an 'X' shape, and let the CPU cooler itself spread it out on contact.

- Pros: moderately easy to apply, even coverage on corners
- Cons: easy to apply too much, might not reach edges depending on CPU cooler contact. With bigger CPU's this can cause issues.

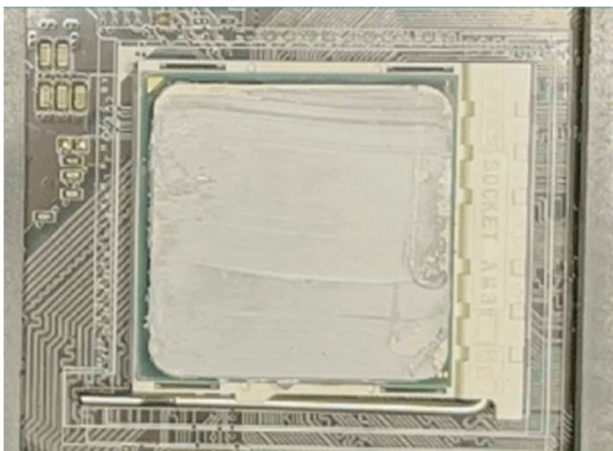
## The Line Method:



Instructions: draw one straight line either vertically or horizontally on your CPU and let the CPU cooler itself spread it out on contact.

- Pros: extremely easy to apply, good coverage on rectangular/tall CPUs like 1700 intel
- Cons: can be easily underapplied, depending on CPU cooler contact, this one might not spread all the way to the edges on squarer CPUs like AMD

## The Spreader Method:



Instructions: apply any of the previous methods of thermal paste, then using either a thermal paste spreader or, if you do not have one, a plastic card of some type, spread out the thermal paste to be a flat, thin layer across the whole CPU. You want it thick enough to cover all the text, but thin enough where it will not squeeze out when the CPU cooler is applied.

- Pros: Best temperatures, easiest way to get the perfect amount of paste
- Cons: More work to apply, can be messy if thermal paste gets on your hands.

We hope this guide has helped you understand the best thermal paste application methods for your PC build! As you can see, there is no one-size-fits-all solution, and the best method depends on the shape and size of your CPU and the contact area of your cooler's heat spreader.

**However, based on our experience and testing, we recommend the spreader method as the most reliable and effective way to apply thermal paste. It ensures a thin and even layer of thermal paste across the entire CPU surface, which maximizes heat transfer, minimizes air bubbles, and prevents over or under application of thermal paste.**

Of course, you are free to experiment with different methods and see what works best for you! The most important thing is to apply thermal paste carefully, and to check your temperatures regularly to make sure your PC is running smoothly and efficiently.

Photos from: <https://koolingmonster.com/insights/what-is-the-best-thermal-paste-pattern-actual-performance-comparison>