

**NEW LAUNCHING PRODUCTS FOR  
THERMAL INTERFACE MATERIAL (TIM)**

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# Introduction

**The rapid growth of 5G networking and AI-driven applications is accelerating demand for high-speed data centers and advanced computing. With increasing requirements for rich media streaming, cloud storage, and machine learning, data centers face higher power densities and faster processing needs.**

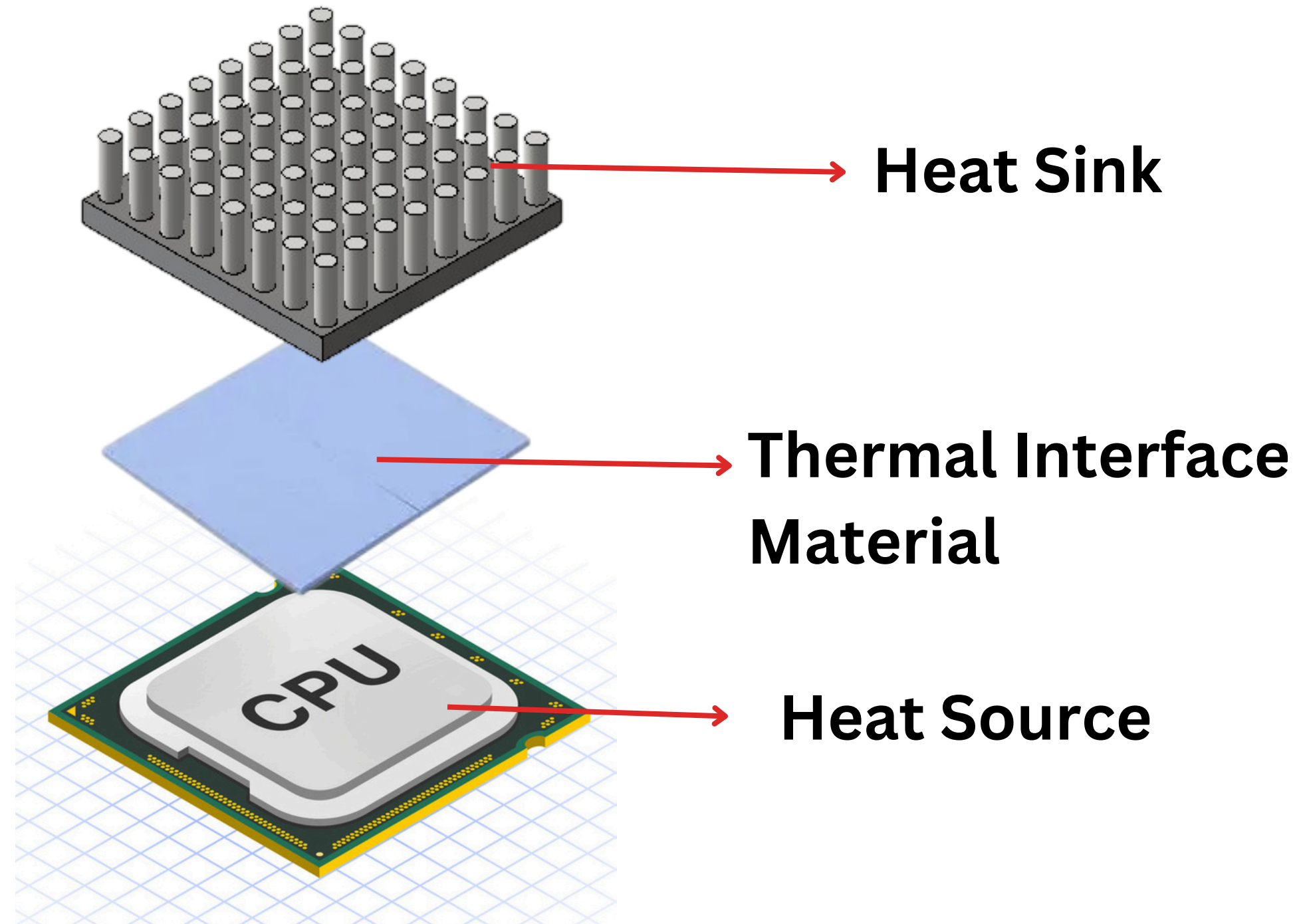
**Penchem's advanced thermal management solutions, including high-performance thermal pads and putty, ensure the reliability and efficiency of next-generation data center components, enabling superior performance in fast-evolving industries.**

## Application of TIM

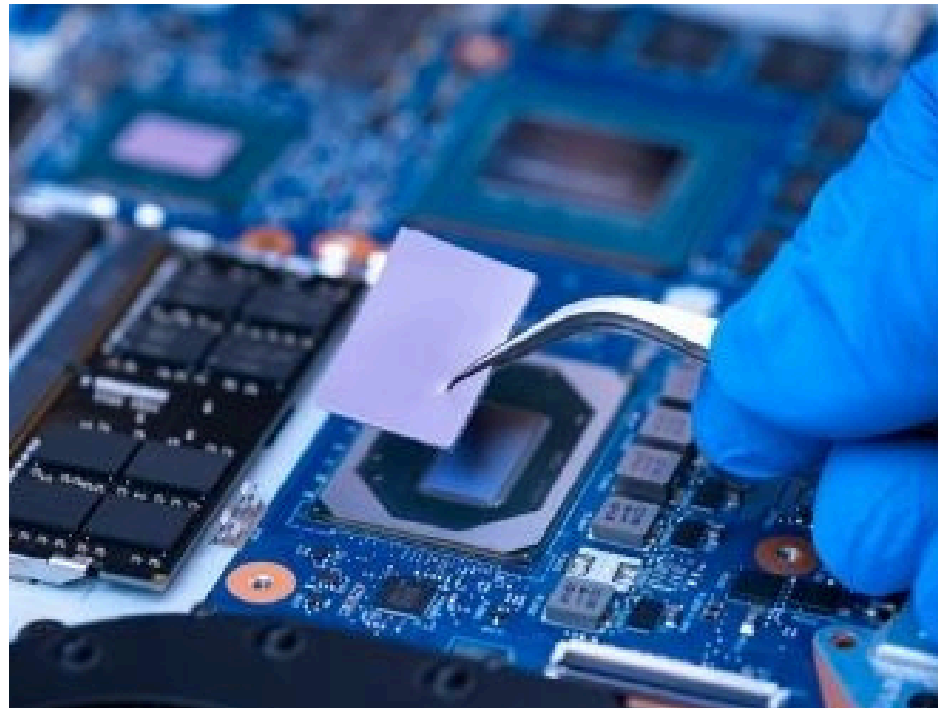
Thermal pads act as a bridge between the heat source the heatsink, ensuring efficient heat transfer.

They fill air gaps and uneven surfaces, reducing thermal resistance and improving cooling performance.

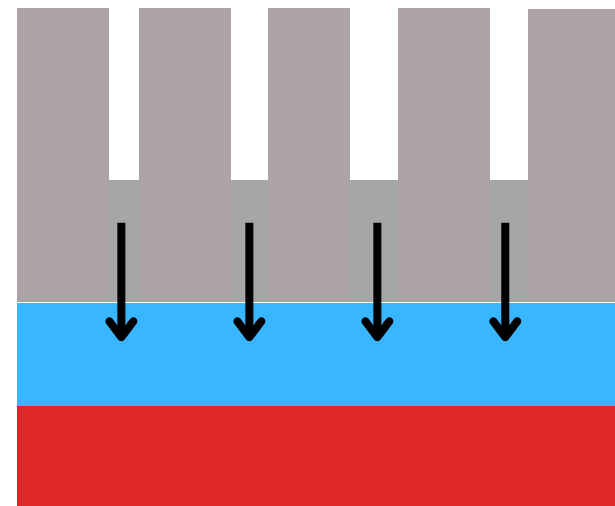
This is essential for maintaining stable temperatures and reliable performance in high-power devices



## Thermal Pad Vs Thermal Putty



Gap Fill on  
Flat Surface

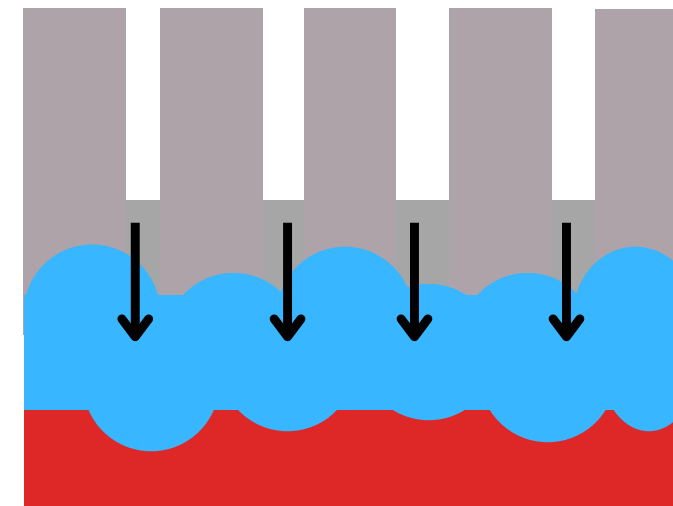


← Heat Sink →

← TIM →

← Heat Source →

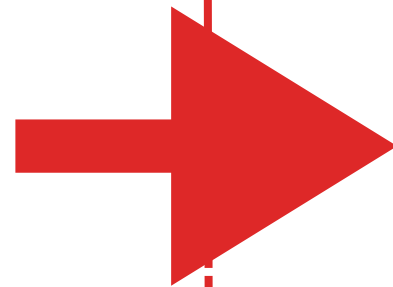
Gap Fill on  
Uneven Surface



## Networking & Telecom

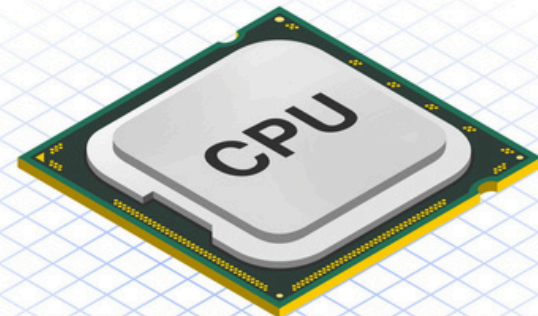
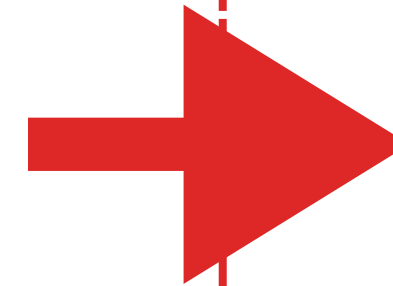


**Router**



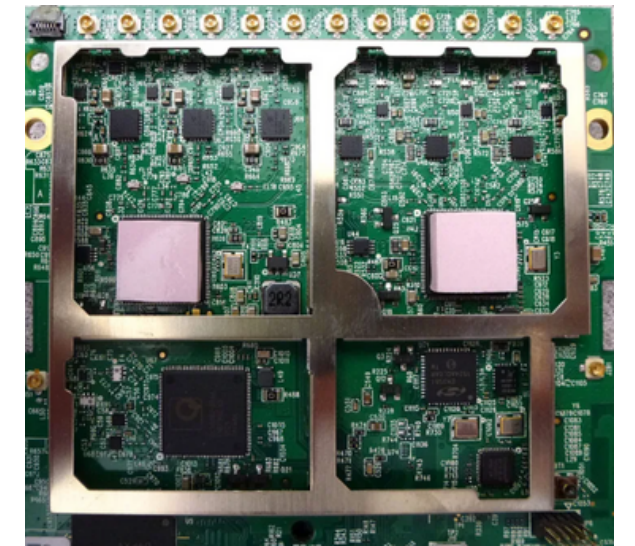
### Line Card

Act as the primary interface for data traffic coming in and out of the router.



### CPU

To execute instruction and manage the flow of data packets



### Thermal Pad/putty

Improve cooling performance

# THERMAL INTERFACE MATERIAL SOLUTION

## Server and Storage

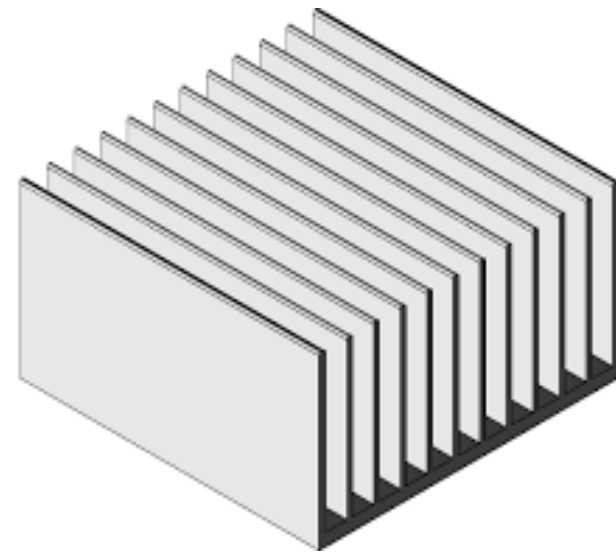


**Server**



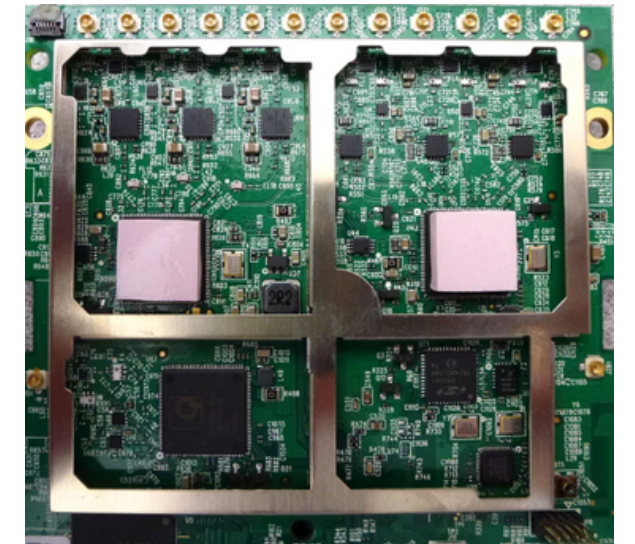
### SSD

High-performance SSDs can generate heat, especially in dense server environments.



### Heatsink

Critical for cooling SSD controllers in high-speed storage.



### Thermal Pad/putty

Improve cooling performance

# Thermal Pad

## Thermal Stability Solution

Thermal Conductivity (W/mK)	Product	Colour	Thickness (mm)	Hardness Shore (OO)	Special Features
2.0	TP1002	Grey	0.5	64	Both side natural tack, electrically insulation, easy to assemble, good thermal conductive, and meet UL 94 V0.
		Grey	1.0	64	Both side natural tack, electrically insulation, easy to assemble, good thermal conductive, and meet UL 94 V0.
4.0	TP1004	Grey	0.5	62	Both side natural tack, electrically insulation, easy to assemble, good thermal conductive, and meet UL 94 V0.
		Grey	1.0	62	Both side natural tack, electrically insulation, easy to assemble, good thermal conductive, and meet UL 94 V0.
12.0	TP1012	Grey	1.0	70	Both side natural tack, electrically insulation, easy to assemble, high thermal conductive, and meet UL 94 V0.
15.0	TP1015	Grey	1.0	64	Both side natural tack, electrically insulation, easy to assemble, high thermal conductive, and meet UL 94 V0.

# Thermal Putty

## Thermal Stability Solution

Thermal Conductivity (W/mK)	Product	Colour	Special Features
2.0	TP2002	Blue	Silicone free, dispensable, soft, good thermal conductivity, meet UL 94 V0
4.0	TP2004	Pink	Silicone free, dispensable, soft, high thermal conductivity, meet UL 94 V0

## Manufacturer of High-Performance Polymers:

- LED Epoxies
- SMT Epoxies
- Silver Epoxies
- COB Epoxies
- UV Epoxy
- Silicones
- Potting Epoxies
- Fibre Optics Epoxies
- Thermal interface Material
- Customized Items

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