Why is high-grade nickel-plated heat sink even though it is inferior to copper and aluminum?

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Copper has very good thermal conductivity should be selected as heat pipe - copper pipe. For low-cost radiators, the heat pipe is made of aluminum.

Nickel is chosen to be plated on high-end heat sink despite having less heat conductivity than copper and aluminum because it has two precious properties: smoothness and durability.

Nickel is very inert and difficult to react, so under normal conditions it has a great chemical endurance. So the nickel-plated radiators are very durable, still good for decades.

Another important factor is that nickel has a very high surface gloss, and the closer the heat sink to the contact surface is, the better the thermal conductivity will be. Therefore, the nickel-plated radiators on contact with the surface of the CPU and GPU provide the highest possible condensation. The nickel plating is very thin and the heat resistance level of this coating is very small, insignificant compared to the benefits that it brings, so the problem of thermal conductivity of nickel is less important than copper and aluminum.

Nickel can be considered a 'gold material' in the radiator village.