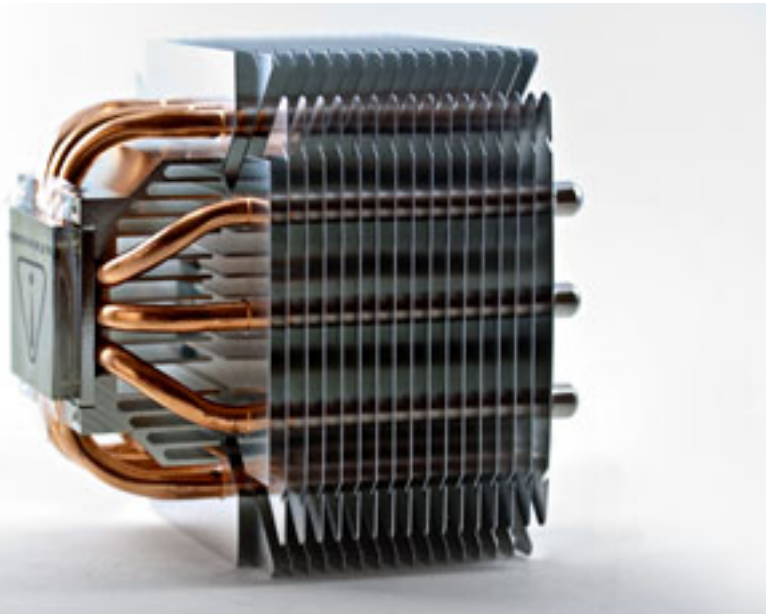


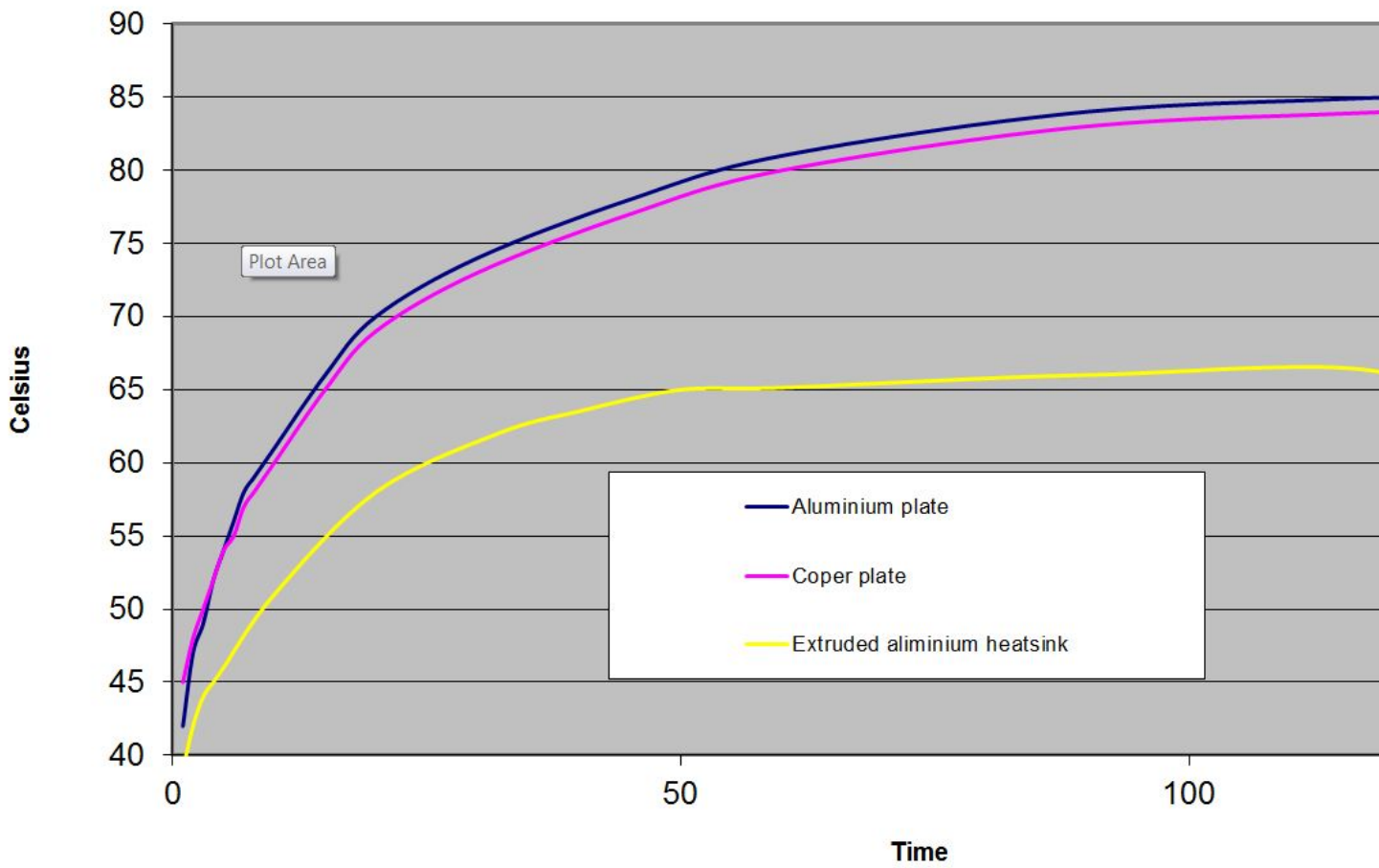
## Comparative testing of Aluminium, Copper and Finned heat sink performance.

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Advantages of using copper over aluminium for heat sinks are often discussed. If you look at high end CPU coolers for personal computers market for example, you will see extended use of copper. Copper thermal conductance is 4.01 W/cmK and aluminium is 2.37 W/cmK. With copper thermal conductivity so much higher that aluminium one would expect significant performance difference in real world. Let's run some thermal tests.

We have set up a test rig consisting of 200mm X 200mm X 2mm copper and [aluminium](#) plates. A heat source was chosen as power mosfet and was mounted in the middle of the plate. A continuous thermal load of 30 Watts was dissipated via heat sink. Temperature was measured at heat source (mosfet mounting pad). Ambient air temperature was measured at 24 Celsius and air was stationary.



[Aluminium extrusion](#), [P&A International](#), [bus copper](#), [copper boatsink](#), [heatsink](#)