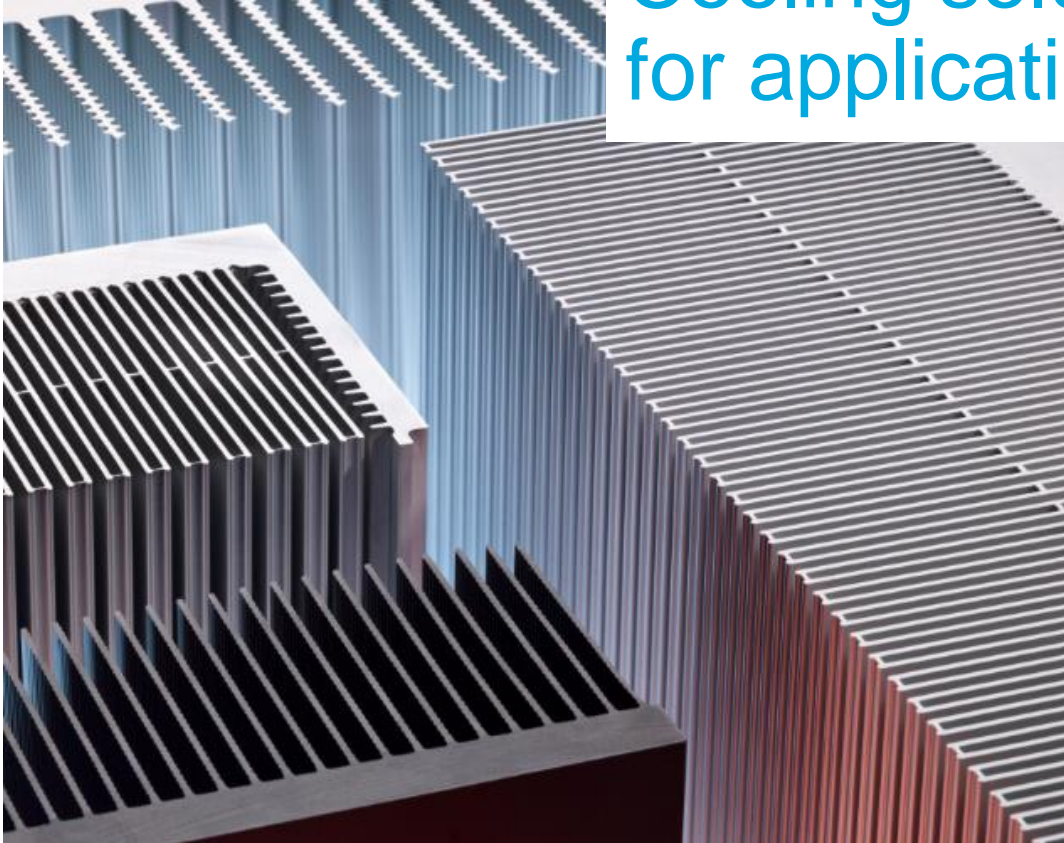


Cooling solutions from Constellium for applications in electronics



Available types of cooling systems:

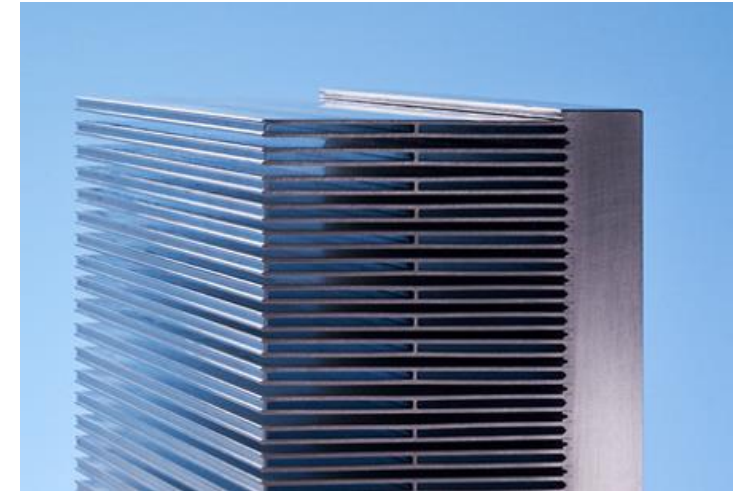
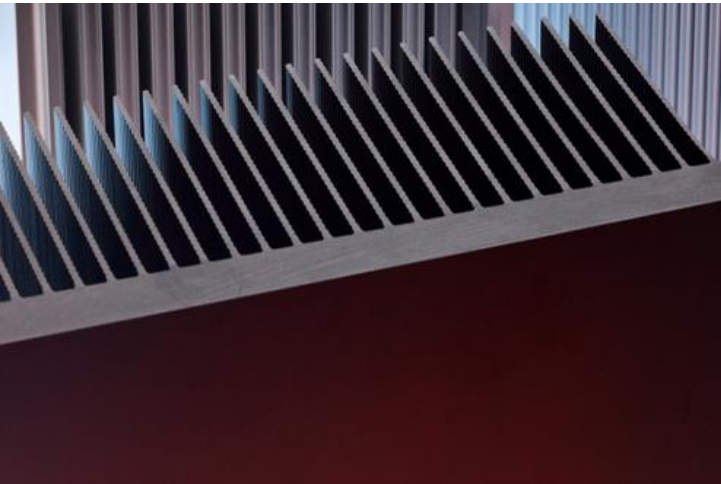
- ▶ AIR-COOLING standard solutions
 - ▶ one piece extrusion
 - ▶ solid fins (pressed-in)
 - ▶ hollow fins (pressed-in)
 - ▶ double base
 - ▶ “plugged-in” concept
- ▶ HIGH END AIR-COOLING : POWER-FIN
- ▶ Innovative LIQUID-COOLING system

August 2024

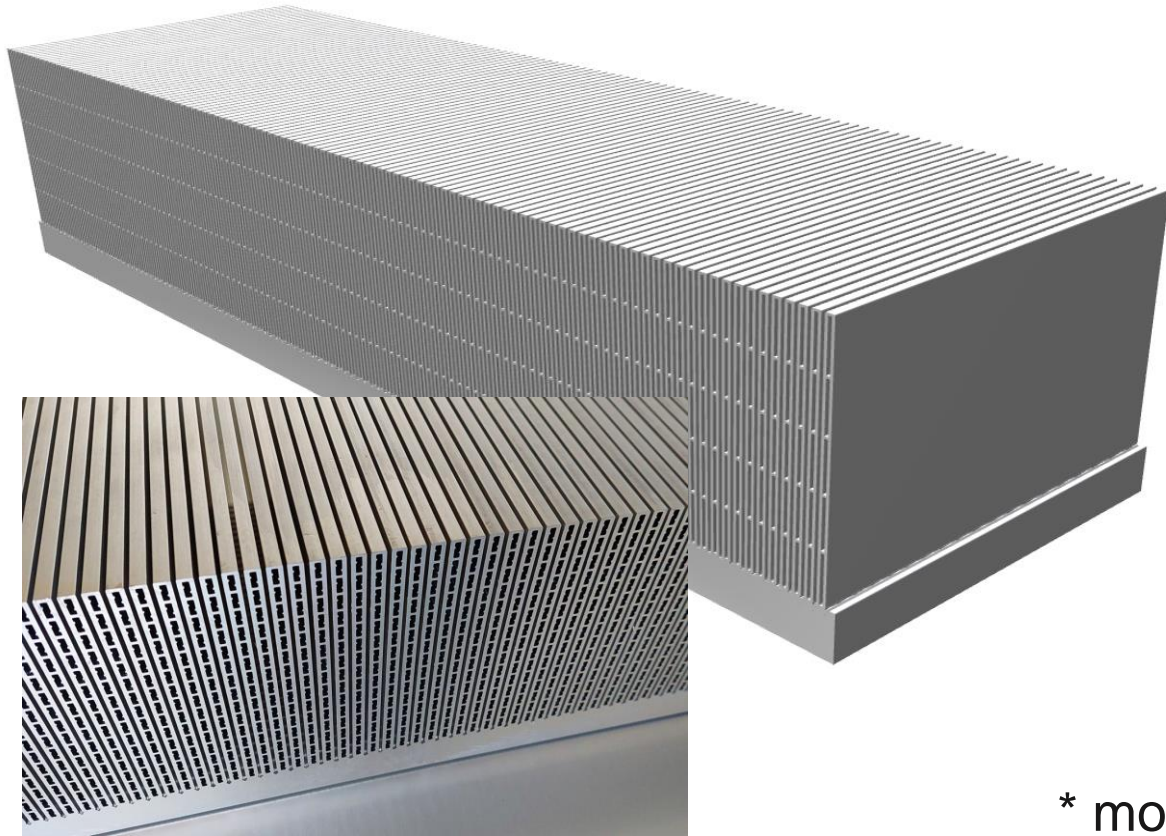
> Overview - Standard Program

▶ The numbers

- ▶ max. width : 750 mm
- ▶ max. height : 140 mm
- ▶ distance between fins: 4.0 – 2.6 mm



➤ Power-Fin : high end air-cooling – raising the bar to the ultimate possible limits*

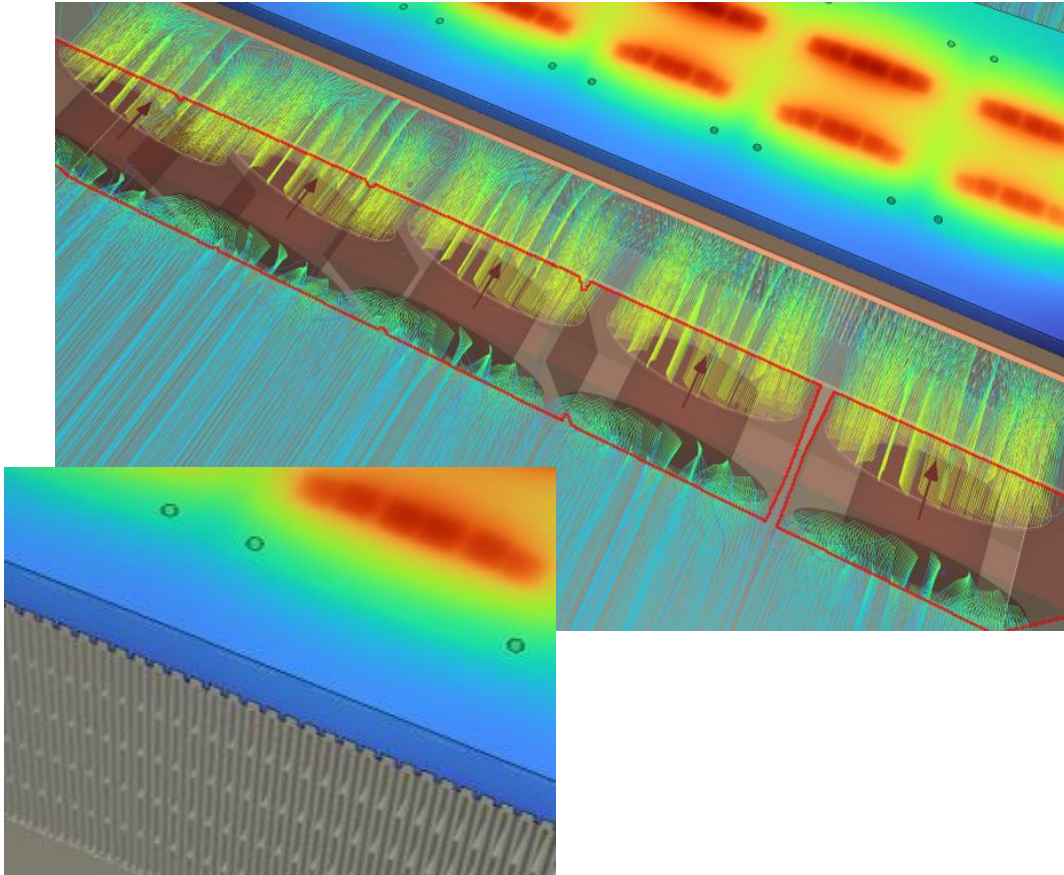


▶ Design highlights:

- ▶ minimized distance between fins: 1.6mm
- ▶ maximized fin surface
- ▶ optimized alloy properties
- ▶ robust and precise design
- ▶ width up to 750mm

* most sophisticated air-cooling solution in the market

➤ Power-Fin : high end air-cooling – raising the bar to the ultimate possible limits*



▶ Performance characteristics:

- ▶ ultimate conductivity in ideal combination with required material strength
- ▶ efficient airflow design based on optimal fan configuration

* dissipation of highest possible thermal load

> Innovative LIQUID-COOLING - performance beyond POWER-FIN

▶ Key advantages:

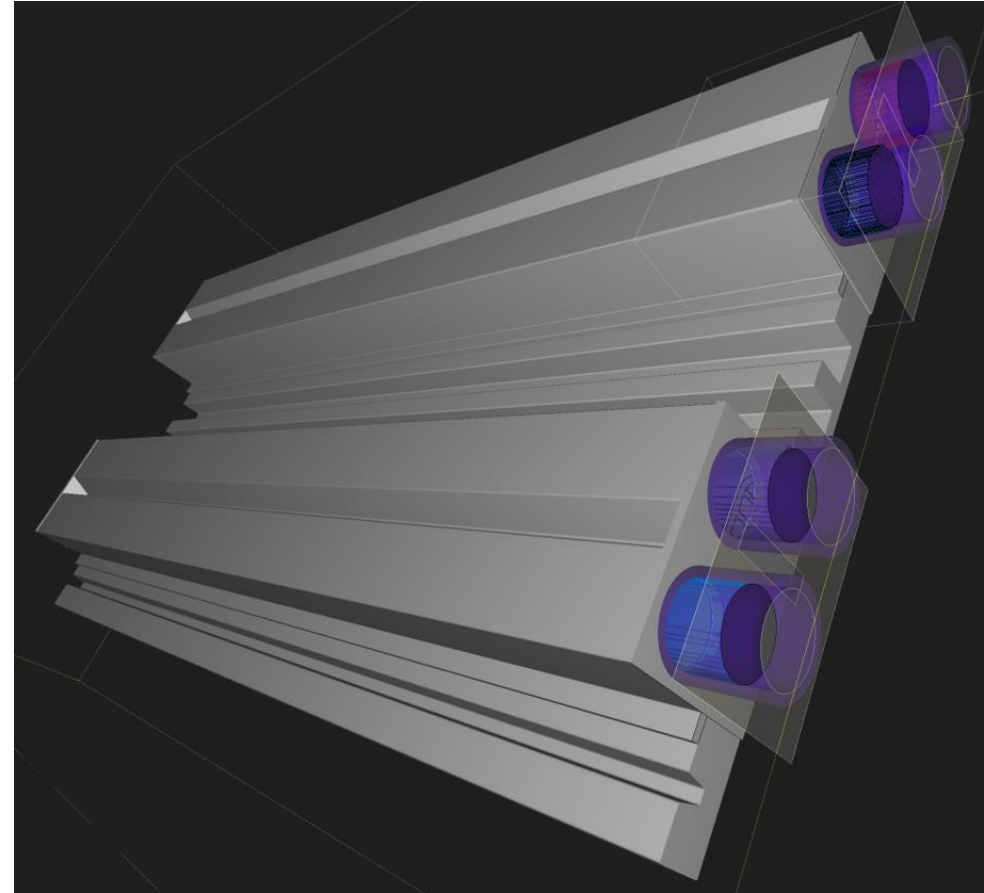
- ▶ cost-effective solution by using smart extruded profile combinations
- ▶ excellent thermal conductivity of alloy
- ▶ highly efficient heat transfer due to intelligent design
- ▶ fully adaptive to customer's requirements

> Innovative LIQUID-COOLING

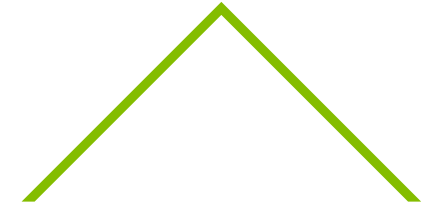
Looking for a new solution?
Have an idea that needs implementation?

We are offering technical assistance based on decades of experience in the application of aluminum in diverse markets.

Challenge us in order to find the best solution for your application.



Example: Liquid cooling system



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Constellium

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