Why to use Rheocasting in LED applications?

The LED industry has a major role to play in making the world more sustainable by reducing energy consumption for the lamp itself, but also due to the volume the environmental impact of production is of great interest. The use of Rheocasting is a great enabler in this effort due to alloys with very low CO_2 emissions, high thermal conductivity that reduces with of castings.

Alloys with high thermal conductivity

This effect comes from the use of very low silicon content in the alloys why properties as below are reached.

AS CAST:

Tensile strength R_m, MPa.	Yield strength $R_{p0.2}$, MPa.	Elongation A%.	Thermal conductivity W/m°K
170-210	70-110	5,5-12,5	165-175*

HEAT TREATMENT*:

150-170	80-100	6,5-9	181-192*

*Heat conductivity at 100 C.

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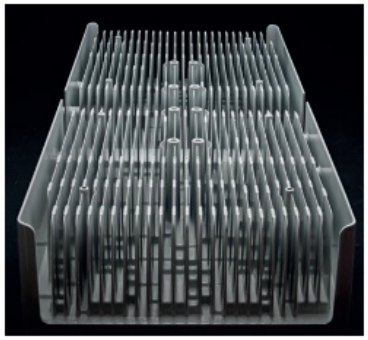
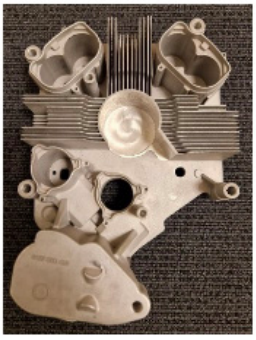
Very low CO_2 emissions

Silicon is the main CO_2 driver why Rheocasting alloys for LED and thermal conductivity offers sustainable alloys with emission values of 0,47 kg of CO_2 per kg of alloy.

Low weight designs

As the melt is thixotropic it enables filling thin walls and high fins. Companies having advanced designs in combination with requirement of high thermal conductivity are using Rheocasting as it allows a cost-effective production.





About Rheocasting

Rheocasting is a semi solid process that delivers melts with high solid fraction to a low cost. The process is in roll out and is used on three continents with a growing number of installations. Typical components made with the process are leak free components, heat sinks and other thermal management parts, high strength T6 treated components and structural thin wall parts of large sizes.

About Comptech Rheocasting AB

Comptech develops, produces, and delivers equipment and know-how to the foundry industry and supports designers as OEM's. R&D is a vital role and together with leading R&D institutes we develop alloys with high requirements and alloys with very low CO_2 footprint. Comptech AB is working on three continents.

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Rheocasting

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