

Ice Cold Carbon Fibre - A carbon fibre with twice the thermal conductivity of copper and half the weight

A rare and unusual form of carbon fibre has

SYDNEY, NEW SOUTH WALES, AUSTRALIA, November 5, 2021 /EINPresswire.com/ -- Ice Cold Carbon Fibre

Carbon fibre has a number of advantages over metals, it is light, strong and corrosion resistant, but it's thermal conductivity has always been very poor. So if heat transfer is important, carbon fibre is probably not the solution. Until now.

Vertically Aligned 900 W/mK Pitch Fibre

Woven PAN fibre epoxy matrix

Carbon fibre hybrid part with integrated pitch fibre cooling panel.

Australian based carbon fibre product designer <u>Talon Technology</u>, has

recently developed a process for integrating a very unusual form of carbon fibre that is made from Pitch, this carbon has an extremely high thermal conductivity of 900 W/mK, which is more than twice the conductivity of Copper.

However, it has been challenging, as Jack Germon, Project Manager with Talon explains: "Pitch fibre only conducts heat along its length so fibre alignment is crucial, all our fibre is carefully orientated in the vertical axis to give us maximum cooling efficiency".

"Our pitch fibre also uses the same resin matrix as the more common high strength carbon, which enables us to make a single part with both aligned Pitch fibre and load bearing standard fibre, this delivers a strong lightweight part that has high thermal conductivity where you need it."

Talon are currently applying the technology a range of high power LED light housing for a US client, but believe the main applications will be cooling motors and batteries in Electric Vehicles,

enclosures for high power electronics and cooling corrosive liquids.

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Attachment Picture: Hybrid part with a z axis pitch fibre cooling panel and a woven carbon fibre body.

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Notes for Editors:

- •99% of the worlds carbon fibre is made from Poly Acrylonitrile PAN, the carbon fibre made from Pitch has very unusual properties and is quite rare and even more expensive
- •As far as we know Talon Tech is the only company to have ever made a consumer product using the high thermal properties of carefully aligned pitch carbon fibre.
- •In Electric Vehicles and computer chips, heat is the things that limits both power and efficiency.
- Talon Tech was established in 1987 and is a specialist developer of innovative applications for Carbon fibre and other advanced composites.

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