

Novel feather-light 'heat shield' materials

BIRMINGHAM, UNITED KINGDOM, February 13, 2025 /EINPresswire.com/ -- Used to protect from high engine or exhaust temperatures, the ideal material for thermal insulation has low thermal non-conductivity, low density and low thickness.

New spin-out [Aegis Fibretech](#) is commercialising a novel ultra-lightweight insulation to improve efficiency and safety in cars, electric cars and motorsport.

Aegis Fibretech materials are 10 times less thermally conductive than advanced materials currently used in the automotive industry, and 100 times less dense than ceramic fire blanket.



Aegis Fibretech materials provide an effective heat-shielding barrier to temperatures of up to 1000 degrees Centigrade and could reduce the weight of a fire blanket to that of a couple of sheets of paper.

Dr Sam Moxon, CEO of Aegis FibreTech, said: "Aegis FibreTech's materials are so light you can't feel the weight of them. They provide an effective heat-shielding barrier to temperatures of up to 1000oC and could reduce the weight of a fire blanket to that of a couple of sheets of paper."

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Dr Sam Moxon, CEO of Aegis FibreTech

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efficiency and personal safety are paramount, and tight engine compartments mean every gram counts."

The materials are made by an innovative electrospinning process developed by Dr Gowsihan (Gowsh) Poologasundarampillai at the University of Birmingham, which uses an electrical force to create ultra-fine nanofibers by drawing threads of polymer from solution.

The method allows for precise control of fibre thickness and structure, and produces a wide

range of materials with unique properties, from a flexible 'cotton-wool' consistency, multi-layered flattened fabric, to robust woven sheets as thin as 0.5mm.

The electrospun fibres are made from environmentally friendly materials, making products that are safe and can be repurposed, which could make the materials an attractive prospect for environmentally conscious sectors such as construction and aerospace.

Aegis FibreTech was spun out by [University of Birmingham Enterprise](#), which worked with the company's founders Dr Sam Moxon and Dr Gowsh Poologasundarampillai to identify markets for this novel material through Innovate UK's ICURE process. Dr Poologasundarampillai is now the company's Chief Technology Officer, and Dr Moxon is its CEO.

For commercial information contact Sam Moxon at Aegis FibreTech, via the contact form at <https://www.aegisfibretech.com/contact>

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