Expertise & Innovation

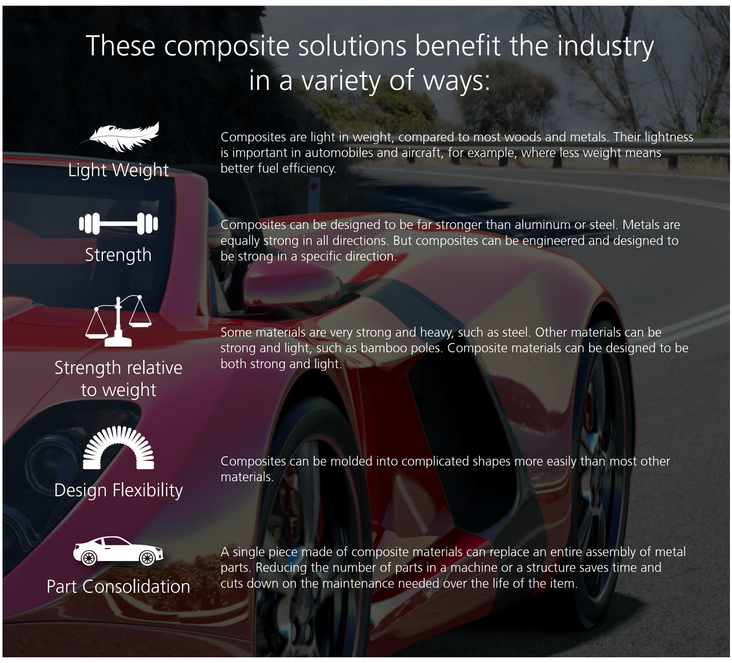
Stories by Coats

What is the best choice for weight reduction in the automotive industry?

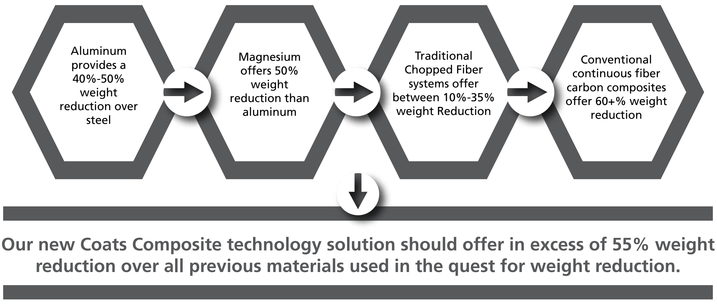
The Automotive industry has increased its focus on lightweight solutions over the last several years. In a search for multi-material solutions the industry has turned towards higher use of Aluminum and Magnesium. Manufacturers continue to look at carbon fibre composites but they have yet to completely take hold in the automotive industry stemming from the 'high cost' associated with carbon fibre use. However, as the technology continues to evolve, there is shift slowing taking place.

In the US, for example, two major OEM's have established joint development agreement with carbon fibre companies to hasten the move to carbon fiber composite solutions. For the last few years, Ford Motor Company has jointly worked with Dow-AKSA and the Oak Ridge National Lab* to formulate proof of concepts for vehicle weight reduction and increased fuel efficiency, with no sacrifice to overall strength. Nearly 8 years ago GM formed a joint development effort with Teijin** (who owns Carbon Fiber supplier, Toho Tenax) to find carbon fiber composite solutions that fit automotive needs.

**https://media.ford.com/content/fordmedia/fna/us/en/news/2015/04/17/ford--dowaksa-to-jointly-develop-carbon-fiber-for-high-volume-au.html*
*** https://www.compositestoday.com/2011/12/gm-partners-with-teijin/*



Weight Reduction is by far the most significant test of composite carbon fibre solutions and has been a focus in material research and use for decades. From Steel, to aluminum to carbon fibre use, the focus has been on how to reduce weight, increase strength without breaking the bank. The evolution of material use for weight reduction can be seen here.



Our new Coats Composite technology solution should offer in excess of 55% weight reduction over all previous materials used in the quest for weight reduction.

Coats' two new technologies in the composite market space are Synergex™ and Lattice™.
Synergex™ and Lattice™ now allows Coats to offer the industry cost effective means to reduce weight to significantly higher levels than what is being achieved by Aluminum, Magnesium and conventional Carbon Fiber and hybrid technologies. Coats has jointly worked with equipment suppliers to speed up the process of the fiber laying step, Lattice ™, to make the technology compatible with automotive needs

Synergex™ is technology that commingles dissimilar fibres and thereby tailoring the fibre mix to the performance and cost needs of a specific application.

Lattice™ is technology that allows us to place the fiber in a position and direction that is required by a specific application. No compromise by cutting fibers or in fiber placement is involved.

Find out more. Email marketing@coats.com