

# AUTOMOTIVE COMPOSITES

From steel to carbon and from glass to grass

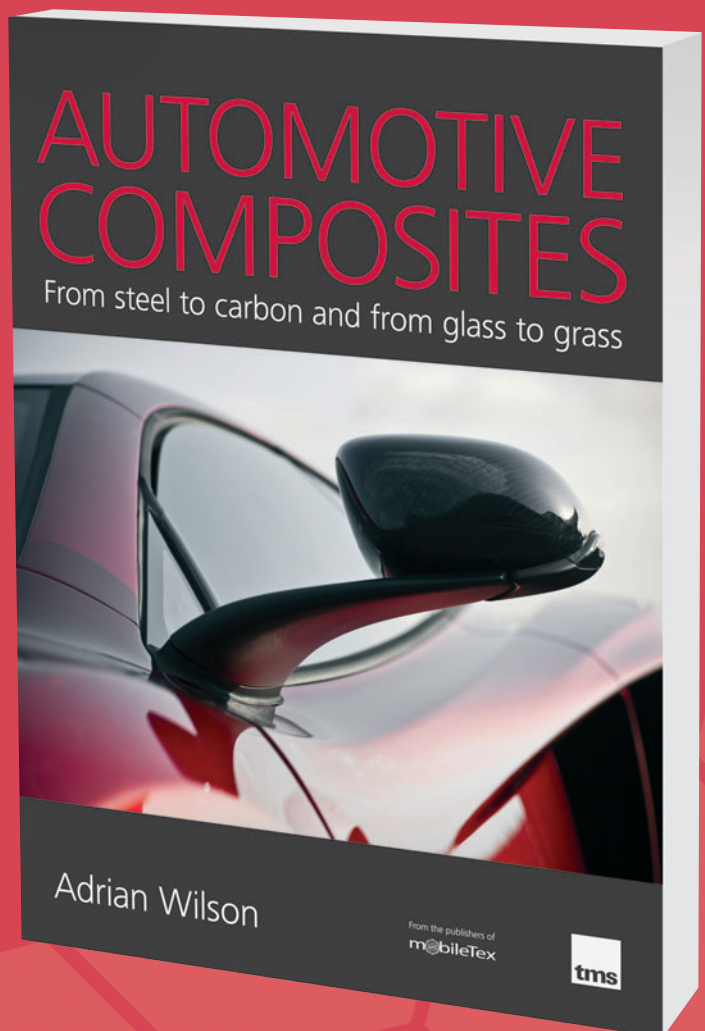
Fibre-based composites are becoming increasingly important in the manufacture of automotive components. These new materials look set to continue their penetration of the automotive sector, and their large-scale use in mass-production cars, trucks and other vehicles is being widely predicted.

**Automotive Composites: From steel to carbon and from glass to grass** reviews the history and current use of composites in the automotive sector and assesses how far these materials are from being used in mass vehicle production.

Written by Adrian Wilson, this in-depth report, with around 250 pages and more than 50 tables, provides a sustainable roadmap for the automotive composites industry for the next decade and beyond. It includes detailed analyses of the production and markets for carbon fibres, glass fibres and natural fibres, and profiles of leading suppliers of these input materials.

Publication date November 2011

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## Automotive Composites: From steel to carbon and from glass to grass

Composite materials have been used for non-structural car parts since the 1950s. In recent decades, automotive interiors have been increasingly produced from thermoplastics, with semi-structural parts now widely made from thermoset composites.

In the aircraft, boat building and racing/sports car sectors, the use of carbon fibre composites, in particular, has grown rapidly in recent years. In the aerospace industry, for example, carbon fibre-based composite parts in the aircraft body now account for more than 50% of the total weight of the latest models, such as the Airbus A380 and Boeing 787 Dreamliner.

In general, composite materials are lighter in weight than steel or aluminium, which provides engineers with a lightweight alternative for use in a wide range of automotive structures and components. High strength and lighter weight leading to better fuel efficiency are the key benefits that composites offer the automotive sector; greater design flexibility, enhanced aesthetics and improved durability are other advantages.

But there are several reasons why advanced composites have not been more widely adopted by the automotive industry. The key stumbling block is price, while the availability and future supply of carbon fibres is another issue that is being addressed by fibre producers.

Many companies, from carbon fibre suppliers through to original equipment manufacturers (OEMs), are now entering the market, with a wave of partnerships and joint ventures announced over recent months. Meanwhile, there are ongoing attempts to replace glass fibre with natural fibres, such as flax and hemp.

### This new report from Textile Media Services provides an overview of:

- global vehicle production
- composites, the composites market and automotive applications
- carbon fibres, the carbon fibre market and automotive applications
- glass fibres, the glass fibre market and automotive applications
- natural fibres, the natural fibre market and automotive applications
- industry terms and definitions

The publication also includes a glossary of relevant technical terms and abbreviations.

### Company profiles

The report features profiles of leading suppliers of carbon fibres, glass fibres and natural fibres, including: **Toray Industries, Teijin/Toho Tenax, Mitsubishi Rayon, SGL, Zoltek, Hexcel, Owens Corning, Johns Manville and PPG.**

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