

Aston Martin teams up with Georg Fischer

The British sports car maker relies on lightweight components from GF

James Bond has featured in many film scenes at the wheel of one or other model of the British luxury brand Aston Martin. But the elegant coupé which has always been the last word in performance has plenty of other fans apart from 007. Indeed, the automobile premium segment as a whole is enjoying growing demand worldwide. Georg Fischer is also active in this segment, supplying leading edge technology. Two Aston Martin models, the DB9 and Vantage, are equipped with die-cast magnesium interior door frames manufactured by Georg Fischer. This modern lightweight method of construction is becoming increasingly popular.



Aston Martin is not only glamour and the very finest in sports car tradition, but also embodies state-of-the-art technology. This includes the use of magnesium as a material which a growing band of car manufacturers is coming to value for its many advantages.

Georg Fischer Automotive produces the interior door frames for the two models DB9 and Vantage in Altenmarkt, Austria. The die-cast magnesium doors are transported to Coventry in the UK where they are fitted with an aluminium skin before delivery to Aston Martin in Gaydon, Warwickshire for final assembly.

Magnesium offers numerous advantages

Thanks to an ingenious design, the interior door frames of both models can be produced with the same die-casting

mould: a big benefit for the customer. "Georg Fischer played a major role in the development of the component and was able to incorporate its considerable know-how," says Gottfried Peer, head of Project Management at Altenmarkt, summarizing the successful technology transfer. Georg Fischer has delivered 14,000 interior frames for the DB9 over the past year and a half, and 4,500 for the Vantage. The parts manufactured from cast magnesium are nearly 80 percent lighter than their steel counterparts. As an added advantage, several functions can be integrated, thereby enabling production costs to be reduced.

The trend is towards lightweight construction

It is the increased use of aluminium and magnesium that has made lightweight bodywork technology possible in the first place and has given it a considerable boost. That also has a positive impact on fuel consumption since a 10 percent reduction in weight produces a 6 percent decrease in fuel consumption. Over the last 20 years the unladen weight of large passenger cars has increased by an amazing 20 kilograms a year. The reasons for this are additional safety equipment (30 percent), legal regulations (25 percent), increasing demands for comfort (22 percent), the interior (15 percent) and quality-enhancing measures (8 percent).

Magnesium has enjoyed a phenomenal run of success as a material and still has potential for further growth. Until about ten years ago it was used mainly as an alloying element for aluminium or for the desulphurization of steel. But since then demand from the automotive industry for magnesium die-cast components has grown steadily. Experts expect the present average content per weight of magnesium to increase from 0.5 percent to 2 percent by 2010. That would be equivalent to an average weight of 23 kilograms!

The key quote

High degree of innovation

Highly innovative aluminium and magnesium components are produced for the automotive industry in Altenmarkt in Austria and shipped all over the world. The close identification of employees with its values has made this unprecedented development possible. A particular strength is the production and form concepts that many big, household-name car manufacturers and component suppliers are eager to use.

Aston Martin: Best British tradition

An 80-year old legend

Flair, individuality...

Production of the first Aston Martin sports cars began in 1923. The company is headquartered in Gaydon in the historic county of Warwickshire. Its corporate philosophy: "Flair and individuality, craftsman's skills, timeless engineering, human commitment and total dedication".

... and sporting origins

The first Aston Martins were built to take part in the car races at Brooklands and Le Mans and in the Mille Miglia. They are regarded today as the forerunners of a highly successful family of sports cars.

GF Automotive die-casting facility in Altenmarkt (Austria)

Prestigious customers

Magnesium expertise for ...

GF Automotive has a modern production plant with 620 employees at its Altenmarkt site in the vicinity of Graz, Austria. It is equipped with 14 die-casting machines for magnesium, 11 die-casting machines for aluminium and 18 machining centres and is the Magnesium Centre of Excellence for the Georg Fischer Group. 7,500 metric tons of magnesium and 7,000 tons of aluminium are processed annually for prestigious industrial and automotive component suppliers and car manufacturers.

... the automotive industry

The product range comprises the vehicle interior, the bodywork and the drive unit. Production includes interior door frames for Aston Martin, seat rests, rear window frames and interior door frames for Mercedes-Benz, and instrument panel holders for Audi. GF Automotive has received a total of four awards for design and production from the International Magnesium Association (IMA).

«Adding Quality to People's Lives»

Lightweight construction cuts pollution

Less fuel consumption ...

Lightweight construction with magnesium and aluminium makes it possible to reverse the weight spiral in car making and so reduce fuel consumption.

... and more safety

Components made of magnesium and aluminium have outstanding crash characteristics thanks to their high energy absorption capacity. This contributes to passive safety in car manufacture.