

# Increased truck production, recovered building industry

**The European GRP industry experienced a 6.2 % growth rate in 2006, noticeably sur-passing the previous year's performance (2.3 %). Dr. Uwe Bültjer, former Managing Director of AVK (Federation of Reinforced Plastics in Frankfurt/Main), quoted this gratifying result as an encouraging opening to his lecture on the market research results obtained by AVK.**

As to what caused this up-swing, Dr. Bültjer primarily pointed to the increase in truck production as well as the recovery of the building industry. The 2006 upward trend encompassed almost all market sectors using GRP products. For the first time in years, even BMC production picked up considerably – an immediate consequence of the recovery of the building industry.

The market for European GRP products is dominated by the building industry (34.3 %) and transportation (33.3 %), followed – at a considerable distance – by sports/ recreation (17.8 %) and electrical engineering/ electronics (10.9 %). A mere 3.7 % of all GRP products are targeted for other segments. In particular, the electrical engineering/ electronics sectors are profiting from the revival of the building industry. However, the building industry itself, too, has picked up slightly compared to other segments.

As a professional association for manufacturers of reinforced plastics, AVK annually interviews companies throughout this industrial sector with regard to their production volume in Europe

and their future expectations. Thus determined European market results also include the production of Middle Eastern European countries, insofar as this market is accessible to the leading raw materials suppliers.

This year's survey once more revealed a clear rise of activity among manufacturers of pipes, containers, and profiles. Continuing solid growth rates are achieved by long fibre reinforced thermoplastics, which remained unimpeded by the increase in oil prices and the hesitant growth throughout the automotive industry.

## **Industry shows high interest in natural fibres**

Throughout the industry, high oil prices have increasingly brought the potential value of natural fibres into focus, in view of their value as reinforcing materials for plastics. Their scope, however, appears to go beyond the reinforcing effect – potential applications as oil-independent fillers were explored as well.

Carbon fibres present a totally different image. In this case the demand far exceeds European production volumes.

Thus, it is not at all surprising that few efforts are made to broaden the scope of carbon fibres.

After a certain stagnation in spring, overall SMC production in 2006 increased considerably (+9.0 %), due to an unusual upturn in truck production; besides, new areas of application were opened up. Large-sized drinking water tanks for desert areas, for instance, are increasingly made of SMC, since this material was approved for the storage of foodstuffs. Truck production, however, remains the primary decisive factor governing the demand for SMC.

The demand for BMC throughout the automotive industry has levelled off at a high volume. Headlight reflectors continue to represent the primary area of application for BMC. Although the high thermal resistance of BMC is no longer an issue for today's cold-light headlamps, BMC, a low-cost and easily mouldable material, is maintaining its market position in this sector very well indeed.

A second major BMC market is found in the electrical industry. The current upward trend in the building industry

is associated with an increasing need for electrical products for installation purposes, from which the BMC industry in particular is clearly profiting. All in all, the demand for BMC products thus showed an unusual increase of 5.4 %. The majority of GRP articles in Europe are still being produced by the open techniques of hand lay-up and spray lay-up. Primary markets include the building and construction industry, shipbuilding, as well as several specialized markets for the small-scale production of parts with large surface areas. The still expanding market for wind power stations and the continuing boom of the recreational boat industry in particular have given rise to impressive growth rates.

## **Closed techniques substitute open procedures**

The market for RTM parts, too, picked up considerably in 2006. Open procedures are increasingly substituted by closed techniques. The manufacture of recreational boats as well as large-sized parts for wind power stations has gained a solid market position. Shipbuilding in par-

particular has revived the market for RTM parts; the boat market is now experiencing RTM growth rates of about 6 % for the fifth year in a row.

Despite the promising development of the building industry, sheet production has attained no more than normal growth rates. Although plane sheets are much less popular than corrugated sheets, they have delivered an above-average contribution to the growth of this segment. This may be attributed to the use of flat GRP sheets for panelings on the outside of recreational vehicles and truck superstructures, where they are edging out aluminium to an increasing extent.

GRP pipes, especially those targeted for sewer systems, once more experienced a considerable upswing in 2006. Growth rates for filament wound pipes and centrifugally cast pipes were almost identical. The revival of the building industry has also reached the industrial construction sector and is accompanied by an increasing demand for pipelines and tanks. All in all, GRP pipes attained a 6 % growth rate.

In 2006, pultruded GRP profiles achieved double-digit

growth rates (12.2 %). Apart from their increasing popularity in conjunction with bridge building, this rise was primarily due to the upswing of the building industry, especially with regard to railroads, cable ducts, and hollow sections. Special-purpose profile sections in particular managed to establish a strong market position in lightweight construction.

As usual, glass fibre-reinforced thermoplastics once more showed above-average growth rates; although no longer in the double-digit range. In the meantime, GMT and LFT have conquered a solid market position in the automotive industry, the one sector in which they are actually gaining popularity. This success, as in previous years, is attributed to LFT alone. Of particular interest is the future development of underbody protection. Intelligent solutions were devised to protect the GMT/LFT underbody from the hot parts of the exhaust system. Sandwich elements are considered a market booster.

Natural fibre reinforced plastics gained renewed popularity in 2006, last but not least because prices for these fibres have remained largely

stable. The automotive industry in particular is exploring the applicability of natural fibres as reinforcing materials for new components not requiring the high mechanical strength of glass fibres. Benefits are also derived from the reproducible quality of natural fibre materials.

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### **WPC experienced upswing**

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Another upswing was experienced by wood fibre reinforced polypropylene (WPC), which is gradually gaining a solid market position as "injectable wood". So far, WPC has been used exclusively outside the automotive industry, for instance as floor slabs for patios and porches.

The need for carbon fibre reinforced plastics has increased considerably in recent years – a situation that once more made it impossible to completely satisfy the demand for carbon fibres. The lion share these days is being utilised to build wind power stations. Despite the increasing demand for these fibres, worldwide production capacities are expanding only slowly; which means that the shortage is expected to

continue for several years to come.

The promising start of the year 2006 has continued up until mid-year of 2007; the increase in production during the first two quarters of 2007 even exceeded 2006 growth rates. The third quarter, however, was hampered by the decline in automobile production and especially the insecurity regarding developments throughout the building industry. "From our current point of view", Dr. Bültjer predicted in November 2007, "the entire year 2007 will show somewhat less impressive growth rates than 2006, although we are fully expecting to realise at least 5 % growth nevertheless."

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**AVK (Federation of Reinforced Plastics e.V.) represents the interests of manufacturers and processors of reinforced and filled plastics, engineering thermosets as well as their raw materials suppliers on a national and European scale.**