

High-Tech plastics:

They make life easier, ensure greater flexibility and design possibilities, and can also make a valuable contribution to the protection of the climate and the environment. Companies, particularly in the automotive industry, but also in the electronics and construction industry, have therefore been making increasingly greater and more comprehensive use of these innovative materials for years now. Growth in the use of high-tech plastics is particularly dramatic in cars. Whereas 30 years ago they accounted for roughly seven percent of the content, today this figure is nearly 20 percent and growing!

The success of the high-tech plastics has played out largely unnoticed by the public. The sweeping changes in production and in the products barely registered, largely because the change took place primarily in those areas where changes are not noticeable at first glance. Examples in the automobile would be under the hood and in parts of the body. Coolant manifolds, air intake manifolds, oil pans, engine bearings – all of these parts can be made of plastic today. High-tech plastics are also a crucial component in the development of modern electric vehicles – a very promising future market.

One of the greatest advantages of high-tech plastics is that they make cars lighter, which is an increasingly important requirement. Polymer materials, for example, tip the scales at just one-sixth to one-seventh the weight of steel. Less weight means lower fuel consumption and thus lower carbon dioxide emissions. This equation plays a major role in determining the future of mobility.

Because the even “lighter car” will be the “car of the future,” many automakers and suppliers are searching for additional lightweight materials that can be used flexibly as substitutes for metal while still offering the greatest possible performance. One long-established solution in this area is the patented hybrid technology from LANXESS. Using this innovative technology, we have succeeded in “combining” plastics with metal. This application does an excellent job of uniting the weight reduction associated with the one material with the stability properties of the other. Weight savings of up to 20 percent compared with conventional solutions are possible. The hybrid technology is already used today in roughly 100 production vehicles from leading automakers. One current application is a spare wheel recess with integrated reinforcing channels for the new Audi A8.

High-tech plastics are also playing an increasingly important role beyond the automotive industry, however. For example, they can be found in high-end washing machine control panels and lamp fixtures, in rotary and flip switches, massagers and window frames, and even sports equipment such as sport bows and wakeboards. All told, high-tech plastics do nothing less than drive the advancement of our modern world, while also supporting efforts toward a more sustainable economy and production. LANXESS is doing its part here, too, and already offers thermoplastics made from 30 to more than 90 percent recycled

content. This is a significant contribution to resource conservation, and we will increase the share of these products substantially over the next five years.

All of the global megatrends that will have the greatest influence on life in the future – mobility, urbanization, the water supply and agriculture – are closely linked to the development of high-tech plastics. Take Durethan, for example. An engineering plastic from LANXESS and one of our strongest brands, it is used in automobiles, water tanks, the electrical and electronics industries, as a substrate for seats in sports facilities, and at home in blenders and Thermofix automated cookers. Its great versatility and resilience make Durethan a product in demand around the world. Clearly it is innovative solutions and products such as Durethan that give us an idea today of what high-tech plastics will be capable of in the future.

At any rate, the growth prospects in this market are huge. Global demand for high-tech plastics continues to rise, particularly in the U.S.A., China and India, which are also the largest markets. Experts expect the global demand for high-tech plastics to increase by roughly seven percent per year through 2020. Plastics currently account for only around seven percent of the material used in vehicles in China, for example, so there is still tremendous potential for growth here. Seven percent growth per year through 2020 is also expected in the electrical and electronics industries. Overall, sales of high-tech plastics in the Asia-Pacific region are expected to increase by roughly ten percent per year in the years ahead, with 15 percent growth expected in China.

As one of the leading manufacturers of high-tech plastics, we are determined to take advantage these opportunities. High-tech plastics already comprise around ten percent of total sales at LANXESS, and this percentage will continue to rise. In part because of our most recent activity in India, where we are currently erecting a facility for the processing and finishing of Durethan and Pocan at our production site in Jhagadia. Production is scheduled to begin in 2012. As a premium supplier, we are using this investment to further solidify our already strong position in the Indian growth market.

We at LANXESS are also placing a special emphasis on these materials in 2011 in order to focus the proper attention on the growing significance of high-tech plastics. We will be providing comprehensive information about where high-tech plastics are used, the advantages they offer and, in particular, the contributions they make to sustainable and environment-friendly development. I am confident that the “LANXESS Year of High-Tech Plastics” will help these fascinating materials step out of the shadows and assume a more prominent place in the public eye. They deserve it!

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