Press Release

Leverkusen,
October 4, 2019

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The roof spoiler of the future

- **Integration of 5G antennas, sensors, cameras and lighting functions**
- **Wide range of surfaces, colors and design features**
- **First presentation at K 2019**

The automotive industry is facing major upheavals. The reasons for this are the trend towards electric mobility, new forms of connectivity, the introduction of automated driving functions and new mobility services such as “car sharing” or “car on demand” models. In addition to the car interior, the exterior will change radically when it comes to design and functionality. This also applies to body add-ons such as spoilers. Covestro is presenting a new generation of roof spoilers based on polycarbonate materials at the K 2019 plastics trade fair from 16 to 23 October in Düsseldorf. The concept components incorporate the most important future trends in vehicle exterior.

“We see ourselves not only as a plastics manufacturer, but also as a co-designer of the automobile of the future,” explains Doğan Ayger, expert for plastics applications in automobiles at Covestro. “With the concept studies we want to demonstrate that our construction materials facilitate technically innovative, economical, lightweight and visually appealing solutions for the next generation of roof spoilers”.

Excellent function integration, plenty of design freedom
The spoilers are equipped with numerous functions. These include sensors, cameras and 5G antennas. The latter, for example, perform important tasks in driver assistance systems. Rear lights and elements for ambient lighting are also integrated into the spoilers. Some of them are designed using black panel technology, which means that they look like flat, dark surfaces if the LED elements concealed behind them are not activated. The 3D surfaces of the

spoilers can be designed in different colors and with adjacent high-gloss and mat areas.

Thanks to direct coating technology, component areas can be specifically coated or provided with functional coatings such as UV protection. “The freedom with which surfaces can be designed in terms of shape, color, gloss level and functions allows strong individualization of the spoiler design, which in turn makes an important contribution to brand and model differentiation,” explains Ayger.

Foamed parts for weight reduction

The concept components are optimized for low weight. And it is not just the low wall thicknesses and low density of the engineering plastics that make their contribution. Sandwich structures with a lightweight foam core made of expanded Makrolon® (E-PC) can also be used, providing excellent thermal insulation.

The plastics developed for the spoilers are incredibly tough. It is maintained even in the freezing cold, which benefits safety. The dimensional stability of the thermoplastics is also high when exposed to heat, so that narrow gaps between adjacent components (zero joint optics) can be achieved.

Spoiler with improved aerodynamics

Covestro materials offer active aerodynamics opportunities in the form of morphing elements and components. The aim is to direct the air flow such that the vehicle is pressed more strongly onto the road and consequently exhibits better driving dynamics. “In addition, plastic surfaces that reduce the air resistance of the spoiler and thus fuel consumption leading to lower emissions are also well at an advanced stage of development,” says Ayger.

About Covestro:

With 2018 sales of EUR 14.6 billion, Covestro is among the world’s largest polymer companies. Business activities are focused on the manufacture of high-tech polymer materials and the development of innovative solutions for products used in many areas of daily life. The main segments served are the automotive, construction, wood processing and furniture, and electrical and electronics industries. Other sectors include sports and leisure, cosmetics, health and the chemical industry itself. Covestro has 30 production sites worldwide and employs approximately 16,800 people (calculated as full-time equivalents) as of the end of 2018.

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