Leverkusen/Stockdorf, October 26, 2010 – Webasto’s electrically-operated panorama tilt/slide sunroof, which Volkswagen and Audi employ in various Polo and Audi A1 models, creates an impressive open-air feeling inside the vehicle. Its glass surface is more than twice as big as a traditional sunroof. The special feature of the sunroof is that it is enclosed in a one-piece, U-shaped panel that boasts a deep black gloss effect and a glass-like, scratch-proof surface. Made of a grade of Makrolon® 2605 polycarbonate from Bayer MaterialScience optimized specifically for this application, the panel makes the glass surface appear bigger and also hides the bodywork structure, while at the same time serving as a spacer for the side section.

“What makes the panel special is its high-quality design and glass-like appearance. Using black polycarbonate, the one-piece molding can be produced without any joins. This underlines the high-quality, homogeneous appearance of the roof system,” explains Jochen Walz, Head of Polycarbonate Production at Webasto AG, the company responsible for manufacturing the panel and the entire glass roof system. The company is headquartered in Stockdorf near Munich and is a world market leader in cabrio and roof systems. Webasto produces all the polycarbonate components at its plastics competence center in Schierling near Regensburg.

First series application of new, weather-resistant wet-coat system
The panel is coated with a new polysiloxane wet-coat system from Momentive Performance Materials GmbH that is based on the AS 4700 topcoat used in the series production of Makrolon® automotive glazing and the new primer SHP 470FT 2050. Used for the first time in series application, the wet-coat system yields a high gloss finish. This solution offers improved weathering resistance over previous systems, particularly with dark and black polycarbonate components. It is also very abrasion- and scratch-resistant,
so that the panel surface exhibits no visible clouding – even after years of regular visits to the car wash.

**Injection-compression process**
With a front section that is 1,140 mm long and two sides each measuring 980 mm, the panel is very big for an injection-molded part. That is why it is produced by injection-compression molding. This is also the process of choice for manufacturing large, 3D glazing components for panorama roofs using polycarbonate, because it produces low-stress components that are free of sink marks, have excellent surface properties and are easy to coat.

There were a number of reasons for using Makrolon® 2605 MAS 083 in the production of the panel. “The coating properties of the polycarbonate were optimized to give the component a high-quality surface finish. The deep black color also underlines the deep gloss effect. What’s more, this product delivers a fine balance between toughness and flowability both for the application and the processing method,” observes Dr. Sven Gestermann, Key Account Manager for Automotive Glazing at Bayer MaterialScience.

**Highlights of Webasto’s panorama tilt/slide sunroof**
The panorama tilt/slide sunroof is ideal for vehicles with a short roof panel. As the sunroof slides open backwards over the roof panel, it in no way restricts the headroom of the passengers in the rear seats. The U-shaped polycarbonate panel gives the tilt/slide sunroof a high-quality solid-glass appearance, which was previously only seen on top-of-the-range vehicles. The roof system is also very light, weighing just 22 kg. This is thanks to both the polycarbonate component and the hybrid frame comprising plastic and reinforcing sheet steel parts. The panorama tilt/slide sunroof can be opened and closed with the vehicle traveling at theoretical speeds of up to 250 kph.

**Comprehensive customer service as part of BayVision®**
Webasto benefited from the BayVision® concept during the development of the U-shaped panel for the tilt/slide sunroof. Bayer MaterialScience has bundled all its expertise for Makrolon® automotive glazing under this brand. In addition to tailor-made glazing materials, this service package for development partners includes a wealth of plastics processing know-how and the extensive development and design resources that the company has built up as one of the pioneers of automotive glazing with polycarbonate. In the case of this panel, experts from the automotive glazing team at Bayer MaterialScience
helped with the component design, among other things. “For example, we used CAE
simulations to optimize the component’s geometry in terms of its thermal expansion,
bonding and various other load scenarios. We used rheological calculations to determine
the right position for the hot runner nozzles. We also provided on-site support for Webasto
when the panel was first taken into series production,” comments Roland Brambrink, a
design expert in the automotive glazing team.

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About Bayer MaterialScience:
With 2009 sales of EUR 7.5 billion, Bayer MaterialScience 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, electrical and electronics,
construction and the sports and leisure industries. At the end of 2009, Bayer MaterialScience had 30 production sites
and employed approximately 14,300 people around the globe. Bayer MaterialScience is a Bayer Group company.

About Webasto:
The Webasto Group based in Stockdorf near Munich has been a family-owned business ever since the company was
established in 1901. The group has operations at over 50 international sites (of which more than 30 are production
sites) organized in two divisions: Convertible, Roof & Body (CRB) and Global Comfort Solutions (GCS). Webasto is one
of the world’s top 100 automotive suppliers. The group targets sales in excess of EUR 1.8 billion with more than 7,900
employees for 2010. The company’s core competencies include the development, production and sale of convertible,
roof and body systems as well as heating, cooling and ventilation systems for passenger cars and commercial vehicles.

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