

Lights on!

PLEXIGLAS® molding compounds help the Volkswagen Golf 8 shine

- **Innovative front light design for one of the world's bestselling cars**
- **Interplay between two highly specialized PLEXIGLAS® molding compounds**
- **PLEXIGLAS® meets the highest visual and functional demands for the front of a vehicle**

Many view it as a friend on four wheels. The VW Golf: an expression of generations of joie de vivre and a car full of emotions matched by only a few other models, and with a sales volume of 35 million cars over the years, it is also one of the bestselling cars in the world. Volkswagen has equipped the Golf 8 with an innovative light design for the digital generation, further underlining its character both as a popular vehicle and champion of innovation in its class. These assets are highlighted by the PLEXIGLAS® molding compounds from Röhm which underline impressive and creative lighting elements and other details on the front of the new VW Golf.

"The spirit emitted by the lighting from Volkswagen transmits a sense of humanity and accessibility," says Urs Rahmel, Chief Designer of the Exterior Design Studio at the Wolfsburg-based car manufacturer. "A likable appearance is part of the Volkswagen DNA." This is also reflected in the new signature front lights, which is a common feature of all the brand's new models, and now provides the Golf with a new look.

"Light is more emotional than chrome"

Some models in the Golf 8 family – GTI, GTD, GTE and the topline model – are equipped with an LED light strip spanning the width of the front of the car. This bar is an illuminated link between the LED headlights and the VW emblem positioned in the center of the radiator grille. "The light line is part of the innovative welcome and farewell scenario offered by the Golf 8. We want to use this to excite the young generation of drivers for the topic of light, as light is more emotional than chrome," explains Sandra Sturmat, who is responsible for the Exterior Light Design unit in the User Experience Design Team at Volkswagen.

Interplay of two high-performance molding compounds

The world's largest car manufacturer relied on PLEXIGLAS® molding compounds for the successful design of the front lighting elements on the Golf 8. "The material must satisfy the desired form and function, and look good at the same time – and for a very long time," Dr. Eugen Fichter says in summarizing the key demands. As an expert for materials technology at Volkswagen, he brought the illuminated vision designed by his colleagues to life with the suitable material. For the Golf 8, the choice consisted of two innovative PLEXIGLAS® molding compounds with special properties for use in the vehicle front. "The trend towards individual lighting design, especially for the front ends of vehicles, is greatly expanding the freedom of design. Automotive designers can now also accentuate the major features of the car with complex shapes," says Siamak Djafarian, Head of the Molding Compounds business unit at Röhm GmbH.

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PLEXIGLAS® Resist AG 100 and PLEXIGLAS® Hi-Gloss NTA-5: specialists for the front of vehicles

“Our special PLEXIGLAS® Resist AG 100 and PLEXIGLAS® Hi-Gloss NTA-5 molding compounds represent a new class of modified impact-resistant materials which offer greater performance than other types of the polymethyl methacrylate (PMMA) brand. These materials were developed specifically for the demands of automotive construction,” states Uwe Löffler, Head of Automotive in the Business Unit Molding Compounds at Röhm GmbH.

PLEXIGLAS® Resist AG 100: impact-resistant and weather-proof

The cover of the LED light strip on the Golf 8 is made of PLEXIGLAS® Resist AG 100, an extraordinarily impact-resistant molding compound with increased heat deflection temperature, as well as an excellent UV and weather resistance, which retains the outstanding optical properties.

Fichter chose PLEXIGLAS® Resist AG 100 for several reasons: “The front of a vehicle is subjected to enormous stresses over its life. Dirt and small stones kicked up by vehicles ahead can make life difficult for the material over time, and excellent impact resistance is essential here if the component is to last for a many years. Then there is the additional strain caused by chemicals such as cleaning and de-icing agents. To withstand all of this, the material must feature excellent stress cracking resistance.”

An additional demand on the material is its weather resistance, in particular when it comes to UV radiation. This causes many plastics to turn yellow and become brittle. While other plastics have an additional coating applied to achieve a comparable UV resistance, it is possible to produce components made of the durable PLEXIGLAS® Resist AG 100 in a single process step, which saves time and costs during production. “PMMA benefits from the fact that its chemical structure imbues it with an inherent and life-long UV protection,” Fichter states.

PLEXIGLAS® Hi-Gloss NTA-5: the piano lacquer effect

A highly effective contrast to the light line on the Golf 8 GTI, GTD and GTE is the black, high-gloss trim made of PLEXIGLAS® Hi-Gloss NTA-5 which runs parallel to the LED strip. The black background of the emblems at the front and back is also made from a molding compound from the PLEXIGLAS® Hi-Gloss series. These molding compounds combine elegance, brilliance and strength. This is why they are a popular material in automotive design for body components which are designed to have an especially noble look: high-gloss, jet-black class A surfaces such as trims, covers or emblems. Eugen Fichter is fascinated by the material: “Even though I can’t play the piano, there is a sparkle in my eyes whenever I see a black-lacquered piano. The same thing happens when I hold components made of PLEXIGLAS® Hi-Gloss NTA-5 in my hands. Both the surface appearance, as well as the quality of the components are simply impressive.” And because PLEXIGLAS® Hi-Gloss NTA-5 specifically features high impact-resistance, it is also ideally suited for lower body parts.

“One of the reasons for using PLEXIGLAS® is the ability to create many shapes and designs which are almost impossible to create with other materials,” Fichter emphasizes. “That is why I am extremely pleased to see that we are now using this material in the front section in series production, thus providing our vehicles with their characteristic appearance.”



A classic with a new look: the Golf 8 with its new Volkswagen front light signature. Some models in the Golf 8 family are equipped with an LED strip across the front of the vehicle as standard. Its cover is made of impact-resistant PLEXIGLAS® Resist AG 100.

Photo: © Volkswagen AG



Materials for highest functionality and aesthetics: PLEXIGLAS® Resist AG 100 for the LED strip and PLEXIGLAS® Hi-Gloss NTA-5 for the high-gloss trim and the emblem on the Golf 8 GTI.

Photo: © Volkswagen AG

About Röhm

With 3,500 employees and 15 production sites worldwide, Röhm is one of the world's leading manufacturers in the methacrylate business. The medium-sized company with branches in Germany, China, the USA, Russia, and South Africa has more than 80 years of experience in methacrylate chemistry and a strong technology platform. Our best-known brands include PLEXIGLAS®, ACRYLITE®, DEGALAN® and DEGAROUTE®. More information is available at www.roehm.com.

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