

Volkswagen ID. ROOMZZ

PLEXIGLAS® molding compounds enable pioneering light design

- **Light design is becoming increasingly important as an information carrier in autonomously driven vehicles**
- **Volkswagen designs ID. ROOMZZ concept car with 360-degree lighting and customizable signature light**
- **Light is the new chrome – with PLEXIGLAS® molding compounds guaranteeing even light scattering**

It is time for a new era in mobility. The cars of the future are electric, fully connected and CO₂-neutral. Electric drives and autonomous driving are fundamentally changing the design of the cars of the future, and the same applies for lighting. “Light design will become ever more important in electric and autonomously driven vehicles: Light signals are evolving into information carriers. In addition, light in the vehicle interior conveys a new driving experience in the new era of mobility,” comments Siamak Djafarian, Head of the Molding Compounds business unit at Röhm GmbH.

As the manufacturer of PLEXIGLAS® molding compounds, the company is an experienced partner to the automotive industry, in particular when it comes to vehicle lighting solutions. This is also the case for the futuristic ID. ROOMZZ concept car from Volkswagen, in which light is an important design element in both the interior and exterior of the vehicle.

Volkswagen’s ID. ROOMZZ is turning a vision of the new mobility into a reality. The spacious mid-sized SUV is the latest addition to the ID. family of electric vehicles produced by the German car manufacturer and can be driven either in manual or autonomous “ID. Pilot” mode. ID. ROOMZZ is set to be released in China as early as 2021 and will then go into series production worldwide.

VW Chief Designer: “Light is the new chrome”

“This SUV is a monolith, appearing to be seamlessly machined from one solid block.” With these words, Volkswagen Chief Designer Klaus Bischoff presented the concept car at its world premiere at the Auto Shanghai trade fair. Nian Koukou and Nicolas Ruhault, both light designers in the Exterior Detail Team at Volkswagen, and Color and Trim designer Diana Zynda describe how the concept of flowing lines throughout the car chassis was also implemented in its light design: “The 360-degree concept is a key element of the new design language of the ID. family.”

The front lights and taillights both extend across the entire width of the vehicle as horizontal lines. Illuminated touch-sensitive panels for opening and closing the doors function as a visual link between the front and rear of the car – and were made using PLEXIGLAS® Satinice covers for the concept car. This material scatters light homogeneously and provides a pleasant look and feel with its satin-like surface.

“Light is the new chrome” is the memorable claim of the Volkswagen Chief Designer, heralding the new era of automobile design. The distinctively contoured lights at the front end of the ID. ROOMZZ demonstrate exactly what this means: A double horizontal line with the illuminated Volkswagen emblem at its center forms the striking signature light, with the top line enclosing the LED headlights.

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Volkswagen has given the imposing SUV from the five-meter class a friendly “face” with this design, as light is also an emotional element. “The vehicle should look likable,” stresses light designer Koukou.

Forming contours from light using PLEXIGLAS®

Djafarian explains: “Complex light concepts such as this one allow PLEXIGLAS® to unleash its full potential, as it can be used for various lighting applications in and around the automobile, guarantees the homogeneous scattering of light and enables flexible design that underlines the monolithic overall impression.” On the ID. ROOMZZ, for instance, the brand polymethyl methacrylate from Röhm can be found in the two horizontal LED lines. The covers of the daytime running lamps and the illuminated VW emblems on both the front and rear were made from PLEXIGLAS® with an optical coating, which makes them appear even brighter.

Taillights with customizable light motif

The rear of the ID. ROOMZZ also surprises with its innovative light design: The “ID. Honeycomb” shape, which represents sustainable mobility within the ID. family, extends across the entire width of the car like a signal-red LED strip and provides all lighting functions. “This full tail lighting, in which a single component combines both taillights, is a trend in the automotive industry,” says Djafarian. “It increases design freedom, as automobile manufacturers can use complex forms and additional materials here to create eye-catching effects.”

The Volkswagen light designers used this possibility to come up with a real coup: For the first time, Volkswagen is presenting a concept car with a signature taillight that can be customized using a smartphone app. “The smaller, individually controllable ID. Honeycomb elements in the taillight can form three different signature lights,” explains light designer Ruhault.

PLEXIGLAS® covers are ideal for such large, monolithic vehicle lighting components, as they are completely colorless in their initial form and can therefore take on every standardized signal color. Design and safety function go hand-in-hand with full tail lighting, as a strikingly large taillight makes light signals more easily visible for following traffic. Moreover, sensors for autonomous driving can be integrated into the component.

Light for communication and a pleasant atmosphere in the interior

As a medium for safety, information and a pleasant atmosphere, lighting also plays a key role in the interior of the ID. ROOMZZ. In the era of autonomous or partially autonomous driving, car interiors are being transformed into a kind of comfortable “automobile lounge.” Displays and ambient lighting are adapted to the driving mode and the requirement for information. As a result, there is increasing demand for multifunctional panels and displays that only become visible when required and appear to merge seamlessly with the car interior when switched off. This effect can be achieved with PLEXIGLAS® in neutral gray colors – in the ID. ROOMZZ concept car, for instance, it is used in the interactive light strips below the windshield and in the roof console, which provide intuitive information on the driving mode or notifications from the environment sensors.



Image: © Volkswagen AG

VW's ID. ROOMZZ concept car: Monolithic chassis and light design in one



Image: © Volkswagen AG

Front lighting with striking double lines and illuminated emblem



Image: © Volkswagen AG

Full tail lighting: The taillight is a single large component. The ID. ROOMZZ surprises with its customizable light graphics



Image: © Volkswagen AG

The steering wheel with digital control elements is integrated into a large “digital cockpit” that replaces the conventional dashboard

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With 3,900 employees, 15 production sites worldwide, and revenues of EUR 1.9 billion (2018 figures), 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®.

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