

Fakuma 2021, hall B5, booth B5-5401

Materials for the transition in the automobile sector: PLEXIGLAS® molding compounds at Fakuma 2021

- **Comprehensive portfolio for innovative vehicle design**
- **Material development is keeping pace with technical innovations**
- **PLEXIGLAS® Optical HT PMMA special molding compound for the best optical quality at high continuous service temperatures**

Vehicle design requirements are changing in line with the huge trends in the industry, such as electric drivetrains and autonomous driving. Materials manufacturers are preparing for this and are developing custom materials – and PLEXIGLAS® special molding compounds from Röhm GmbH are just one example. Between October 12 and 16, the Molding Compounds business unit will be presenting its diverse range of PLEXIGLAS® molding compounds for the automotive sector at Fakuma 2021 in Friedrichshafen, hall B5, booth B5-5401.

The brand polymethyl methacrylate (PMMA) from Röhm is both light and robust, has a high-quality surface and excellent optical properties and can be processed in all common injection molding and extrusion procedures. “PLEXIGLAS® molding compounds are also ideally suited to the sustainability requirements in the automotive industry,” emphasizes Siamak Djafarian, Head of the Molding Compounds business unit at Röhm GmbH. After all, PLEXIGLAS® molding compounds are ‘sustainable by design’: The extraordinary weather resistance and corresponding durability contribute to the gentle use of resources.

PLEXIGLAS® Optical HT combines high heat deflection temperatures with optical quality

At Fakuma 2021, Röhm will present one of its newest special molding compounds for the first time. PLEXIGLAS® Optical HT was developed specifically for applications with high power LEDs, such as headlamp lenses. With its special characteristics profile, the innovative material guarantees the best possible optical quality even at increased continuous service temperatures. “PLEXIGLAS® Optical HT is expanding the range of applications for PLEXIGLAS® molding compounds in the automotive construction sector,” says Uwe Löffler, Head of Automotive in the Molding Compounds business unit. Until now, these applications often involved a compromise between high optical clarity and heat deflection temperatures. With PLEXIGLAS® Optical HT, a new special molding compound is now available that fulfills both demands.

PLEXIGLAS® Optical HT withstands continuous service temperatures of up to 105 degrees Celsius. PLEXIMID® TT50 HF, a polymethyl methacrylimide (PMMI) from Röhm, is another special molding compound that has increased flow capability at higher temperature ranges. This ensures it has an even more precise mold surface reproduction than the previous product, PLEXIMID® TT50 and is ideal for very fine structures.

PLEXIGLAS® molding compounds for robust decorative panels on car bodies

That the requirements relating to the quality and functionality of plastics in automotive manufacturing are becoming ever stricter is particularly clear when looking at the front of a vehicle. As electric motors do not require a cooling air stream – unlike a combustion engine – a radiator grill can make way for other design elements. However, the materials used at

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the front, as well as on the lower part of a vehicle, are subject to high mechanical impacts. Impact-modified PLEXIGLAS® special molding compounds easily withstand these stresses. Transparent PLEXIGLAS® Resist AG 100 in particular is a special molding compound that is used in applications at the front of the vehicle. It has a higher impact resistance than comparable products on the market, is extraordinarily robust and weather-resistant, is highly transparent and combines higher heat deflection temperatures with high UV and weather resistance. This material is therefore a cost-efficient alternative for many components such as long light guides that would normally require a protective coating to achieve comparable UV resistance. For opaque-dyed, predominantly dark black and high-gloss decorative trim panels at the front of the vehicle, PLEXIGLAS® Hi-Gloss NTA-5 is a product that also provides significantly increased impact-resistance

PLEXIGLAS® molding compounds turn taillights into a trademark

Light is already regarded as the new chrome in automotive design – and all signs point to it becoming more important in the future of the automobile as a functional and design element. In autonomous vehicles, for example, light is used to communicate with other road users and contributes to their safety. Inside the vehicle, individually adjustable ambient lighting can help create a place of well-being. For many vehicle designers, light has already become a decisive stylistic device that is used to create recognizable brand design. Large, brand-specific taillights make it easy to recognize a vehicle manufacturer, even from a long distance. PLEXIGLAS® molding compounds enable the manufacture of large taillight covers and striking light guides for unique signature lighting. Depending on the product, these molding compounds have excellent weather resistance, high color stability, transparency or light-scattering properties, while simultaneously guaranteeing low transmission losses. With the diffuser box, a special sample box for light-scattering PLEXIGLAS® molding compounds, visitors to the booth can see the properties of the various formulations and dyes for themselves.

Gray dyed PLEXIGLAS® molding compounds for multi-functional covers

Another sample box, the secret-until-lit box, enables visitors to see special dyes that are used to realize another trend in automobile design: the black panel effect. This effect can be used for infotainment systems in the central console that only come to the fore when they are needed, while at other times they do not distract from the elegant and uniform appearance of the interior. Neutral-gray dyed PLEXIGLAS® molding compounds make this effect possible – as can be seen on an impressive display measuring 3 x 1.5 meters at the middle of the trade fair booth.

[Picture]



PLEXIGLAS® Optical HT is ideal for the headlamp casings for LED headlamps in the automotive sector

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About Röhm

With 3,500 employees and 15 production sites worldwide, Röhm is one of the 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®, MERACRYL™, DEGALAN®, DEGAROUTE® and CYROLITE®.

Polymethyl methacrylate (PMMA) products from Röhm are sold on the European, Asian, African and Australian continents under the registered trademarks PLEXIGLAS® and PLEXIMID®, and in the Americas under the registered trademarks ACRYLITE® and ACRYMID®.

More information is available at www.roehm.com.