

Luxury vehicle lighting solutions

PLEXIGLAS® molding compounds ensure the taillights of the DS 4 shine like diamonds which last forever

- **Marelli Automotive Lighting manufactures taillights for the premium hatchback from DS Automobiles using laser welding and the brand PMMA from Röhm**
- **PLEXIGLAS® provides both aesthetic and functional properties to guarantee an emotional product design**
- **Material for contemporary automobile design that saves resources**

The unusual taillight clusters of the imposing DS 4 hatchback – the latest model from the French premium brand, DS Automobiles – are reminiscent of a sparkling jewel. Vehicles from DS Automobiles are easily recognizable from a distance thanks to their unique signature lights. “The metalized design of our taillights is inspired by nature and is reminiscent of the shining scales of a fish, while it also draws from symbols of luxury, such as polished diamonds, or the famous glass pyramid in front of the Louvre in Paris,” explains Nicolas Deluy, Head of Design Lighting & Exterior Design Components at DS Automobiles.

High-quality material for an emotional design

The shimmer of the taillight covers sets the perfect scene for the light design. Supplier Marelli Automotive Lighting manufactured the cover using a crystal-clear PLEXIGLAS® molding compound, which was then framed by a black gloss contour made from PLEXIGLAS® Hi-Gloss 8N black. This interplay completes the high-quality overall look of the taillights. “With its light-guiding and aesthetic properties, our brand PMMA can be used to create emotional product design. The taillights of the DS 4 are a particularly good example of this,” says Siamak Djafarian, Head of the Molding Compounds Business Unit at Röhm GmbH.

One special feature helps the DS 4 taillights stand out from those of other models in the DS line-up: For the first time, the cover is not a level surface, but is instead modeled like a sculpture. “As such, the taillight covers continue the dynamic lines and proportions of the avant-garde exterior design, like an extension of the body,” explains Deluy. PLEXIGLAS® molding compounds are ideal for injection molding such large and three-dimensional components. The balanced property profile and the advancements in lighting technology mean this product opens up almost infinite options for both exterior and lighting design. However, this new-found freedom of design also means vehicle lighting manufacturers face new challenges.

Suitable PLEXIGLAS® molding compounds for laser welding

The trend toward spectacular signature lights in the premium sector requires different processing techniques. For the DS 4 taillights, Marelli joined the cover and the housing using a laser welding process. In light of the complexity of the component, designing the welding ribs was a challenge, particularly on the lateral side, explains Arnaud Mouchon, Head of Research and Development at Marelli Automotive Lighting France: “Had we used another process, such as vibration welding, we would not have been able to work precisely enough here,” says Mouchon. Laser welding means it is possible to minimize the gap between trunk and taillights. “Of course, this requires materials that enable laser beams to pass through,” explains Mouchon. PLEXIGLAS® Hi-Gloss 8N black 90114 meets this requirement, while also providing a good heat deflection temperature, flow capability and melt viscosity. The

Darmstadt, September 14, 2022

Press contact:

Thomas Kern
Global Communications
Molding Compounds

Deutsche-Telekom-Allee 9
64295 Darmstadt
Germany
T +49 6151 863-7154
thomas.kern@roehm.com

www.plexiglas-polymers.com

Röhm GmbH
Deutsche-Telekom-Allee 9
64295 Darmstadt
Germany
www.roehm.com

Managing Directors
Dr. Michael Pack
Dr. Hans-Peter Hauck
Martin Krämer

Chairman of the Supervisory Board
Dr. Dahai Yu

Registered Office is Darmstadt
Register Court Darmstadt Local Court
Commercial Registry B 100475

high-gloss black contour made from this molding compound elegantly hides the weld seam and guarantees a smooth transition.

PLEXIGLAS® saves resources in automobile construction

Good design is also characterized by sustainability. According to DS Automobiles, 95 percent of the DS 4 is made from reusable materials, while 30 percent of its weight is from renewable or recycled materials, divided between metals and polymers.

“PLEXIGLAS® is *sustainable by design* and helps save resources in automobile design,” says Sven Schröbel, Head of Global Sustainability Management in the Molding Compounds Business Unit. The brand PMMA from Röhm is a high-quality, durable and fully recyclable plastic that is UV and weather resistant in the long term, ensuring it retains its functional and aesthetic properties throughout the entire life of the vehicle. This longevity is particularly relevant when it comes to light covers. The permanent transparency and unsurpassed light transmission inherent to colorless PLEXIGLAS® molding compounds not only guarantee that the light signals are highly visible, but also reduce the energy requirements of the LEDs.

[Photos]



The taillights of the DS 4 are reminiscent of a jewel. The characteristic multifaceted design of the lenses is created using a metalizing process and laser etching. The shimmering cover made from PLEXIGLAS® molding compound completes the high-quality overall image, while the high-gloss contour made from PLEXIGLAS® Hi-Gloss 8N black ensures the taillight covers flow seamlessly into the car body.

© DS Automobiles / Victor Jon Goico



PLEXIGLAS®, the brand PMMA from Röhm, can be formed into almost any shape using injection molding: The lines of the DS 4 body continue into the three-dimensional taillights.
© DS Automobiles / L. Nivalle



Eye-catching by day and night: The highly transparent cover made from PLEXIGLAS® perfectly shows off the sculpted design of the taillights.
© DS Automobiles / D. Heyne



Always beautiful and shining: Thanks to the extraordinary UV and weather resistance of PLEXIGLAS®, the taillight covers permanently retain their transparency and shine.
© DS Automobiles / D. Heyne



Recognizable from afar: the distinctive light signature of the DS 4. The taillight covers are made from PLEXIGLAS® which provides both aesthetic and functional properties for an emotional product design.
© DS Automobiles

...

About Röhm

With 3,500 employees and 13 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, Mexico, 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 continent under the registered trademarks PLEXIGLAS® and PLEXIMID®, in the Americas under the registered trademarks ACRYLITE® and ACRYMID®.

More information is available at www.roehm.com.

About DS 4 and DS Automobiles

The DS 4 is the fourth independent model from young Paris-based premium brand DS Automobiles. Designed in Paris and produced in Rüsselsheim, the premium compact model combines luxury savoir-faire with German precision. DS Automobiles was founded in Paris in 2015 and breathes new life into the tradition of French premium automobiles.

Find out more: www.DSAutomobiles.de.