

Press Release

Polyscope Polymers Wins JEC Innovation Award 2019 for Automotive Sunroof Thermoplastic Composite Guide Rails

Polyscope Polymers B.V. (Geleen, The Netherlands) is this year's winner of the JEC Innovation Award in the Automotive Application category. Polyscope's XIRAN® SGH30EB glass filled thermoplastic composite was specified by Webasto France and the Groupe Renault (Boulogne-Billancourt, France) for the roller-blind guide rails on the panoramic sunroof modules installed, since 2016, in Renault Scenic and Grand Scenic MPV (multipurpose vehicle) models.

This is a significant automotive innovation for the industry, being the first time that a thermoplastic composite material has successfully replaced aluminum for this type of sunroof design in a mass produced passenger car.

"We are absolutely delighted and feel very honoured to have won this prestigious JEC Innovation Award. It was a challenging application development for the Polyscope team, but we were fortunate to be working with outstanding, highly technical, design and engineering people in Webasto France and Groupe Renault and the specialist partner companies involved in this project," said Ferdi Faas, Business Unit Director, at Polyscope Polymers B.V.

The move from conventional anodized aluminum extruded profiles to thermoplastic composite Guide Rails provided Renault with customer design improvements: freeing up 13 mm headspace for passengers and increasing the angle of vision through the glass panel (called Daylight Opening). The XIRAN SGH30EB composite guide rails simplified the construction and installation of the sunroof on the Scenic and Grand Scenic vehicle assembly lines. In total, the project delivered a significant system cost reduction for the installed, improved design, panoramic sunroofs.

XIRAN SGH30EB is a 15% glass-reinforced copolymer compound of styrene maleic anhydride and acrylonitrile butadiene styrene (SMA-GF).

The formulation was optimized by Polyscope, firstly, to ensure high bond strength with the polyurethane adhesive used to mount the glass to the module, and the module to the body-in-white (BIW) roof structure, and secondly, to ensure that dimensionally stable precision parts with a high shot to shot consistency were injection molded, which is highly critical for the smooth opening and closing operation of the roller-blind system; the need to use a lubricating grease on the rail guides was also eliminated.

This partnership project involved the Polyscope team working closely with automaker Groupe Renault, First Tier automotive roof systems market leading manufacturer Webasto SC (Les Châtelliers-Chateauroux, France), along with specialist toolmaker and molder AARK-Shapers (La Séguinière, France).

Webasto engineered the injection molded rails to include a high level of functional integration while simultaneously reducing part count and the number of assembly operations, cutting manufacturing time, cost and complexity.

Clever tooling by AARK-Shapers enabled eight SMA-GF composite parts for the sunroof module to be molded in a family tool that also features modular blocks. This allows both Scenic (five-seater) and Grand Scenic (seven-seater) guide rails to be molded in the same tool without using costly tool moving slides or needing additional tools. The asymmetric upper and lower thermoplastic rail sections were injection molded in two pieces and then joined after demolding.

At Renault's assembly plant, the redesigned sunroof system arrives from Webasto fully assembled and pretested as a one-piece ready to install unit. The sunroof unit is then robotically bonded to the vehicle roof, cutting out two-to-three assembly steps, thereby increasing productivity. In addition to the initial significant cost reduction for installed sunroofs, as the thermoplastic composite module has fewer parts, Renault also expects to benefit from reduced long-term warranty costs, due to lower parts/million (PPM) defects and higher quality since 2016.

There is an environmental benefit for Groupe Renault in switching to a thermoplastic composite for the sunroof guide rails. Like aluminum, the SMA/ABS base resin material is fully recyclable, but uses significantly less energy to produce the rails and to recycle them at end of a vehicle's life.

Polyscope specializes in the research and product development of styrene maleic anhydride (SMA) copolymers, compounds, aqueous solutions and styrene, maleic anhydride and N-phenylmaleimide (SMANPMI) terpolymers. The company is working on a number of innovative projects in other market sectors, as well as automotive, where customers are looking for more precise and lighter weight alternative solutions in a high performance thermoplastic composite material which can also simplify component construction and assembly.

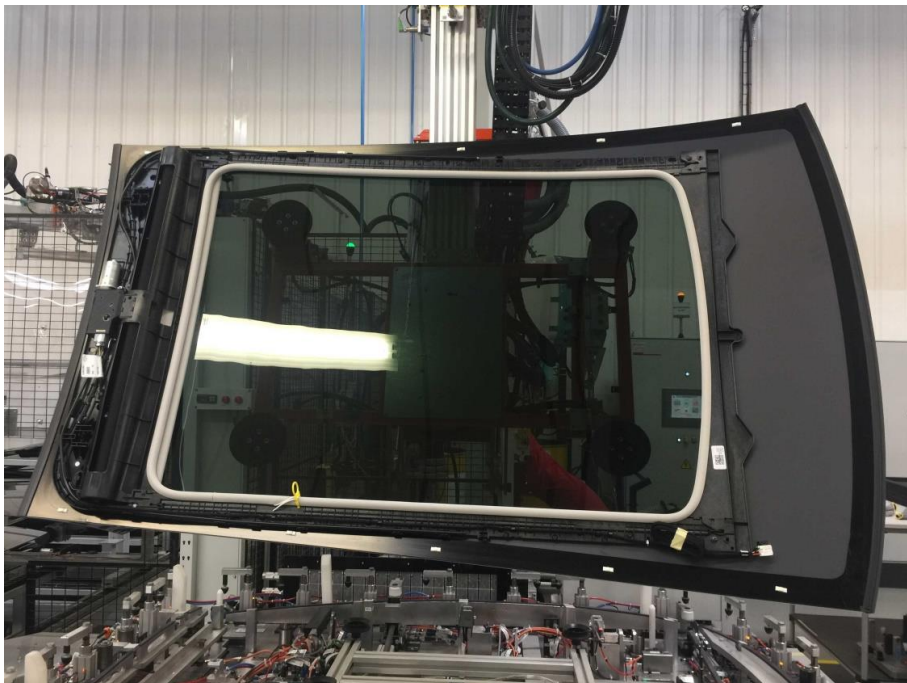
For more information about Polyscope and its full range of products and services go to www.polyscope.eu.



From left to right: Henri-Paul Benichou (Sales & Business Development Manager, Polyscope) Ferdi Faas (Business Unit Director Engineering Plastics, Polyscope), Sem Sals (Product Development Engineer, Polyscope), Michel Baseotto (Business Development Manager, Polyscope), Paul van den Heuvel (Market & Application Development Manager, Polyscope) and Maarten Camps (Secretary General Ministerie of Economic Affairs and Climate) receiving the JEC Innovation award at JEC World 2019, Paris. (Photo Polyscope, PSPR019)



From left to right: Ferdi Faas (Business Unit Director Engineering Plastics, Polyscope), Sem Sals (Product Development Engineer, Polyscope), Paul van den Heuvel (Market & Application Development Manager, Polyscope) and Michel Baseotto (Business Development Manager, Polyscope). (Photo Polyscope, PSPR019)



The sunroof module arrives at Renault's assembly plant fully assembled and pretested as a one-piece ready to install unit which is robotically bonded to the vehicle roof, cutting out two-to-three assembly steps, thereby increasing productivity. (Photo Polyscope, PSPR019)

About Polyscope

Polyscope is the global leader in research, product development, production, and supply of styrene maleic anhydride (SMA) copolymers, compounds, and aqueous solutions and styrene maleic anhydride N-phenylmaleimide (SMANPMI) terpolymers. The company offers a broad range of SMA and SMANPMI co- and terpolymers and compounds for engineering plastic and specialty chemical applications under the trade names XIRAN[®] and XILOY[™]. Resins can be created with a very broad range of molar mass and levels of maleic anhydride. For engineering plastics, SMA/ABS-based compounds with a broad range of impact modification and glass-fiber loading levels can be produced. For specialty-chemical applications, low-molecular weight XIRAN-based resins and solutions are chemically modified to meet customer needs. A global customer base is supported from corporate headquarters by production and research & development conducted in Geleen, The Netherlands, and with local compounding, contract manufacturing facilities and sales and marketing support in Europe, North America, and Asia. For more information, see www.polyscope.eu.

#####

[®] XIRAN is a registered trademark and [™] XILOY is a trademark of Polyscope Polymers B.V.

For further information, please contact:

Viola Conradi

Polyscope Polymers B.V.

T. +31 (0)6 83 63 80 41

E. vconradi@polyscope.eu

Anouk Luykx

EMG

T. +31 (0)164 317 017

E. aluykx@emg-pr.com

This press release and relevant photography can be downloaded from

www.PressReleaseFinder.com.

Alternatively for very high resolution pictures please contact Anouk Luykx

(aluykx@emg-pr.com, +31 164 317 017).



Polyscope

Prins de Lignestraat 28
6161 CZ Geleen
The Netherlands

Contact

Phone + 31(0) 46 75 000 10
info@polyscope.eu
www.polyscope.eu