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**Borealis polypropylene (PP)  
foam material used in  
ultra-lightweight foamed  
air ducts for future vehicles**

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## Background

In the highly competitive automotive market, car and truck manufacturers are always seeking to improve the safety, comfort and energy efficiency of vehicles. These improvements require material with exceptional properties, which is why our PP foam materials have been used for the production of ultra-lightweight foamed air ducts. This lightweight material improved thermal conductivity and acoustics, and reduced energy consumption and emissions without compromising on power.

## Challenge

Foam manufacturers compete in an environment with increasingly tough standards and regulations. Manufacturing is becoming ever-more challenging as CO2 requirements are made more stringent, and the shift to eco-friendly vehicles continues.

## Solution

Borealis supplied PP foam material for the creation of ultra-lightweight foamed air ducts that distribute low-pressure air inside a car. A zero-waste material that allows for in-process recycling, PP foam material has enabled weight savings of up to 80%, improved insulation, led to significant reductions in CO2, and delivered considerable cost savings due an innovative induction process.

Compared to market standards, the improved insulation and possibility of reduced dew condensation can improve the energy efficiency of the AC unit. And combined with extreme lightweighting, this enables increased fuel efficiency and cruising range extension. The results are even greater in electric vehicles with a heater compared to traditional fuel engines.

## Benefits of Borealis Daploy™ WB140HMS PP material for air duct applications

- Reduction of carbon emissions
- Low fuel consumption
- Superior foamability
- Reducing the overall cost of the system
- Improved sound and thermal insulation
- Easy processing
- Great recyclability



## Borealis and Borouge PO foam solutions are expanding the limits

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Borealis is one of the world's leading providers of advanced and circular polyolefin solutions and a European market leader in base chemicals, fertilizers and the mechanical recycling of plastics. We leverage our polymers expertise and decades of experience to offer value adding, innovative and circular material solutions for key industries. In re-inventing for more sustainable living, we build on our commitment to safety, our people and excellence as we accelerate the transformation to a circular economy and expand our geographical footprint.

With head offices in Vienna, Austria, Borealis employs 6,900 employees and operates in over 120 countries. In 2019, Borealis generated EUR 8.1 billion in sales revenue and a net profit of EUR 872 million. OMV, the Austria-based international oil and gas company, owns 75% of Borealis, while the remaining 25% is owned by a holding company of the Abu-Dhabi based Mubadala. We supply services and products to customers around the globe through Borealis and two important joint ventures: Borouge (with the Abu Dhabi National Oil Company, or ADNOC, based in UAE); and Baystar™ (with Total, based in the US).

For more information visit: [borealisgroup.com](http://borealisgroup.com) • [borealiseverminds.com](http://borealiseverminds.com)

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