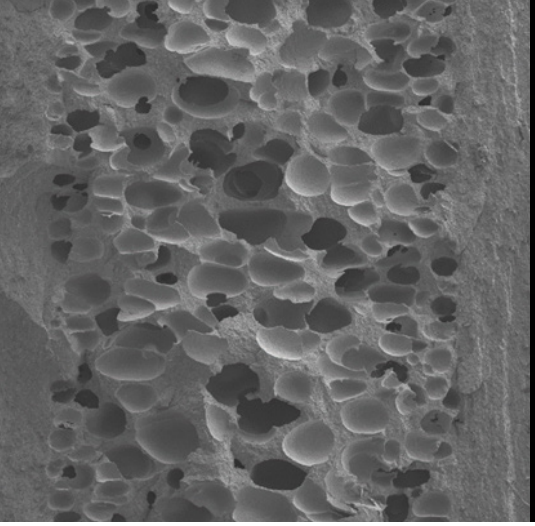

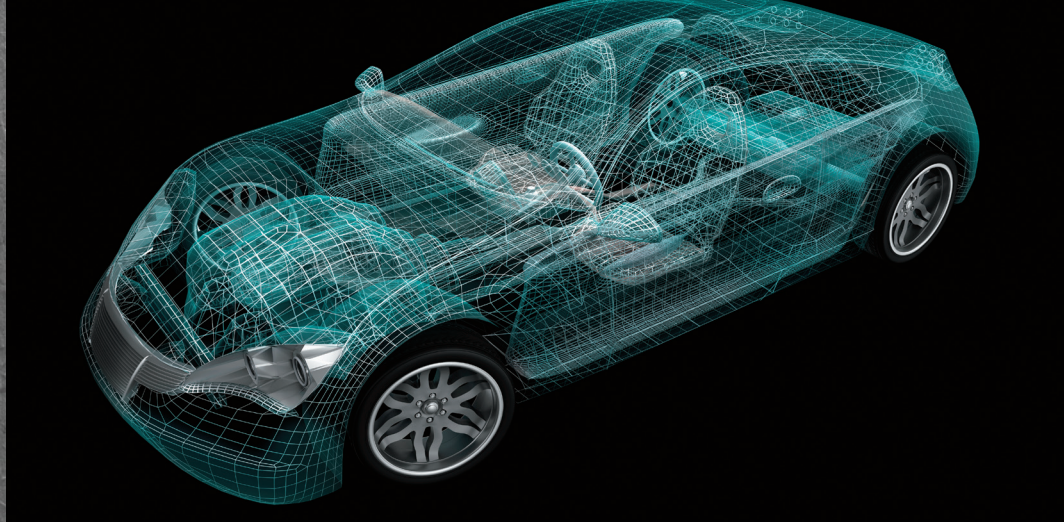

PRODUCT BULLETIN

Foaming Prediction Service

Simulation software to predict behavior and maximum weight reduction

LIGHTWEIGHTING CHALLENGES

Reducing vehicle weight is a longstanding challenge within the automotive industry. Foaming parts is a well-established technology used to successfully reduce part weight, supporting OEMs to reduce fuel consumption and work towards achieving their sustainability goals.

Validating foamed parts before production requires extensive testing, which is time-consuming and can be expensive. This is where Avient's Foaming Prediction Service can help.

FOAMING PREDICITION SERVICE

Avient Design uses Autodesk® Moldflow® simulation software[1] to provide 3D simulations of parts foamed with Hydrocerol™ Chemical Foaming Agents during the mold filling phase. This software is used to predict the material behavior during this process and, as a result, we can provide the potential weight reduction, mechanical properties of the final foamed part, and recommendations for optimal tool design*. This service reduces the need for costly, and timely, physical trials and testing.

The foaming simulation is carried out under confidentiality and is currently available for components made from polypropylene (PP), talcum filled PP, and glass fiber filled PP, with a minimum part thickness of 2mm. The service is currently available for standard injection molding processes.

KEY CHARACTERISTICS

- Provides a mold-filling study
- Helps maximize part weight reduction
- Predicts mechanical properties
- Enables the calculation of necessary clamping force
- Reduces physical trials
- Optimizes tool design and production processes

KEY APPLICATIONS

- Components made from polypropylene (PP), talcum filled, and glass fiber filled PP with a minimum part thickness of 2mm
- Automotive structural parts e.g., door panels, dashboard carriers
- Consumer goods e.g., interior fridge parts, transport boxes and composters, vacuum cleaner base panels

[1] Moldflow® is a registered trademark of Autodesk®

Sustainability Spotlight

Lightweighting

* Avient Foaming Prediction Service will provide general information based on available inputs. However, the end user remains responsible for conducting any needed testing and evaluation under its own specific conditions of use and processes.

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