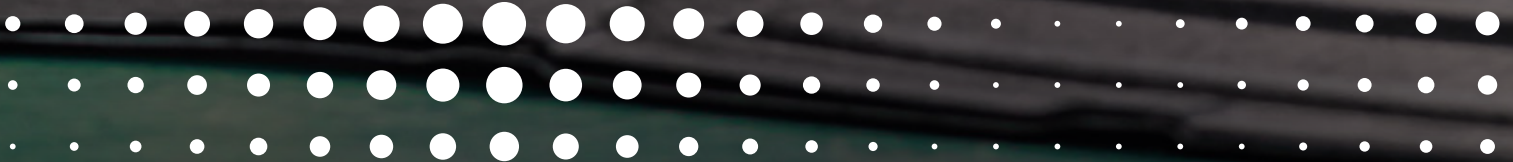


## Product portfolio

Interior · Exterior  
New Mobility · Autoneum Pure.  
Measurement Systems · Simulation Tools



A close-up photograph of a dark, textured fabric, possibly a jacket or sweater. The fabric has a fine, ribbed or woven texture. In the upper center, there is a small, light-colored, embossed or printed logo that resembles a stylized bird or a crest. The lighting is dramatic, with strong shadows and highlights that emphasize the texture of the material. The background is a plain, light color.

Exterior

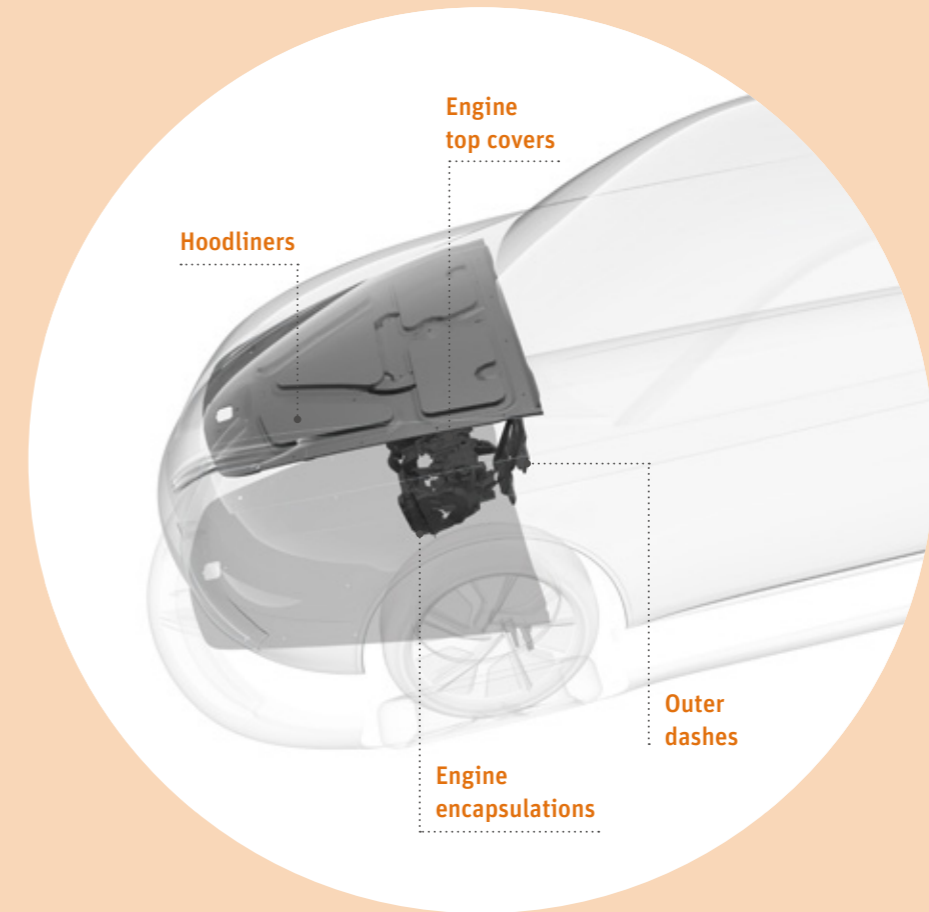
# Engine Bay

Engine bay is the vehicle area where most of the noise and heat sources are concentrated. With innovative lightweight and multifunctional components, Autoneum helps automobile manufacturers to address new regulations for pass-by noise and CO<sub>2</sub> emissions.



For further information, please contact:  
Autoneum | Global Product Management Engine Bay  
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## OVERVIEW



These products include a variety of features and benefits



Autoneum supplies exterior components to these customers



# Hybrid-Acoustics PET

Sustainable noise protection in the engine bay



### BENEFITS

Outstanding acoustic insulation

Best-in-class sustainability

**40%**

lighter than alternative powertrain-mounted insulators

Hybrid-Acoustics PET is used to encapsulate electric motors, thereby reducing noise directly at the source and particularly attenuating high-frequency sounds of the electric drive unit. This key technology accordingly ensures optimum noise protection in the passenger cabin and greater driving comfort.

At the same time, components made of Hybrid-Acoustics PET convince with their low weight. Compared to conventional insulators, they are up to 40% lighter, thereby contributing to a greater driving range. They are also flameproof and find application as powertrain-mounted insulators for combustion engines thanks to their temperature resistance of up to 180°C.

The parts, which consist to a large extent of recycled PET fibers, are produced waste-free and are completely recyclable – an outstanding life cycle assessment compared to equivalent components in the engine bay.

# Theta-FiberCell

Key technology for engine encapsulations



Innovative engine encapsulations enhance the efficiency and sustainability of vehicles: The heat storage in the engine bay achieved with the encapsulations reduces fuel consumption at the next cold start, which in turn leads to lower vehicle emissions.

Theta-FiberCell, the key technology for engine encapsulations, combines the benefits of the fiber carrier Theta-Fiber and foam absorber Theta-Cell and is based on Autoneum's long-standing experience. It takes into account customer-specific product requirements such as optimum noise protection and integrated thermal insulation. For instance, Theta-FiberCell is barely flammable and can withstand temperatures of up to 200°C.

As well as the acoustic absorption of interior (by up to 4 decibel) and exterior (by up to 8 decibel) noise, the fiber-foam solution enables heat to be stored for long periods after the vehicle has been parked. After having been switched off for 12 hours, the temperature of an engine with Theta-FiberCell encapsulation is up to six degrees higher than of one without this special insulation.

### BENEFITS

Lightweight fiber-foam solution

High acoustic absorption

Resistant to engine vibration

Heat insulation and temperature stability up to

**200°C**

## Theta-Cell

Durable and lightweight foam absorber



### BENEFITS

Low weight

**Premium**  
acoustic absorption

Theta-Cell is an innovative polyurethane foam material developed by Autoneum. It is used for different applications such as lightweight and multifunctional hoodliners, outer dashes, tunnel insulators and battery covers. Compared with conventional acoustic absorbers, Theta-Cell components can be used to achieve weight reductions of up to 60 % as well as high thermal insulation.

Products based on Theta-Cell are able to withstand temperatures of up to 180°C at peak; they meet customer requirements and legal provisions with regard to the non-flammability of components for the engine bay. They are also oil- and water-repellent and help to reduce the interior and exterior noise of vehicles.

## Theta-Fiber

Multifunctional non-woven technology



The engine bay compartment is a major source of heat and noise in any vehicle. Therefore, it has to be acoustically and thermally isolated in order to increase passengers' comfort. For that, Autoneum offers Theta-Fiber, a robust and multifunctional non-woven material.

Theta-Fiber stands out against conventional non-woven components, above all thanks to its high temperature resistance: While traditional thermoplastic materials are able to withstand temperatures of up to 150°C, noise and thermal insulation parts based on Theta-Fiber can also be applied at temperatures of up to 200°C.

Compared to traditional heavy engine covers made of solid plastic, Theta-Fiber engine covers achieve weight savings of up to 60 %, reduce the interior and exterior noise of vehicles and insulate heat generated by the engine.

### BENEFITS

Robust and multifunctional

**High**  
temperature stability

Autoneum. Mastering sound and heat.

