Product portfolio

Engine Bay · Interior Floor · Underbody
Sustainable Champions · New Mobility
Measurement Systems · Simulation Tools
Engine Bay

Engine bay is the vehicle area where most of the noise and heat sources are concentrated. With innovative lightweight and multi-functional components, Autoneum helps automobile manufacturers to address new regulations for pass-by noise and CO₂ emissions.

For further information, please contact:
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OVERVIEW

Autoneum supplies interior floor components to these customers. These products include a variety of features and benefits:

- Floor mats
- Tufted carpets and needlepunch carpets
- Floor insulators
- Inner dashes
- Spacers and crash pads

These products include a variety of features and benefits:

- Engine top covers
- Hoodliners
- Water box shields
- Outer dashes
- Engine encapsulations and battery covers
- Oil sump covers

Autoneum supplies engine bay components to these customers.
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 being switched off for 12 hours, the temperature of an engine with Theta-FiberCell encapsulation is up to six degrees higher than one without this special insulation.

**BENEFITS**

- Lightweight fiber-foam solution
- High acoustic absorption
- Resistant to engine vibration

**200°C**

Heat insulation and temperature stability up to 200°C
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.
Theta-Cell
Durable and lightweight foam absorber

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.