

# Silence in motion

PU acoustic performance pads



# Creating tomorrow's mobility

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The evolution from conventional engines to electrified vehicles promises a future with less noise and pollution. It has also changed the sources of noise, presenting car manufacturers with new challenges. While silencing efforts have traditionally focused mainly on the powertrain, tomorrow's solutions need to address the growing importance of road and wind noise.

Recticel Engineered Foams supports vehicle manufacturers with forward-thinking solutions for noise reduction and thermal management. Its technologies help to create an exclusive driving experience while also reducing energy consumption and extending mileage.

## Our future-ready mobility solutions

### Noise reduction

- Electric motor encapsulation
- HVAC sealing and insulation
- Power inverter insulation
- Side fender seal
- Silent tyre
- Wheel arch acoustic pads

### Thermal management

- Battery holding pads and cell pads
- Electric motor encapsulation
- Power inverter insulation



# Tyre cavity noise: a growing challenge

The shift to electric and hybrid cars is placing new demands on tyres. As sizes increase to accommodate higher vehicle weight and instant torque, they are becoming a major source of noise. Tyre cavity noise is caused by excitation of air inside the tyre at a certain low frequency as a result of its interaction with the road surface. This noise is transmitted through the wheel assembly and the vehicle structure to the vehicle interior.

## Tyre cavity noise

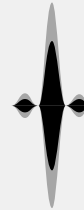


Tyres vibrate on road surface.



The air inside the tyres vibrates and causes noise.

**VIBRATIONS** reach the vehicle interior.



The air inside the tyre resonates (resonance of tyre cavity).

# PU acoustic performance pads for silent tyres

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Our dBR-Foam TWA products are silent tyre foams specially developed to improve driving comfort in electric and hybrid vehicles. These acoustic performance pads are placed on the inside of the tyre to reduce cavity noise.

Widely used by major tyre manufacturers, they significantly decrease annoying low frequency peak cabin noise without impacting overall tyre performance.

## **Product benefits at a glance**

- Excellent acoustic performance due to controlled cell structure
- Optimised durability inside the tyre thanks to dedicated stable chemistry
- Minimal impact on tyre performance, due to relevant mechanical properties
- Sustainable version available
- Global availability thanks to worldwide production and distribution



# PU acoustic performance pads: dBR-Foam TWA

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Our PU acoustic performance pads are made of dBR-Foam TWA with fine-tuned air permeability and cell structure. They are available in customised shapes and can be laminated with specific adhesives.

Product	Density (kg/m <sup>3</sup> ) ISO 845	Compression strength 40% (kPa) 4 <sup>th</sup> cycle; ISO 3386-1
dBR-Foam TWA 25	21 - 24	2,5 - 4,0
dBR-Foam TWA 30	27 - 31	2,0 - 3,2



# About Recticel Engineered Foams

Recticel Engineered Foams applies industry-leading knowledge, resources and experience to offer the tailored solutions our customers need to stay ahead. Our unique portfolio of foams and systems – spanning industrial, mobility, consumer & medical care, living & care applications – is one of the most comprehensive in the market. We focus strongly on sustainable innovation and strive to provide answers to societal challenges, including climate change and conservation of resources.

## Tailored solutions and innovations

The key to the success of PU foams is their seemingly endless versatility. Many everyday objects would be unimaginable without their unique benefits, which include silencing, sealing, filtering, carrying, protecting, supporting and comforting attributes. These can be provided in almost any combination, allowing us to develop solutions and systems with the exact functionalities required by every market we serve.

Find out more at:

[www.recticelengineeredfoams.com](http://www.recticelengineeredfoams.com)



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