

## Polyurethanes

# ACOUSTIFLEX® VEF BIO polyurethane system

## Cutting the carbon footprint of automotive acoustic insulation



**BIO-BASED  
CONTENT**

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### PRODUCT DESCRIPTION

ACOUSTIFLEX® VEF BIO polyurethane system is a breakthrough bio-based, fully-formulated foam system that can help automotive manufacturers reduce the carbon footprint of molded acoustic insulation components by up to 25%\* – without compromising mechanical or acoustic performance.

Carefully formulated to include up to 20% bio-based content (derived from vegetable oils), with zero impact on acoustic and mechanical characteristics, ACOUSTIFLEX® VEF BIO system improves the carbon footprint of automotive carpet back-foam. This innovative viscoelastic solution can also be used in other areas of a vehicle, for example, in dash and wheel arch insulators.

ACOUSTIFLEX® VEF BIO system answers the needs of automakers and OEMs, who are actively working to reduce the carbon footprint of vehicles.

### KEY FEATURES

- A viscoelastic foam solution integrating bio-based polyols in both the prepolymer and polyol blend
- Good adhesion to a variety of surfaces
- A lightweight formulation.

### BENEFITS

- Delivering a reduced CO<sub>2</sub> footprint of almost 25%\* compared to equivalent materials that contain no bio-based polyols
- Addresses the growing requirement for automotive manufacturers to lower their carbon footprint
- Low VOC emissions and low odor
- No loss in acoustic or mechanical properties compared to incumbent VEF systems
- Supports the drive for vehicles with greater fuel efficiency and improved environmental performance.

### TYPICAL APPLICATIONS

Acoustic foam for molded sound insulation – most commonly carpet back-foam and dash insulation.

\* Compared to incumbent ACOUSTIFLEX® polyurethane systems of Huntsman. Internal LCA study, CML 2016 GWP including biogenic CO<sub>2</sub> indicator.

## TYPICAL SYSTEM PROPERTIES

ACOUSTIFLEX® VEF BIO polyurethane system can be blended to meet different customer needs.

The following table provides an overview of typical properties:

Properties	Unit	Value
Mixing Ratio (ISO/Polyol)	pbw	54/100
Density with skin	kg/m <sup>3</sup>	71
CLD 40%	kPa	5.0
E-modulus	kPa	107
Loss factor	%	0.29
CLD loss at 40% (3 cycles, 120°C, 5 hours)	%	51.1
CLD loss at 40% (140°C, 7 days)	%	12.2
Compression set 50% dry	%	14.5
HACS 50% (3 cycles, 120°C, 5 hours)	%	10.4
HACS 50% (140°C, 7 days)	%	8.4
Tensile strength	kPa	90.2
Elongation	%	90.5

Typical properties can vary depending on local circumstances and application. These properties are not part of the specifications of ACOUSTIFLEX® VEF BIO system.

## APPLICATION METHOD

The ACOUSTIFLEX® VEF BIO polyurethane system can be run on high-pressure injection machines with standard processing parameters to produce molded acoustic parts such as carpet back foam and dash insulators.

## DRIVING FOR SUSTAINABILITY

The creation of ACOUSTIFLEX® VEF BIO polyurethane system supports the United Nations Sustainable Development Goals with three of particular relevance to our work in transportation sectors:



- Acoustic comfort
- Low VOC emissions
- Low odor



- Fast cool down
- Quick cycle times
- Better product consistency
- Reduce reliance on fossil-based feedstocks



- Lightweight design
- Better fuel consumption
- Lower carbon footprint

## CONTACT US

For more information about our acoustic portfolio or any other MDI-based solutions within the full suite of automotive products, please go to [Huntsman.com](https://Huntsman.com) and complete the Polyurethanes Contact Us form.



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## HUNTSMAN AUTOMOTIVE SOLUTIONS

Huntsman is a global leader in MDI-based polyurethanes, serving automotive customers along the value chain. Huntsman delivers innovative, value added solutions to the world's best-known car brands, including lightweight, enhanced comfort and sustainable technologies for seating, interior trim, acoustic insulation, and composite panel applications.

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