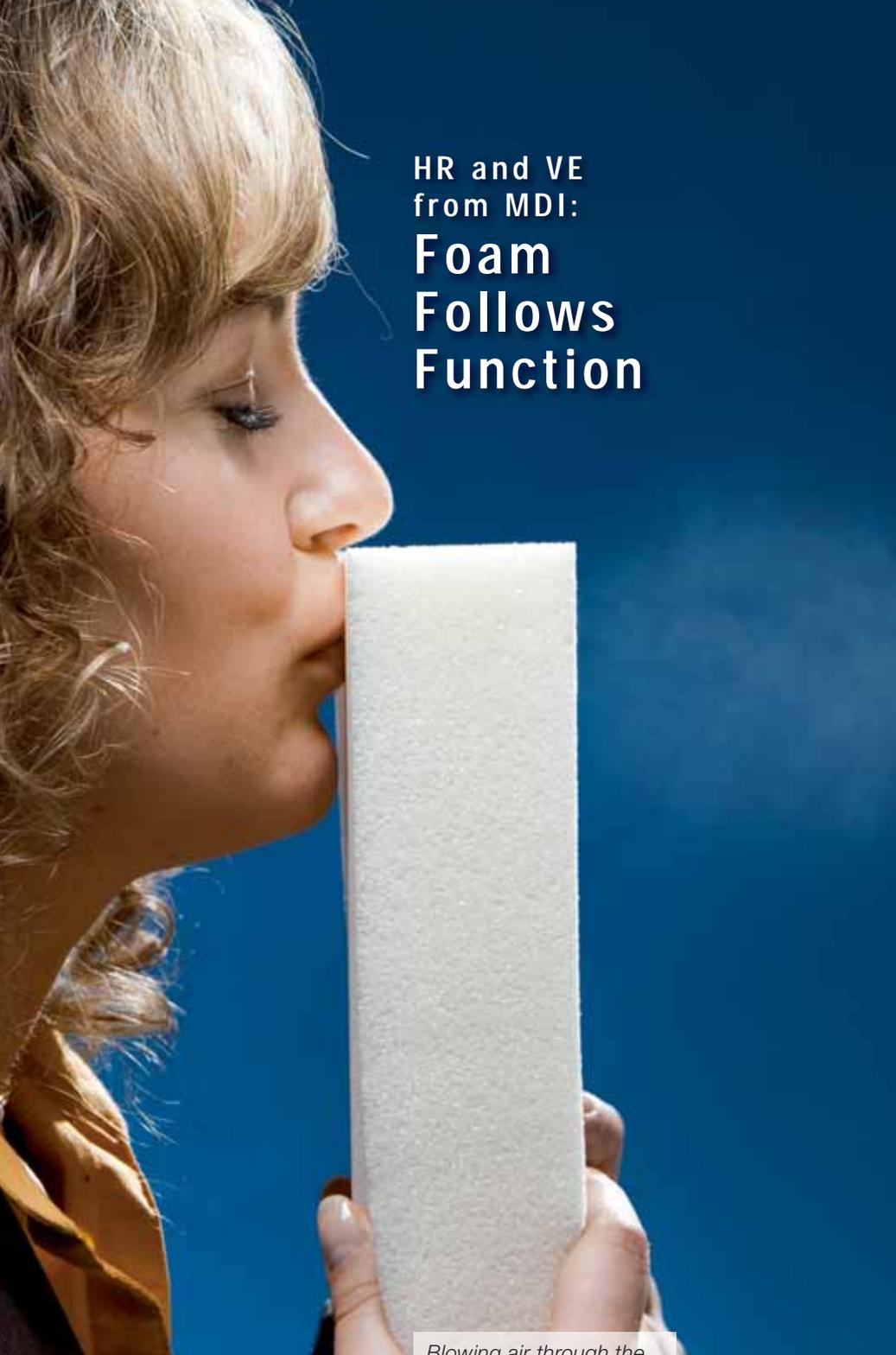




# Lie ahead of the Rest with MDI Slabstock Foams

MDI slabstock  
foams made from  
Polyurethane raw materials:  
High Resilient (HR),  
Viscoelastic (VE)

# HR and VE from MDI: Foam Follows Function



**Sleep has its own world. BASF has VE and HR foams.**

Viscoelastic (VE) foam made from BASF products is thermosensitive. This means that it changes and adapts to a person's body due to the pressure and heat it is

subjected to. This ergonomic feature of our VE foam is the basis for healthy

*Blowing air through the foam sample shows how mattresses made from viscoelastic foam by BASF are open-cell ensuring that both air and water humidity can escape through the foam. Airiness and breathability are two features which are greatly favoured by all end-users.*

and relaxing sleep. VE foam made from BASF products is also highly breathable. In other words, VE foam mattresses prevent perspiration and the body stays pleasantly dry. VE and HR made from BASF raw materials meet all relevant emission tests for flexible foams, such as the chamber test according to DIN ENV 13419-1.



*Viscoelastic foam made from BASF products is thermosensitive. It adjusts to the shape of the body by reacting to body heat and pressure. Foam follows function.*



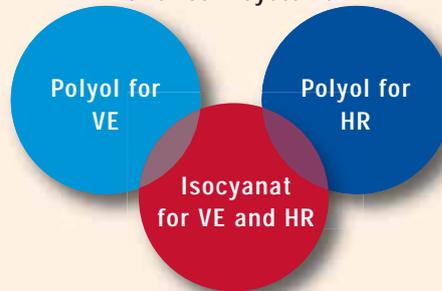
*Viscoelastic and high resilience foams pass all relevant emission tests when manufactured with low-emission additives.*

# HR and VE Made from MDI: One Isocyanate for Two Foam Systems



*PUre savings potential for manufacturers: both viscoelastic and high resilience foam is manufactured using the same isocyanate.*

Only three components for two foam systems



## Two versatile piggy banks: VE and HR foam systems made by BASF:

Our PU systems for VE and HR products are based on the same isocyanate.

This means:

- less investment in tanks and buildings
- fewer raw material fractions
- less time consumption for the setting-up of your plants
- less material loss during product changes
- less time required for cleaning.

## Quality – so simple

The robust formulations of our PU systems ensure quick, simple and cost-effective results for the manufacturer.

## Investments in new plants unnecessary

VE and HR foams made from BASF products can be manufactured at all conventional flexible slabstock foam plants.

PUre savings potential for manufacturers: both viscoelastic and high resilience foam is manufactured using the same isocyanate.

# HR and VE Made from MDI: Foamidable Facts

- wide range of variations of the mechanical properties of MDI-VE and MDI-HR
- independent of density and hardness combinations (see table) particularly good air permeability in both the high resilience and the viscoelastic foam
- coverage of the entire production range with very simple formulations
- very good properties of the MDI-HR also for long-term use (dynamic fatigue)
- recovery time variations possible
- excellent SAG factors and rebound resilience for HR
- excellent processability due to selection of suitable MDI.

## Viscoelastic foams

Density ranges achievable in production: 45 to 80 kg/m<sup>3</sup>

Physical characteristics in case of a gross density of 50 kg/m<sup>3</sup> (type VE 5013)

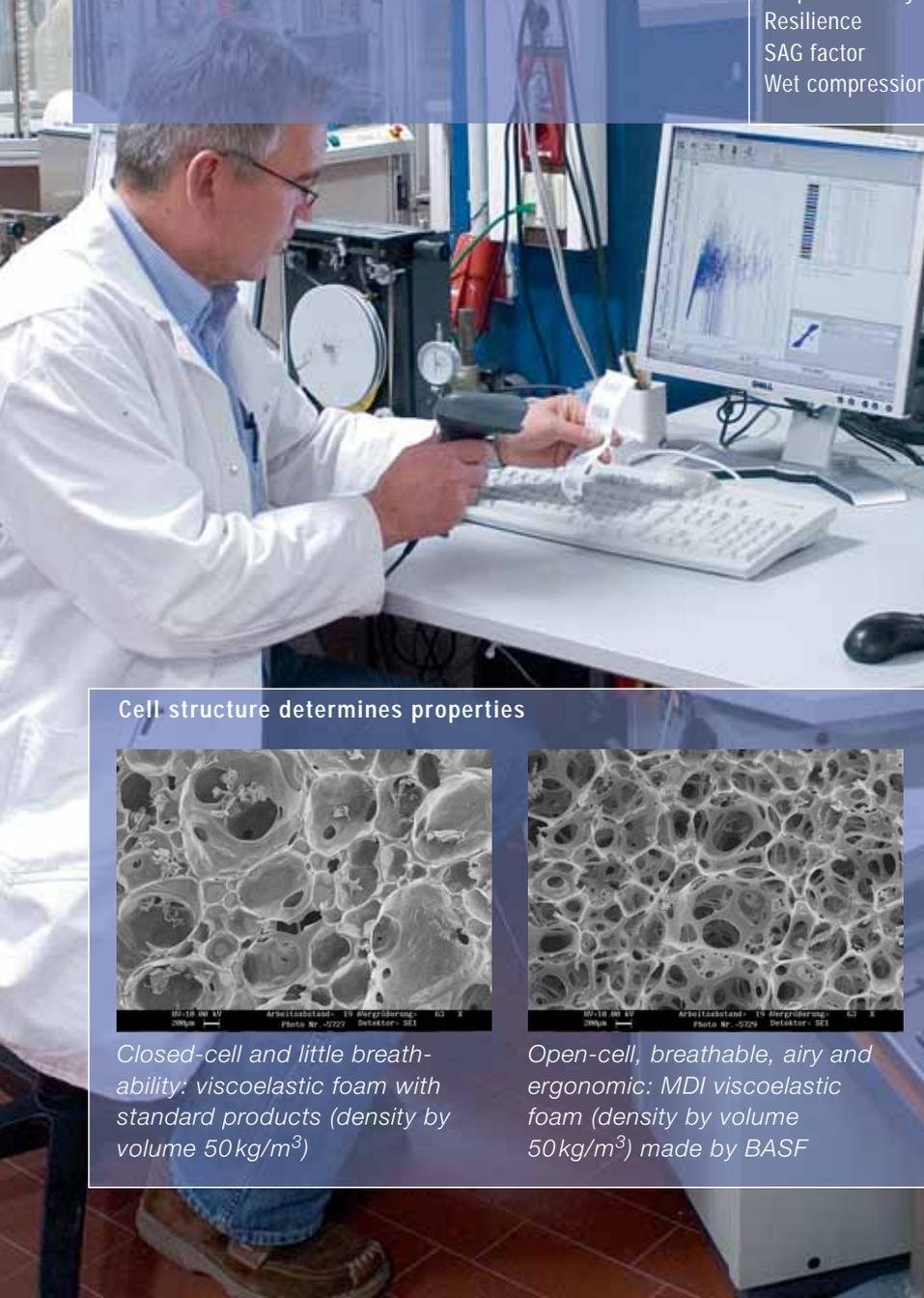
Compr. load deflection	1,3	kPa	DIN EN ISO 3386-1
Tensile strength	60	kPa	DIN EN ISO 1798
Elongation at break	180	%	DIN EN ISO 1798
Air permeability	~ 1	L/s	DIN EN ISO 7231
Resilience	~ 5	%	DIN EN ISO 8307
Wet compression set	< 5	%	DIN EN ISO 1856
Recovery time	≥ 5	s	IKEA-Spezifikation

## High resilience foams

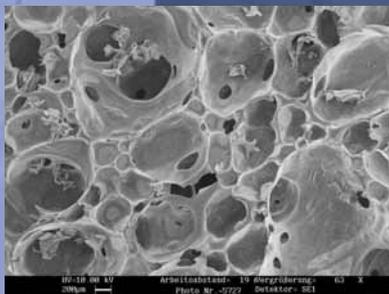
Density ranges achievable in production: 35 to 65 kg/m<sup>3</sup>

Physical characteristics in case of a gross density of 40 kg/m<sup>3</sup> (type HR 4030)

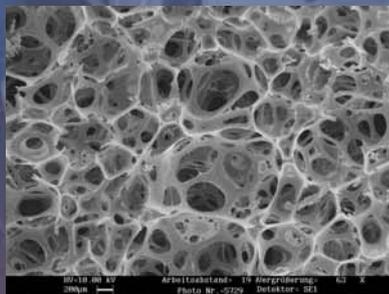
Compr. load deflection	3	kPa	DIN EN ISO 3386-1
Tensile strength	90	kPa	DIN EN ISO 1798
Elongation at break	111	%	DIN EN ISO 1798
Air permeability	1,5	L/s	DIN EN ISO 7231
Resilience	60	%	DIN EN ISO 8307
SAG factor	~ 3		
Wet compression set	< 15	%	DIN EN ISO 1856



## Cell structure determines properties



Closed-cell and little breathability: viscoelastic foam with standard products (density by volume 50 kg/m<sup>3</sup>)



Open-cell, breathable, airy and ergonomic: MDI viscoelastic foam (density by volume 50 kg/m<sup>3</sup>) made by BASF



## HR and VE Made from MDI: A Comfortable Double-decker

### **Pillows and mattresses made from MDI slabstock foam systems by BASF**

All VE and HR foams made from BASF products are used in processing mattresses and/or for foams used in the automotive industry. The quality of these foams manufactured by one of polyurethane's market leaders is always state-of-the-art. The constant excellent standard of quality of the mattresses and pillows

*Viscoelastic PU foam (top) on high resilience foam (bottom): the double-decker mattress with perfectly matching components generating comfort and well-being.*

and their outstanding properties, especially for long-term use, make it easy for our customers to choose

BASF's VE and HR systems. The keyword is comfort: our open-cell VE and HR foams reveal the potential well-being of all consumers. On the manufacturer they have a similar positive effect in terms of profitability, productivity, efficiency and the quality of the



mattresses and pillows made from VE and HR foam systems by BASF.

### **Comfortable to manufacture Comfortable to use**

Viscoelastic PU foam (top) on high resilience PU foam (bottom): the double-decker mattress with perfectly matching components generating comfort and well-being.

# Competence in Polyurethanes

BASF occupies a firm position in the market due to the sophisticated quality of its products, its excellent service and the continuing further development of its products. With our expertise and long-term experience we want to contribute towards your success with the multi-talented material Elastoflex W and innovative solutions tailored to your requirements.

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