High Perfomance Automotive Materials

OUTSTANDING PROPERTIES

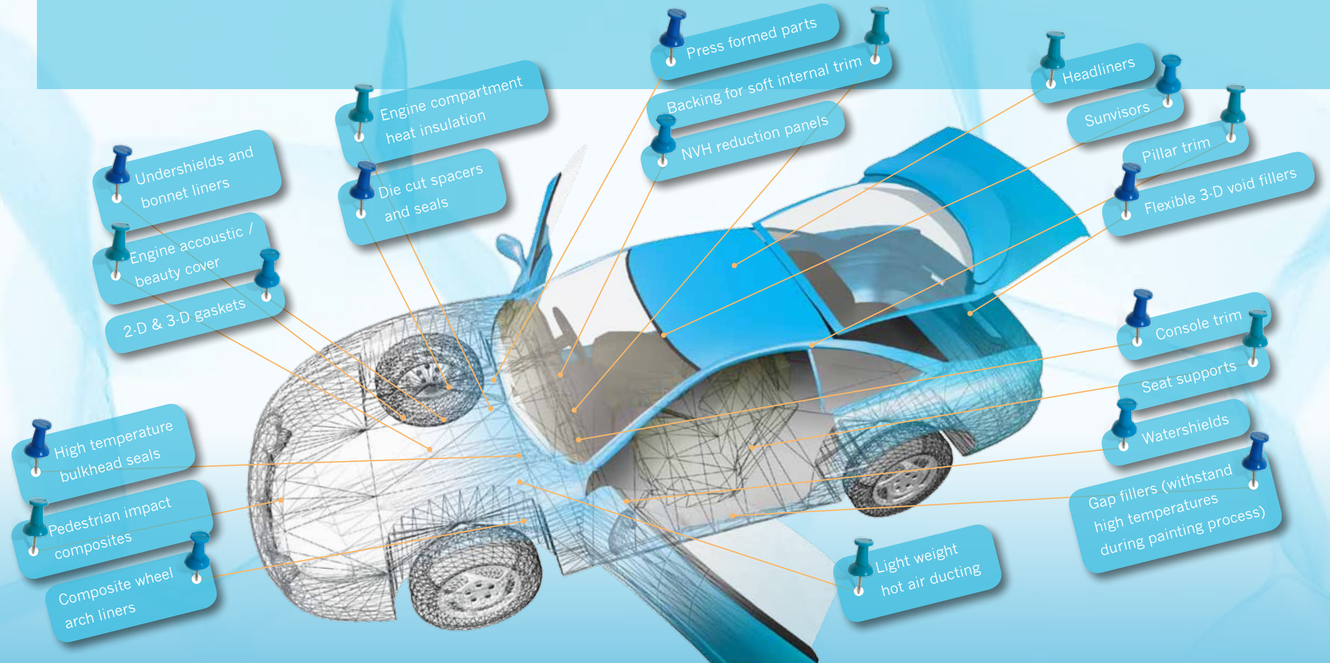
- Easily thermoformed
- Pure, low odour
- Lightweight and durable
- Good acoustic barrier
- Closed cell, water repellent
- Excellent chemical resistance
- Good thermal insulation
- Regular, consistent
- Wide range densities and stiffness, from soft, flexible and compliant, to firm, hard and rigid
- Non-toxic and safe
- Easy to work and shape
- VOC, CFC & HCFC Free
- Low fogging

Zotefoams is a major supplier of closed cell foam, damping, sealing and insulation materials for the automotive manufacturing industry.

The days of using foam materials only to address NVH concerns are long gone. Functional foam components, used throughout the vehicle, including the engine compartment, now provide light weight, cost effective solutions that help reduce CO_2 emissions and increase fuel efficiency.

Physically expanded in an open environment using pure nitrogen, these foams are pure and relatively stress free with an exceptionally regular cell size and structure.

APPLICATIONS - AZOTE and ZOTEK N foams are suitable for such applications as:



VOLATILE ORGANIC COMPOUNDS (VOCS)

Volatile Organic Compounds (VOC's) are causes of both Fogging and Odour. The Zotefoams manufacturing process uses only nitrogen gas as the foaming agent for their thermoplastic foam products. The absence of chemical foaming agents removes a major potential source of VOC's in foams. Zotefoams materials have been analysed in accordance with various standards including VDA 277 and VDA 278.

FOGGING

Chemical contamination or volatile additives or constituents in the polymeric materials are the most common source of "fog" or chemicals in new cars. Being by nature highly pure, both AZOTE and ZOTEK foams have low fogging tendencies. Representative samples have been tested to determine their windscreen fogging characteristics according to DIN 75201 Methods A & B with excellent results.

ODOUR

To limit the negative effects of "new car smell" caused by new materials car manufacturers have created test methods to attempt to quantify what is essentially a subjective judgement. Zotefoams materials have been tested to various standards including VDA 270 achieving at least classification C3.

CONVERSION

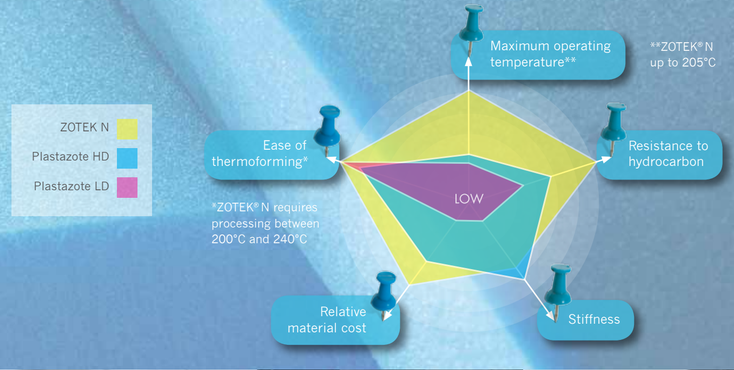
The consistent nature of AZOTE and ZOTEK N foams allows efficient creation of an endless number of shapes using conventional foam conversion techniques such as routing, water jet cutting, die cutting, sawing and heat lamination. Both AZOTE and ZOTEK N foams can be thermoformed into both simple and complex shapes allowing the designer the ability to incorporate three dimensional functionality into simple gasket and filler applications. Bespoke 3-D shapes improve installation efficiency and can help reduce the need for adhesives and release papers by providing a tight friction fit.

FLAMMABILITY

Zotefoams materials have been tested to FMVSS 302 – the flammability standard adopted by the majority of vehicle manufacturers. Zotefoams materials will meet the requirements of this test once the foam part is above a minimum area weight. Superior performance is achieved by the inclusion of flame retardant additives. These grades will meet the requirements with a self extinguish rating.

For further details on FOGGING, ODOUR and ORGANIC COMPONENTS see Technical Document T-11, available in pdf format at www.zotefoams.com or contact Zotefoams Customer Support.

ZOTEFOAMS
THE FOAM TECHNOLOGISTS



AZOTE® POLYOLEFIN FOAMS

AZOTE® is the group brand for a wide range of polyolefin foams many of which are to be found in a variety of automotive applications.

They have a high resistance to most chemicals including greases, brake fluids, and coolants and being closed cell, have practically no water absorption and very low transmission of water vapour.

AZOTE® foams are available in a range of densities from 15 to 115 kg/m^3 and based on cross-linked LDPE, HDPE and EVA copolymers.

ZOTEK® N POLYAMIDE FOAMS

ZOTEK® N is a new range of high performance foams based on Polyamide (Nylon).

They have outstanding high temperature resistance and excellent compatibility with hydrocarbons such as oils and fuels making them ideal for a range of engine compartment applications as well as for potentially high temperature passenger compartment uses.

ZOTEFOAMS

LIGHT WEIGHT MATERIALS FOR TOMORROW'S HEAVY WEIGHT CHALLENGES

Applications	Grades				
	LD grade	SD and CN grades	HD grade	PK grade	ZOTEK N
Gaskets and seals	•		•		•
Anti-vibration pads	•				•
Press formed parts	•		•		•
Undershields			•		•
Sun visors					•
Headliners			•		•
Impact protection	•		•		•
Soft trim laminations	•				•
Watershields	•				•
Engine bay components					•
Returnable transit packaging	•	•		•	•

The above guide shows some of the applications of AZOTE amd ZOTEK foams and the most commonly specified grade used. The list is for general guidance only and is not intended to be exhaustive.

FOR MORE INFORMATION PLEASE VISIT WWW.ZOTEFOAMS.COM

ZOTEFOAMS PLC,
675 Mitcham Road, Croydon, Surrey, CR9 3AL, UK
Tel: +44 (0) 20 8664 1600
Fax: +44 (0) 20 8664 1616
email: info@zotefoams.com

ZOTEFOAMS INC,
55 Precision Drive, Walton, Kentucky, 41094, USA
Tel: +1 859 371 4046 FREE: (800) 362-8358 (US Only)
Fax: +1 859 371 4734
email: custserv@zotefoams.com

APPROVED AND CERTIFIED SPECIALIST CONVERTER

KEWELL CONVERTERS LIMITED,
KCL House, Station Road,
Edenbridge, Kent, TN8 6EG,
England, UK
Tel: +44 (0)1732 864 310
Fax: +44 (0)1732 865 206
email: sales@kewell-converters.co.uk
web: www.kewell-converters.co.uk

AZOTE® is the group brand for a variety of foams manufactured from differing base polymers but using the same unique process route. ZOTEK® is the group brand for foams manufactured from high performance polymers.

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ZOTEFOAMS

ADVANCE FOAMS FOR USE IN THE **AUTOMOTIVE** INDUSTRY

AZOTE®
high performance
polyolefin foams

ZOTEK®
advanced
polymer foams