

## AIREX® R63.80 DAMAGE TOLERANT FOAM

### DESCRIPTION

A resilient, closed cell, linear foam with an extremely high damage tolerance. It is cold formable to simple 3-dimensional contours. It can also be thermoformed to more complex 3-dimensional shapes. It is a suitable core material for dynamically loaded, fatigue endangered and shock absorbing sandwich structures.

### APPLICATION

#### Marine

Parts of hull (slamming area)

#### Road and rail

Front ends for trains, side-skirts

#### Industrial parts

Impact and dynamically loaded structures

### CHARACTERISTICS

- Extremely high impact resistance
- Resilient, non-brittle failure mode
- Excellent fatigue resistance
- Easily shapable to 3-dimensional contours
- Rot resistant in humid environments
- Easily thermoformable

### PROCESSING

- Hand lay-up
- Fibre spraying
- Vacuum injection (RTM, VARI, RRIM, SCRIMP®)
- Adhesive bonding
- Prepreg processing
- Thermoforming

# TECHNICAL INFORMATION

## AIREX® R63.80 DAMAGE TOLERANT FOAM

Typical properties for AIREX® R63.80	Norm	Unit	Average
Apparent nominal density	ISO 845	kg/m <sup>3</sup> pcf	90 5.6
Compressive strength perp. to plate	ISO 844	N/mm <sup>2</sup> psi	0.9 130
Compressive modulus perp. to plate	ASTM 1621/B	N/mm <sup>2</sup> psi	56 8120
Tensile strength in plane	DIN 53455	N/mm <sup>2</sup> psi	1.4 200
Tensile modulus in plane	DIN 53457	N/mm <sup>2</sup> psi	50 7250
Shear strength	ISO 1922	N/mm <sup>2</sup> psi	1.0 145
Shear modulus	ASTM C393	N/mm <sup>2</sup> psi	21 3050
Shearing at break	ISO 1922	%	75
Impact strength	DIN 53453	kJ/m <sup>2</sup> lb.ft/in <sup>2</sup>	5.0 2.4
Thermal conductivity	ISO 8301	W/mK BTU.in/ft <sup>2</sup> .h.°F	0.037 0.26

The data provided gives approximate values for the nominal densities. Due to density variations these values can be lower than indicated above. Minimum values to calculate sandwich constructions can be provided on request.

### DIMENSIONS

Plain sheets	Width	mm, ± 10	1200
	Length	mm, ± 10	2700
	Thickness	mm, ± 0.5	3* to 25
Contoured	Width	mm, ± 10	520
	Length	mm, ± 10	1200
	Thickness	mm, ± 0.5	10 to 25
<b>Colour</b>	<b>Brownish yellow</b>		

\* Tolerance for 3 mm : +0.8 mm/-0.2 mm

Other dimensions and closer tolerances upon request.

Any information in this document is presented to our best knowledge. All properties are based on individual values and should be considered as a guideline, not as a specification. They are in no way legally binding. Further are applicable the general terms of payment and delivery of Imbema Holland B.V. and her affiliated companies, in which, among others, has been taken a restriction of liability. They are registered on October 15<sup>th</sup>, 1982 at the district-court in Haarlem, The Netherlands. These can be sent on demand.



**imbema kunststofchemie**

**Sirex®**

**Imbema Kunststofchemie B.V.**  
Nijverheidsweg 5-7  
Postbus 160 NL-2000 AD Haarlem  
T +31 (0)23 517 24 24  
F +31 (0)23 532 65 21  
info@imbemakunststofchemie.nl  
www.imbemakunststofchemie.nl  
Een onderneming van de Imbema Groep.

**Imbema Kunststoffchemie GmbH**  
Enzstraße 17, D-70806 Kornwestheim  
Postfach 1947, D-70799 Kornwestheim  
T +49 (0)7154-3091  
F +49 (0)7154-24714  
sales@imbema.de  
www.imbema.de  
Ein Unternehmen der Imbema Gruppe.

