

PRODUCT DATA SHEET

DENSBAK[®] ECO FLEX ACOUSTIC MEMBRANE



General Product Information

DENSBAK[®] ECO FLEX is our most flexible heavy mass layer, free of chlorine and plasticisers, offering top-tier low VOC performance.

It is engineered for commercial and industrial soundproofing applications to minimise airborne sound transmission.

DENSBAK[®] ECO FLEX also features high bond affinity, ensuring exceptional adhesion with both wet and self-adhesives, as well as hot melts, resulting in robust and reliable surface bonding.

The absence of plasticisers allows for a broader selection of more cost-effective adhesives, as there is no need for plasticiser-resistant options.

Key Benefits of High Bond Affinity:

- Versatile Adhesion:** Ensures strong and reliable bonding with various adhesive types.
- Increased Durability:** A 50% increase in peel strength over DENSBAK V ensures more durable bonds.
- Enhanced Performance:** Over 100% improvement in peel strength compared to the DENSBAK F40/F series enhances overall performance.
- Cost Efficiency:** Broader selection of cost-effective adhesives due to no need for plasticiser-resistant options.



DENSBAK[®] ECO FLEX doesn't significantly contribute to carbon monoxide and toxic gases in a fire compared to other products. It can be used instead of MLV (mass loaded vinyl) products, benefiting from being lower odour, better interior air quality, and being PVC/Chloride free.

DENSBAK[®] ECO FLEX is manufactured sustainably in the UK, using over 50% recycled thermoplastic in the composition of the acoustic barrier, and is 100% recyclable. It is also free from substances of very high concern (SVHC) such as lead, halogens, and unrefined aromatic oils.

Key Features and Benefits:

- Improved Safety:** Compared with DENSBAK F40/F range DENSBAK[®] ECO FLEX gives a 30% improvement in flammability performance according to ISO 3795 standards offers better flame resistance, enhancing safety.
- Low Toxicity:** compared with other products does not significantly release carbon monoxide and other toxic gases in the event of a fire, contributing to a significantly safer environment and reducing health risks.
- Healthier Air Quality:** Lower odour and the absence of PVC/Chloride significantly improve indoor air quality,

promoting a healthier living and working environment.

- Sustainable Manufacturing:** Made in the UK with over 50% recycled thermoplastic and is 100% recyclable, supporting environmental sustainability.
- Chemical Safety:** Free from SVHC like lead, halogens, and unrefined aromatic oils, ensuring a safer and healthier product.
- VOC Credentials:** Ultra-low VOC content means DENSBAK® ECO FLEX contains no known ozone-depleting substances. Independent testing shows it achieves Exemplary Level results for BREEAM® International/NOR Regulations, passes LEED v4.1 (outside U.S.), and has a Eurofins Gold+ Standard rating for indoor air comfort.

Regulation or protocol	Conclusion	Version of regulation or protocol
French VOC Regulation		Decree of March 2011 (DEVL1101903D) and Arrêté of April 2011 (DEVL1104875A) modified in February 2012 (DEVL133129A)
French CMR components	Pass	Regulation of April and May 2009 (DEVP0908633A and DEVP0910046A)
Italian CAM Edilizia ABG/AqB8	Pass	Decree 11 October 2017 (GU n.259 del 6-11-2017)
Belgian Regulation	Pass	Ausschuss zur gesundheitlichen Bewertung von Bauprodukten (June 2021)
Indoor Air Comfort®	Pass	Royal decree of May 2014 (C-2014/24239)
Indoor Air Comfort GOLD®	Pass	Indoor Air Comfort 7.0 of May 2020
BREEAM® International	Exemplary Level	BREEAM International New Construction v6.0 (2021)
BREEAM® NOR	Exemplary Level	BREEAM-NOR v6.0 New Construction (2022)
LEED v4.1 BETA (outside U.S.)	Pass	LEED v4.1 BETA for Building Design and Construction (February 2021)

Dimensions

Size: Available standard roll sizes and sheets

- Up to 2.0m wide.
- lengths to nearest 10mm.
- Small rolls (less than 10m).
- Large rolls up to 650kgs.

Available weights

2.0kg/m² to 10kg/m²

Manufacturing tolerance ±10%



Applications

It is ideal for use within the building envelope such as roofing systems, around ducts, pipes and as an acoustic membrane in walls, floors and ceilings. Combined with other sound absorbent materials DENSBAK® ECO FLEX can provide a superior acoustic performance.

DENSBAK® ECO FLEX is also available with a Class 'O' Aluminium Facing.



Installation

DENSBAK® ECO FLEX is manufactured in standard rolls or sheets and can be supplied with a self-adhesive backing for ease of installation.

The membrane can be glued using suitable adhesives for low surface energy polymeric products. The membrane should be mechanically fixed.

DENSBAK® ECO FLEX with its low tack properties, does not require plastic release liners to prevent the material from sticking together, even in warmer conditions.

This feature not only reduces costs but also eliminates waste, making it a more economical and environmentally friendly choice.

Key Benefits:

- Low tack properties prevent material from sticking together.
- No need for plastic release liners.
- Remains non-sticky even in warmer conditions.
- Reduces costs associated with materials and waste disposal.
- Environmentally friendly by eliminating unnecessary waste.



Quality and Environmental Standards

DENSBAK® ECO FLEX is manufactured in the UK. Niko Coatings Limited recognises the importance of quality and sustainability and is accredited to ISO 9001:2015, ISO 14001 standard and have achieved a gold sustainability rating from Ecovardis. Niko has also been accredited to ISO 45001.

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Packaging and Storage

DENSBAK® ECO FLEX standard rolls are packed on recycled cardboard roll cradles without cores on 4-way wooden pallets (1200mm x 800mm), heat shrink wrapped and strapped. The pallets should only be single stacked.

All products are wrapped in polythene for short-term protection, if stored outside. For longer-term protection, the product should be stored in dry premises, protected against weathering. In cold periods allow the product to acclimatise before use.



Standard products

DENSBAK® ECO FLEX can be supplied in a range of made to order or standard rolls, details are shown below:

Standard Products	DENSBAK® ECO FLEX	DENSBAK® ECO FLEX	DENSBAK® ECO FLEX
Weight (kg/m ²)*	5	7	10
Thickness (mm)*	2.5	3.5	5
Length (m)	6	5	4
Width (m)	1.2	1.2	1.2
M ² per roll	7.2	6	4.8
Rolls per pallet	24	24	21
M ² per pallet	172.8	144	100.8

* **DENSBAK® ECO FLEX** is manufacturing tolerance $\pm 10\%$ and controlled on weight standards.



Technical Information

Reaction to fire ISO 3795 – Horizontal burning behaviour UL94 HB	$\leq 18\text{mm/min}$ $< 76\text{ mm/min}$ for thickness $< 3\text{ mm}$ or burning stops before 100 mm
Shore Hardness	77 Shore A
Density	1.9g/cm ³ (± 1)
Tensile strength at break Elongation ISO 527-2/5A/100	$\geq 0.9\text{MPa}$ $\geq 200\%$
Dimensional change on heating (ISO 11501) ${}^{\circ}\text{C} = 70 / t\text{ h} = 6$ ${}^{\circ}\text{C} = 120 / t\text{ min} = 15$	$< 3\%$ $< 5\%$
Cold resistance Curve on Ø20mm core at 21°C and -25°C	No damage No cracks
Polymer Temperatures: Vicat Softening (ISO 306) Melting (ISO 11357-3) Minimum Moulding Optimum Moulding Range	55°C to 60°C 110°C 120°C 130°C to 140°C
Static service and continuous operating temperatures	-30°C - 80°C Short exposures 80 -160°C *
DENSBAK ECO FLEX can remain in a fixed position at a temperature up to 80°C at which point the product will start to soften. At this temperature DENSBAK ECO FLEX can operate without failure or significant wear over time *DENSBAK ECO FLEX can remain in a fixed position for short exposures without undergoing any significant change in its physical or chemical properties when fixed to a substrate such as Glass or Aluminium Foil.	
VOC EN 16516	EUROFINS Gold A+
TVOC VDA 277	<100 µgC/g
Odour intensity VDA 270	≤ 3



Acoustic Performance

BS EN 10140-2 2010

Sound reduction index

According to Acoustic Performance standards (BS EN 10140-2 2010), **DENSBAK® ECO FLEX** demonstrates excellent sound reduction capabilities, with some typical values provided for reference.

Material	Sound Reduction - Rw
Weight (kg/m ²)	(weighted sound reduction index - BS EN ISO 717-1)
2.5	22dB
5	27dB
7	29dB
10	32dB

The information contained in this data sheet is believed to be correct at the date of publication. Every effort has been taken in the preparation of this data sheet to ensure the accuracy of representations contained herein. Goods manufactured by the company are made to our approved standards, but no warranty or guarantee is given as to their suitability for any particular purpose or application, and no liability is accepted for any loss or damage arising directly or indirectly from the use of the Company's products irrespective of any information given to us as to intended use of such products.



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