

# BREEAM COMPLIANCE PRODUCT CARD

## Technical insulation



### Armacell

Armacell are manufacturers of Armaflex, closed cell foam based on synthetic rubber with antibacterial protection Microban®. Armaflex is used to insulate and protect pipes, vessels and ducts incl. elbows, fittings, flanges etc.

Armacell also manufacture acoustic foam insulation products.

### BREEAM New Construction 2014

BREEAM is a multi-criteria scheme to assess and certify buildings. It emphasises sustainable development by promoting green, healthy and eco-friendly buildings. Features of the building which may be assessed are: materials, quality of indoor environments and energy efficiency etc. Nowadays it has become a standard in the construction industry

BREEAM compliance product card for Armacell was prepared to help designers, architects, engineers, consultants and developers to provide clear information and to facilitate choosing the correct product. Appropriate BREEAM categories related to Armacell product features were chosen and checked. Armacell product compliance and contribution to BREEAM Categories are presented below.



BREEAM Category	Issue ID	BREEAM Requirement	Credits	Product Compliance
Life cycle cost and service life planning	Man 02	A life cycle cost and service life planning analysis of the building components and elements should be carried out in order to obtain their full information through all the life cycle.	4**	Armaflex life cycle information may be part of the building analysis. The following data may be useful: - life cycle durability: restricted to the service life of the equipment or the whole building (>50 years), - restrictions: temperature range: -50°C to +110°C or -50°C to +150°C for high temperature HT/Armaflex, - recycling: non-recyclable, - costs: during installation and utilization (no costs concerned with exploitation, amortization, depreciation), - advantages for building system: cost savings for heating/cooling, More information may be found in Environmental Product Declarations <sup>1</sup> .
Indoor air quality: Minimising sources of air pollution	Hea 02	Building should meet appropriate formaldehyde and VOC emission levels at product and post construction stage.	5**	Sampling, testing and evaluation of Armaflex and adhesives were performed according to ISO 16000-9. Insulation meets exemplary level emission limits <sup>2</sup> . - Formaldehyde ≤ 0.01 mg/m <sup>3</sup> - Total volatile organic compounds ≤ 0.3 mg/m <sup>3</sup> - Total semi-volatile organic compounds ≤ 0.1 mg/m <sup>3</sup> - Category 1A and 1B carcinogens ≤ 0.001 mg/m <sup>3</sup>
Acoustic performance	Hea 05	An acoustic indoor performance should be carried out by a suitably qualified acoustician in accordance to requirements and for each stage of investment: design and post construction. Noise levels should meet those set out in the relevant regulation and guidance document.	4**	Armaflex can impact on building services acoustic insulation. The following data may be useful: - reduction of structure borne sound transmission: < 28 dB(A) - weighted sound absorption coefficient $\alpha_w < 0.45$ ArmaSound RD can impact on building services acoustic insulation. The following data may be useful: - weighted sound absorption coefficient $\alpha_w$ 0.15 - 0.60 - noise reduction coefficient NRC < 0.75 ArmaComfort can impact on building services acoustic insulation. The following data may be useful: - reduction of structure borne sound transmission: < 14 dB(A) - weighted sound reduction index $R_w < 28$ Tubolit AR Fonowave & Fonoblok can impact on building services acoustic insulation. The following data may be useful: - Fonowave reduction of structure borne sound transmission: < 11 dB(A) - Fonoblok reduction of structure borne sound transmission: < 15 dB(A)
Responsible sourcing of materials	Mat 03	Construction products should be responsibly sourced. A responsibly sourced confirmation should be provided in the form of third party certification.	4*	Armacell products are responsibly sourced, which is confirmed in our ISO 14001 certification (available on request) <sup>3</sup> .
Insulation	Mat 04	To recognise and encourage the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties. Products with a positive Green Guide rating should be used.	1*	Nitrile rubber insulation materials, such as Armaflex, achieve a Green Guide rating of A. A number of our Armaflex products are also covered by a tier 2 EPD according to ISO 14025, which can be used to provide a points uplift when calculating the Insulation Index. The details on the ratings and relevant Green Guide element numbers can be found at <a href="http://www.thegreenguide.org.uk">www.thegreenguide.org.uk</a>
Material efficiency	Mat 06	In order to minimise materials environmental impact more efficient materials should be used during building design, procurement, construction, maintenance and end of life.	1**	The product as part of the building energy system has the following efficiency features: - a service life of more than 50 years - it may be damaged only by extraordinary impacts - varied ranges (2m tubes, coils and sheet). Material waste is reduced.
Reduction of noise pollution	Pol 05	To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings. A noise impact assessment in compliance with BS 7445 should be carried out for building within 800m.	1**	Armaflex can impact on building services acoustic insulation. The following data may be useful: - reduction of structure borne sound transmission: < 28 dB(A) - weighted sound absorption coefficient $\alpha_w < 0.45$ ArmaSound RD can impact on building services acoustic insulation. The following data may be useful: - weighted sound absorption coefficient $\alpha_w$ 0.15 - 0.60 - Noise reduction coefficient NRC < 0.75 ArmaSound Industrial Systems can be used to reduce noise levels from pipework according to ISO 15665.
Thermal comfort	Hea 04	A thermal comfort analysis should be carried out to assess if the indoor environment maintains comfortable conditions for building users in terms of appropriate thermal comfort levels according to CIBSE AM11 Building Energy and Environmental Modelling.	3**	The product is part of systems inside the building. For energy efficiency the main parameter of the AF/Armaflex Class O product is thermal conductivity $\lambda 0^\circ\text{C} < 0.033 \text{ W/(m}\cdot\text{K)}$ . Armaflex low thermal conductivity together with its high water vapour diffusion resistance means it provides energy savings and reductions in heat losses over the whole lifetime of the heating/cooling system. It helps to reduce the energy output of the system, which can also prolong its service life.
Reduction of energy use and carbon emissions	Ene 01	An energy performance assessment should be carried out to assess building energy consumption, to an Energy Performance Ratio (ERP), during operation in comparison with the following requirements: notional building and BREEAM best practice building.	12**	
Energy efficient cold storage	Ene 05	Greenhouse gas emissions from cold storage should be reduced by improving their energy efficiency.	2**	
Energy efficient equipment	Ene 08	Encourage the use of energy efficient equipment to ensure optimum performance and energy savings.	2**	

Detailed information please refer to the documents provided by the manufacturer:

<sup>1</sup> Environmental Product Declarations are available for AF/Armaflex Class O, Armaflex Ultima, HT/Armaflex, NH/Armaflex, AF/Armaflex and SH/Armaflex. Available from [www.armacell.com/epd](http://www.armacell.com/epd)

<sup>2</sup> Eurofins Product Testing A/S attestation and test report data

<sup>3</sup> ISO 14001 certificates are available for manufacturing site in Oldham (UK), Munster (Germany), Środa Śląska (Poland) and Begur (Spain) as well as for our main polymers production.

\* Armacell products have a direct impact on the following categories. While using Armacell products, with other appropriate products, the credits stated above or part of these credits may be achieved.

\*\* Armacell products have an indirect impact on the following categories. Using Armacell products with other appropriate products may contribute to achieving the credits stated or part of these credits.

\*\* Credits are Building type dependant.