

BREEAM COMPLIANCE PRODUCT CARD

Technical insulation



Armaflex Protect

Armaflex Protect is flexible elastic seal and insulation not only for copper, steel, stainless steel and cast iron pipework but also for combustible supply pipes such as multilayer composite pipes, PE, PE-HD, PP or PVC pipes through fire-resistant walls and ceilings. Armaflex Protect guarantees reliable fire protection in all structural elements and is applicable with all Armaflex insulation products².

BREEAM International New Construction 2016

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





BREEAM compliance product card for **Armaflex Protect** was prepared to assist designers, architects, engineers, consultants and developers to provide clear information and to facilitate choosing proper product. Appropriate BREEAM features related to **Armaflex Protect** product were chosen and checked. **Armaflex Protect** compliance and contribution to BREEAM features are presented below.



Product compliant



Product contributes to a better rating

BREEAM category	Issue	BREEAM Requirements	Credits	Product Compliance	
Indoor air quality: Minimising sources of air pollution	Hea02	At least four of five finishing materials should meet appropriate volatile organic compounds (VOC) emission levels and confirm compliance with testing standards ISO 10580, ISO 16000-9, CEN/TS 16516 or CDPH Standard Method v1.1. VOC emission limits for insulation were listed in Tables 17 and 18 of BREEAM International NC 2016 Manual.	3*	Sampling, testing and evaluation of Armaflex Protect were performed according to ISO 16000-9. Insulation meets exemplary limits ¹ : -Formaldehyde $\leq 0,01 \text{ mg/m}^3$ -Total volatile organic compounds $\leq 0,3 \text{ mg/m}^3$, -Total semi-volatile organic compounds $\leq 0,1 \text{ mg/m}^3$, -Category 1A and 1B carcinogens $\leq 0,001 \text{ mg/m}^3$.	
Responsible sourcing of construction	Mat03	Construction materials should be responsibly sourced. A responsibly sourced confirmation of "supply chain process" and "key process" should be provided.	4*	Armaflex Protect is responsibly sourced which may be confirmed with ISO 14001 certificates for: -Supply chain process (polymer), -Key process (insulation production) ³ .	
Material efficiency	Mat06	In order to minimise materials' environmental impact more efficient materials should be used during building design, procurement, construction, maintenance and end of life.	1**	Armaflex Protect as part of building energy system is highly efficient material based on synthetic rubber ² .	
Thermal comfort	Hea04	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 level according to ISO 7730:2005	3**	Armaflex Protect is a part of building system. Adjusting proper design parameters will enable to improve energy efficiency and its supply to the system appliances. For energy efficiency the main parameter of Armaflex Protect is thermal conductivity $\lambda_{0\text{pc}} \leq 0,056 \text{ W/mK}^2$.	
Reduction of energy use and carbon emissions	Ene01	An energy performance should be carried out to assess building energy consumption during operation in comparison with the following requirements: national (parameters defined by national standards) and BREEAM best practice (BREEAM defined parameters) building.	15**		
Energy efficient cold storage	Ene05	Greenhouse gas emissions from cold storage systems should be reduced by improving their energy efficiency.	3**		

For detailed information please refer to the documents provided by manufacturer:

¹ Eurofins Product Testing A/S attestation and test report No. 392-2013-GSH-CEFEP_01

² Armaflex Protect product card

³ ISO 14001 certificates are available for the factories in Münster and Leuthirch (Germany) as well as for main polymers production

* Armaflex Protect has a direct impact on the following categories. While using Armaflex Protect with another appropriate products— credits stated above may be awarded. Maximum number of credits influenced by the product for each category was stated above.

** Armaflex Protect has an indirect impact on the following categories. Using Armaflex Protect with another appropriate products may contribute to achieve credits. Maximum number of credits influenced by the product for each category was stated above.

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LEED COMPLIANCE PRODUCT CARD

Technical insulation



Armaflex Protect

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LEED v4

for Building Design and Construction

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





LEED compliance product card for Armaflex Protect was prepared to assist designers, architects, engineers, consultants and developers to provide clear information and to facilitate choosing proper product. Appropriate LEED categories related to Armaflex Protect product were chosen and checked. Armaflex Protect compliance and contribution to LEED categories are presented below.



Product compliant



Product contributes to a better rating

LEED Issue	Credit	LEED Requirements	Points	Product Compliance
EA Prerequisite Minimum Energy Performance	Option 1. Whole-building energy simulation	An energy calculation should be carried out based on simulation model in accordance to the ANSI/ASHRAE/IESNA Standard 90.1-2010, Appendix G with errata. An improvement of 5% (new construction projects), 3% (major renovations projects), 2% (core and shell projects) over a baseline should be demonstrated.	-	Armaflex Protect is a part of building system. Adjusting proper design parameters will enable to improve energy efficiency and its supply to the system appliances. For energy efficiency the main parameter of Armaflex Protect is thermal conductivity $\lambda_{0°C} \leq 0,056 \text{ W/mk}^2$
EA Optimize Energy Performance	Option 1. Whole-building energy simulation	Building's energy performance calculated using computer simulation model should demonstrate an improvement in comparison to the baseline. Number of points awarded depends on percentage improvement.	18**	
EQ Thermal Comfort	Thermal Comfort Design Option 2. ISO and EN standards	A thermal comfort analysis should be carried out in accordance to the standards: ISO 7730:2005 and EN 15251:2007.	1**	
MR Building Product Disclosure and Optimization—Sourcing of Raw Materials	Option 1. Raw Material Source and Extraction Reporting	Use at least 20 permanently installed products from at least five different manufacturers that have publicly released report from their raw material suppliers. Corporate sustainability report (CSR) should be created and verified by third-party. Acceptable frameworks are: - Global Reporting Initiative Sustainability Report, - Organisation for Economic Co-operation and Development Guidelines for Multinational Enterprises, - U.N. Global Compact: Communication of Progress, - ISO 26000: 2010 Guidance on Social Responsibility, - USGBC approved program.	1*	Armacell—the manufacturer of the Armaflex Protect participate in U.N. Global Compact: Communication of Progress. The commitment to the U.N. Global Compact is demonstrated in the Report ³ that covers the policies and actions implemented by Armacell. 
EQ Low-Emitting Materials	Option 1. Product category calculations	Up to 7 product categories of finishing materials should be compliant with relevant volatile organic compounds (VOC) emission levels and testing standards: -CDPH Standard Method (2010) or -German AgBB Testing and Evaluation Scheme (2010) or -ISO 16000-3/6/9/11:2010 in conjunction with AgBB or French legislation on VOC emission class labeling or the DIBt testing method (2010).	3*	Armaflex Protect has been tested in accordance to ISO 16000-3/6/9/11:2010 in conjunction with German AgBB Testing. Product complies with limit values of the AgBB and CDPH (2010). For the French regulation emission class is A+ ² . 
EQ Construction Indoor Air Quality Management Plan for Healthcare building		Construction procedures should be schedule to minimize exposure of absorbent materials to VOC emissions.	1**	Armaflex Protect is low-emitting material, which do not release pollutants over time. Any absorbent materials installed in the building are safe from insulation related VOCs ² . 

For detailed information please refer to the documents provided by manufacturer:

¹ Armaflex Protect product card

² Eurofins Product Testing A/S attestation and test report No. 392-2013-GSH-CEFEP_01

³ Armacell's Communication on Progress Report 2017 (https://www.unglobalcompact.org/system/attachments/cop_2018/463672/original/Armacell_2017_COP_UNGC.pdf) 1526649355

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