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European Technical Assessment

ETA 23/0973 of 29/02/2024

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: UL International (Netherlands) B.V.

Trade name of the construction product	Knauf FPC Panel
Product family to which the construction product belongs	Fire Stopping and Sealing Product: • Penetration Seals
Manufacturer	Knauf Sia Daugavas iela 4, Saurieši, Stopiņu pagasts, Ropažu novads, LV-2118, Latvija
Manufacturing plant(s)	A/003
This European Technical Assessment contains	103 pages including 1 Annex which forms an integral part of this assessment.
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	EAD 350454-00-1104, September 2017.

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I. SPECIFIC PARTS OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

- 1) Knauf FPC Panel is a coated mineral wool board used to reinstate the fire resistance performance of wall and floor constructions where they have been provided with apertures for the penetration of single or multiple services.
- 2) The Knauf FPC Panel is supplied coated on one face, referenced 1-S, or on both faces, referenced 2-S. The board or boards are then cut to allow the penetration of the required services, before being inserted into the aperture in the wall.
- 3) Knauf Firewraps, Knauf FPG Graphite – Fire Protection Graphite and Knauf FPC Service Coating are required to be used in conjunction with Knauf FPC Panel depending upon the required application and classification (see Annex A). Knauf Firewraps, Knauf FPG Graphite – Fire Protection Graphite and Knauf FPC Service Coating are the subject of separate ETA's.
- 4) Cut the required board(s) to suit the aperture dimensions and type and size of service penetration(s) (see Annex A). All exposed and cut edges of the board can be sealed with Knauf FPC Coating or Knauf FPA Acrylic prior to fitting which will act as an adhesive (optional). The board(s) must be friction fitted into the aperture with a tight fit (unless patress fitted). All joints, gaps or imperfections in the installed seal must be filled with Knauf FPA Acrylic on the coated exposed side(s) of the board(s). Visible edges of Knauf Firewraps can be sealed with Knauf FPA Acrylic (optional).
- 5) The applicant has submitted a written declaration that Knauf FPC Panel does not contain substances which have to be classified as dangerous according to Directive 67/548/EEC and Regulation (EC) No 1272/2008 and listed in the "Indicative list on dangerous substances" of the EGDS - taking into account the installation conditions of the construction product and the release scenarios resulting from there.

In addition to the specific clauses relating to dangerous substances contained in this European technical Assessment, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products Regulation, these requirements need also to be complied with, when and where they apply.

2 Specification of the intended uses of the product in accordance with the applicable European Assessment Document (Hereinafter EAD): EAD 350454-00-1104: 2017

Detailed information and data is given in Annex A.

- 1) The intended use of Knauf FPC Panel is to reinstate the fire resistance performance of flexible wall, rigid wall and floor constructions, and timber wall and floor constructions where they are penetrated by various cables, metallic pipes, composite pipes and plastic pipes.
- 2) The specific elements of construction that the system Knauf FPC Panel may be used to provide a penetration seal in, are as follows:
 - a. Flexible walls: The wall must have a minimum thickness of 75 mm and comprise steel or timber studs* lined on both faces with minimum 1 layer of 12.5 mm thick boards. Apertures are not required to be lined. Flexible wall solutions may also be used in rigid walls, with a minimum density of 350 kg/m³.
 - b. Timber walls: The wall must have a minimum thickness of 100 mm and comprise solid wood or cross-laminated timber.

- c. Rigid walls: The wall must have a minimum thickness of 75 mm and comprise concrete, aerated concrete or masonry, with a minimum density of 650 kg/m³.
- d. Rigid floors: The floor must have a minimum thickness of 125 mm and comprise aerated concrete or concrete with a minimum density of 650 kg/m³.
- e. Timber floors: The floor must have a minimum thickness of 150 mm and comprise solid wood or cross-laminated timber.

* no part of the penetration seal may be closer than 100 mm to a stud, the cavity must be closed between the penetration seal and the stud, and minimum 100 mm of insulation of class A1 or A2 according to EN 13501-1 must be provided within the cavity between the penetration seal and the stud.

The supporting construction must be classified in accordance with EN 13501-2 for the required fire resistance period.

Knauf Sia Fire Protection Systems which involve services penetrating both sides of a flexible wall may also be used in the situation where the services penetrates one side of the wall only and the remaining side of the wall is not penetrated at the same point (i.e. the services continues on the inside of the wall). All fire integrity and thermal insulation ratings for such single-sided penetrations remain the same as for the equivalent double-sided penetration.

- 3) The System Knauf FPC Panel may be used to provide a penetration seal with cables, conduits, cable trays, bus-bars, metallic pipes, composite pipes and plastic pipes, with and without insulation, with mixed services within the same seal/aperture (for details see Annex A).
- 4) The total amount of cross sections of services (including insulation) should not exceed 60% of the penetration area.
- 5) The system Knauf FPC Panel may be used to seal apertures in the separating element of unlimited width by 1200mm high in a wall (uninterrupted separating studs will be required at 2400 mm centres or less in flexible walls), or 2400mm high by 1200mm wide in rigid walls, and 2400mm by 1200 mm in a floor. The additional sizes that are permitted in floors are:

Where 2400 x 1200 mm is specified in Annex A

Width (mm)	Length (mm)
1200	12000
≤ 800	∞ (infinite)

Where 1200 x 600 mm is specified in Annex A

Width (mm)	Length (mm)
600	6000
≤ 400	∞ (infinite)

The minimum permitted separation between adjacent seals/apertures is 100 mm. Services should be a minimum of 25mm from seal edges. Services within the system Knauf FPC Panel seal do not require a minimum separation, except pipes where combustible pipe insulation penetrates the seal and plastic pipe penetrations which should be a minimum of 30 mm from other services in the aperture (there are exceptions in Annex A).

- 6) Services in floors shall be supported at maximum 450 mm from the top face. Services in walls shall be supported at maximum 270mm from both faces of the wall.
- 7) Where PVC pipes are mentioned in Annex A, this includes PVC-U, PVC-C and similar if the pipe is according to EN 1329-1, EN 1452-2, EN 1453-1[^] and EN 1566-1. Where PP pipes are mentioned in Annex A, this includes PP-MV, PP-H, PP-R and similar if the pipe is according to EN 1451-1 or DIN 8077/8078. Where PE pipes are mentioned, this includes PE-LD, PE-MD, PE-HD, PE-X and similar according to EN 1519-1, EN 12201-2 or EN 12666-1, ABS according to EN 1455-1 and pipes made from SAN+PVC according to EN 1565-1.
- 8) A pattress system is boards installed on the surface of a wall instead of inside the aperture which can be used in Annex A as an alternative installation method, limited to EI 120. The aperture can be located within the wall with maximum size 1100 x 1100 mm or towards the soffit with maximum size 550 mm high x 1100 mm wide. The boards must be oversailing the aperture by 50 mm on both sides of the wall, bonded to the wall with Knauf FPC Coating and fixed with $\geq 5 \times 100$ mm single thread wood, masonry or concrete screws and penny washers of steel at 300 mm centres. Exposed board edges must be coated with Knauf FPC Coating. Soffit applications can be fixed on three sides.
- 9) Solutions in Annex A for 100 mm thick flexible walls, can be used in timber walls (see 2.2) if installed as a pattress system on the surface of a wall instead of inside the aperture. The aperture can be maximum 600mm high x 1200mm wide. The boards must be oversailing the aperture by 100 mm on both sides of the wall, fixed to the wall with ≥ 100 mm wood screws and penny washers of steel at 300 mm centres. The gap between board and wall must have a bead of Knauf FPA Acrylic. Exposed board edges must be coated with Knauf FPC Coating.
- 10) Solutions in Annex A for 100 mm thick flexible walls with double layer 50 mm thick boards, can be used in 75 mm thick flexible and rigid walls with a maximum aperture of 1,200mm high x 900mm wide, limited to EI 60 unless specified otherwise in Annex A. The boards must be positioned centrally within the wall, and any exposed mineral fibres must be coated with Knauf FPC Coating.
- 11) Where single sided top face seals are described in Annex A, these can also be used in composite floors (e.g., concrete filled, steel trapezoidal decking).
- 12) Services through the system Knauf FPC Panel may be used in all angles between 90° and 45° in all directions, subject to metallic pipes only.
- 13) An aperture with or without penetrating services, fire sealed with the system Knauf FPC Panel, can include a steel or plastic sleeve casted or friction fitted within rigid constructions. The plastic sleeve should have a maximum wall thickness of 9.5 mm (36.3 mm limited to EI 60).
- 14) The system Knauf FPC Panel in walls, may be surrounded on two sides, horizontally and vertically, with FPC Flex 1-S, maximum 400 mm wide, comprising a lamel construction with the lamels orientated perpendicular to the face of the wall. The solution is limited to EI 120.
- 15) The provisions made in this European Technical Assessment are based on an assumed working life of the Knauf FPC Panel of 25 years, provided that the conditions laid down in the manufacturers datasheet and instructions for the packaging/transport/ storage/installation/use/repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.
- 16) Type Y₁: intended for use at temperatures below 0°C with exposure to UV but no exposure to rain. Includes lower classes Y₂, Z₁, Z₂.

3 Performance of the product and references to the methods used for its assessment

Product-type: Coated Board		Intended use: Penetration Seal
Assessment method	Essential characteristic	Product Performance
BWR 2 Safety in case of fire		
EN 13501-1	Reaction to fire	D – s1, d0
EN 13501-2	Resistance to fire	Annex A
BWR 3 Hygiene, health and environment		
EN 1026	Air permeability	Annex B
EAD 350454-00-1104, Annex C	Water permeability	No performance determined
Declaration of manufacturer & EN 16516	Release of dangerous substances	Declaration of manufacturer
BWR 4 Safety in use		
EOTA TR 001:2003	Mechanical resistance and stability	No performance determined
EOTA TR 001:2003	Resistance to impact/movement	Pass
EOTA TR 001:2003	Adhesion	No performance determined
EAD 350454-00-1104, Clause 2.2.9	Durability	Y ₁
BWR 5 Protection against noise		
EN 10140-1,2,4,5/ EN ISO 717-1	Airborne sound insulation	29 (-1;-3) dB ¹ 29 (0;-2) dB ² 52 (-4;-7) dB ³ 53 (-4;-7) dB ⁴
BWR 6 Energy economy and heat retention		
EN 12664, EN 12667, EN 12939, EN ISO 8990, EN ISO 6946, EN ISO 14683, EN ISO 10211, EN ISO 10456	Thermal properties	No performance determined
EN ISO 12572, EN 12086, EN ISO 10456	Water vapour permeability	No performance determined

¹ Single 50mm Knauf FPC Panel 2-S.

² Single 60mm Knauf FPC Panel 2-S

³ Double 50 or 60mm Knauf FPC Panel 1-S or 2-S

⁴ Double 50 or 60mm Knauf FPC Panel 1-S or 2-S with 50mm cavity

4 ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (HEREINAFTER AVCP) SYSTEM APPLIED, WITH REFERENCE TO ITS LEGAL BASE

According to the decision 1999/454/EC – Commission Decision of date 22nd June 1999 on the procedure for attesting the conformity of construction products pursuant to Article 20(2) of Council Directive 89/106/EEC as regards fire stopping, fire sealing and fire protective products, published in the Official Journal of the European Union (OJEU) L178/52 of 14/07/1999, (see <https://eur-lex.europa.eu/oj/direct-access.html>) of the European Commission¹, as amended, the system(s) of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) given in the following table(s) applies (apply).

Product(s)	Intended use(s)	Level(s) or class(es)	System(s)
Fire stopping and Fire Sealing Products	For fire compartmentation and/or fire protection or fire performance	Any	1

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Tasks of the manufacturer:

Factory production control

The manufacturer shall exercise permanent internal control of production. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures, including records of results performed. This production control system shall ensure that the product is in conformity with this European Technical Assessment.

The manufacturer may only use initial / raw / constituent materials stated in the technical documentation of this European Technical Assessment.

The factory production control shall be in accordance with the Control Plan of 7th February 2023 relating to the European Technical Assessment ETA 23/0973 issued on 29/02/2024 which is part of the technical documentation of this European Technical Assessment. The "Control Plan" is laid down in the context of the factory production control system operated by the manufacturer and deposited at UL International (Netherlands) B.V.

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the Control Plan.

¹ Official Journal of the European Communities L178/52 of 14/7/1999

Other tasks of the manufacturer:

Additional information

The manufacturer shall provide a technical data sheet and an installation instruction with the following minimum information:

- (a) Technical data sheet:
- Field of application:
 - Building elements for which the penetration seal is suitable, type and properties of the building elements like minimum thickness, density, and - in case of lightweight constructions – the construction requirements.
 - Limits in size, minimum thickness etc. of the penetration seal
 - Construction of the penetration seal including the necessary components and additional products (e.g. backfilling material) with clear indication whether they are generic or specific.
 - Services which the penetration seal is suitable, type and properties of the services like material, diameter, thickness etc. in case of pipes including insulation materials; necessary/allowed supports/fixings (e.g. pipe trays)
- (b) Installation instruction:
- Steps to be followed
 - Procedure in case of retrofitting
 - Stipulations on maintenance, repair and replacement

6 Issued on:

29th February 2024

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