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Authorised and notified according to Article 29 of the Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011

European Technical Assessment ETA-23/0167 of 2024/07/04

I General Part

Technical Assessment Body issuing the ETA and designated according to Article 29 of the Regulation (EU) No 305/2011: ETA-Danmark A/S	
Trade name of the construction product:	fischer FCFcl Plus
Product family to which the above construction product belongs:	Fire Stopping, Fire Sealing & Fire Protective Products. Fire Retardant Products
Manufacturer:	fischerwerke GmbH & Co. KG Klaus-Fischer-Str. 1 DE-72178 Waldachtal Telephone: +49 7443 120 www.fischer-international.com
Manufacturing plant:	fischerwerke
This European Technical Assessment contains:	13 pages including 2 annexes which form an integral part of the document
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of:	EAD 350141-00-1106 Fire Stopping and Fire Sealing Products, Linear Joint and Gap Seals

II SPECIFIC PART OF THE EUROPEAN TECHNICAL ASSESSMENT

1 Technical description of the product

fischer FCFcl Plus is a 120 mm thick aluminum-clad mineral wool used to reinstate the fire resistance performance of linear joint gaps in rigid wall constructions, rigid floor constructions, and perimeter joints in curtain wall façades.

fischer FCFcl Plus is supplied in boards and can be friction-fit in systems specified in Annex B of this document.

2 Specification of the intended use in accordance with the applicable European Assessment Document (hereinafter EAD)

The intended use of fischer FCFcl Plus is to reinstate the fire resistance performance of linear joint gaps in rigid wall and floor constructions, and perimeter joints in curtain wall façades.

The specific elements of construction that the system fischer FCFcl Plus may be used to provide a linear joint seal:

Rigid Floors:
The floor must have a minimum thickness of 150 mm and comprise concrete or aerated concrete with a minimum density of 650 kg/m^3.

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

The individual requirements for floors are detailed in the respective systems in Annex B of this document.

Rigid Walls:
The wall must have a minimum thickness of 150 mm and comprise concrete or aerated concrete with a minimum density of 650 kg/m^3.

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

The individual requirements for walls are detailed in the respective systems in Annex B of this document

fischer FCFcl Plus may be used to provide a linear joint or gap seal with specific supporting constructions and substrates (for details see Annex B of this document).

More information in table, section 3 “Performance of the product and references to the methods used for this assessment”.

The fire resistance of fischer FCFcl Plus is tested according to EN 1366-4 and EN 1364-4.

The maximum permitted joint/gap width for fischer FCFcl Plus is 400 mm.

The maximum movement capability of fischer FCFcl Plus is 25%

The installation guidelines for fischer FCFcl Plus in the technical datasheet accompanying this product must be followed.

The provisions made in this European Technical Assessment are based on an assumed intended working life of the sealant system of 25 years, provided that the conditions laid down in the product data sheet for the packaging/transport/storage/installation/use/repair are met.

The indications given on the intended working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body but are to be regarded only as a means for selecting the appropriate products in relation to the expected economically reasonable working life of the works.

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

Characteristic	Assessment of characteristic
3.2 Safety in case of fire (BWR 2)	
Reaction to fire	The product is classified as **A1** in accordance with EN13501-1, and the EC Delegated regulation 96/603/EC.
Resistance to fire	**See Annex B**
3.3 Hygiene, Health and the Environment (BWR 3)	
Air permeability	**No performance assessed**
Water permeability	**No performance assessed**
Content, emission and/or release of dangerous Substances*	Release scenario: **IA1**

	3 days [µg/m^3]	28 days [µg/m^3]
TSVOC	**< 0.005**	**< 0.005**
TVOC	**< 0.005**	**< 0.005**

3.4 Safety and accessibility in use (BWR4)	
Mechanical resistance and stability	**No performance assessed**
Resistance to impact/movement	**No performance assessed**
Adhesion	**No performance assessed**
Durability	Use category: **Type Y_1**
Movement capability	**See Annex B**
Cycling of perimeter seals for curtain walls	**Cycle tested at 30 cpm**
Compression set	**No performance assessed**
Linear expansion on setting	**No performance assessed**
3.5 Protection against noise (BWR5)	
Airborne sound insulation	**Rw (C; Ctr) = 27 (-0; -3) dB**
3.6 Energy economy and heat retention (BWR6)	
Thermal properties	**No performance assessed**
Water vapour permeability	**No performance assessed**

See additional information in section 3.7-3.8

*) 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.

3.7 Methods of assessment

The product is fully covered by EAD 350141-00-1106 Firestopping and fire sealing products, Linear Joint Seals. Mineral wool complying with the requirements of EN 14303 are deemed to satisfy the durability requirements for use conditions type Y_1. Products that meet requirements for types Y_1: Intended for use at temperatures below 0 °C with casual exposure to UV but no exposure to rain, also meet the requirements for type Y_2, Z_1 and Z_2.

3.8 General aspects related to the fitness for use of the product.

The European Technical Assessment is issued for the product based on agreed data/information, deposited with ETA-Danmark, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to ETA-Danmark before the changes are introduced. ETA-Danmark will decide if such changes affect the ETA and consequently the validity of the CE marking based on the ETA and if so whether further assessment or alterations to the ETA, shall be necessary.

The fischer FCFcl Plus for firestopping and fire sealing purposes are manufactured in accordance with the provisions of this European Technical Assessment using the manufacturing processes as identified in the inspection of the plant by the notified inspection body and laid down in the technical documentation.

4 Attestation and verification of constancy of performance (hereinafter AVCP) system applied, with reference to its legal base.

4.1 AVCP system

According to the decision 1999/454/EC of the European Commission, the system of assessment and verification of constancy of performance (see Annex V to Regulation (EU) No 305/2011) is: **1.**

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

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited at ETA-Danmark prior to CE marking.

Issued in Copenhagen on 2024-07-04 by

Thomas Bruun
Managing Director, ETA-Danmark

Annex A

References

A.1 References to standards mentioned in the ETA:

EN 1364-4:2014	Fire resistance tests for non-loadbearing elements - Part 4: Curtain walling - Part configuration
EN 1366-4:2021	Fire resistance tests for service installations - Part 4: Linear joint seals
EN 13501-1:2018	Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests
EN 13501-2:2023	Fire classification of construction products and building elements - Part 2: Classification using test data from fire resistance tests
EN 14303:2015	Thermal insulation products for building equipment and industrial installations - Factory made mineral wool (MW) products
EN 16516:2017+A1:2020	Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air

A.2 Other reference documents:

EAD 350141-00-1106	European Assessment Document: Fire Stopping and Fire Sealing Products, Linear Joint and Gap Seals, September 2017
EOTA TR 024	EOTA Technical Report: Technical description and assessment of reactive products effective in case of fire, Edition November 2006, Amended August 2019
Council Directive 67/548/EEC	Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances
1999/454/EC	Commission Decision of 22 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 (notified under document number C(1999) 1481) (Text with EEA relevance)
Regulation (EU) No 305/2011)	Regulation 305/2011/EU on construction products: European CE-Regulation that outlines safety requirements for all construction products sold within the EU

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Annex B

Resistance to Fire Classification of fischer FCFcl Plus

B.1. Rigid wall construction with wall thickness of minimum 150 mm

B.1.1 Single sided linear wall joint seal, without brackets

Joint Seal: fischer FCFcl Plus compressed and installed friction-fit flush with unexposed side of wall

Construction details:

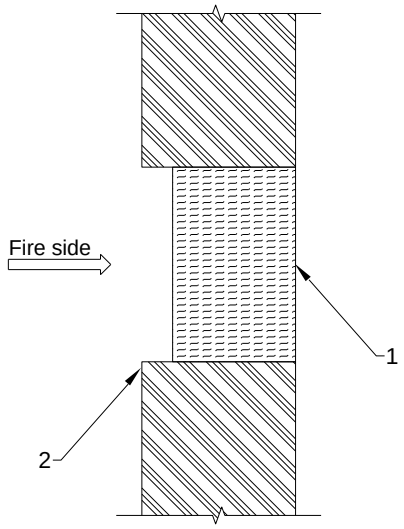

Figure not to scale

Key:

1. fischer FCFcl Plus
2. Wall

Table B.1.1

Substrate	Joint width	Brackets	Compression	Classification
Rigid wall ($\rho \geq 650$ kg/m³)	≤150 mm*	Not required	≥25 %	EI 120–H–X–F–W 5 to W 150

* Splices to be covered with 100 mm wide aluminum tape on both sides

B.1.2 Single sided linear wall joint seal, with brackets

Joint Seal: fischer FCFcl Plus compressed and installed friction-fit flush with unexposed side of wall

Construction details:

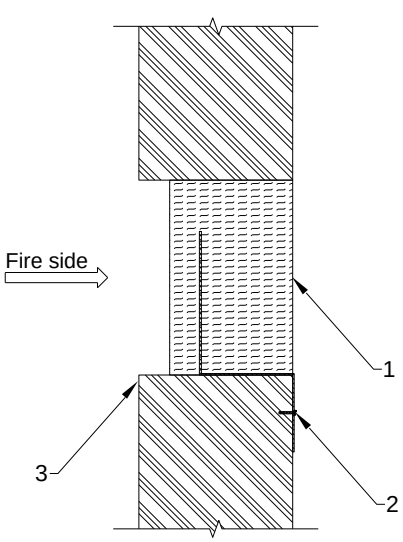

Figure not to scale

Key:

1. fischer FCFcl Plus
2. Bracket (0.9 mm)
3. Wall

Table B.1.2

Substrate	Joint width	Brackets	Compression	Classification
Rigid wall (ρ ≥650 kg/m³)	≤150 mm*	Min. 2 brackets per section of board and to be spaced max 300 mm on center. Brackets inserted at 90 mm from top side of FCFcl Plus and protruding ¾ width of joint opening.	≥10 %	E 120–H–X–F–W 5 to W 150 EI 90–H–X–F–W 5 to W 150
Rigid wall (ρ ≥2400 kg/m³)	≤200 mm*	Min. 2 brackets per section of board and to be spaced max 600 mm on center. Brackets inserted at 90 mm from top side of FCFcl Plus and protruding ¾ width of joint opening.	≥20 %	E 240–H–X– F–W 5 to W 200 EI 180–H–X– F–W 5 to W 200
	≤400 mm*			E 240–H–X–F–W 5 to W 400 EI 60–H–X–F–W 5 to W 400

* Splices to be covered with 100 mm wide aluminum tape on both sides

B.2. Rigid floor construction with floor thickness of minimum 150 mm

B.2.1. Single sided linear floor joint seal, without brackets

Joint Seal: fischer FCFcl Plus compressed and installed friction-fit flush with top surface of floor.

Construction details:

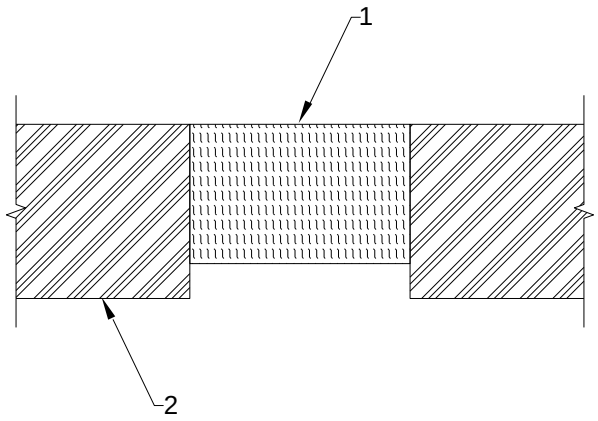

Figure not to scale

Key:

1. fischer FCFcl Plus
2. Floor

Table B.2.1

Substrate	Joint width	Brackets	Compression	Classification
Rigid floor (ρ ≥650 kg/m³)	≤150 mm*	Not required	≥25 %	EI 120–H–X–F–W 5 to W 150

* Splices to be covered with 100 mm wide aluminum tape on both sides

B.2.2. Single sided linear floor joint seal, with brackets

Joint Seal: fischer FCFcl Plus compressed and installed with steel brackets friction-fit flush with top surface of floor.

Construction details:

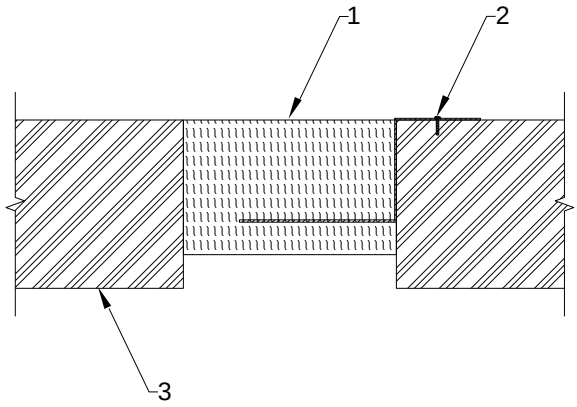

Figure not to scale

Key:

1. fischer FCFcl Plus
2. Bracket (0.9 mm)
3. Floor

Table B.2.2

Substrate	Joint width	Brackets	Compression	Classification
Rigid floor (ρ ≥650 kg/m³)	≤150 mm*	Min. 2 brackets per section of board and to be spaced max 300 mm on center. Brackets inserted at 90 mm from top side of FCFcl Plus and protruding ¾ width of joint opening.	≥10 %	E 120–H–X–F–W 5 to W 150 EI 90–H–X–F–W 5 to W 150
Rigid floor (ρ ≥2400 kg/m³)	≤200 mm*	Min. 2 brackets per section of board and to be spaced max 600 mm on center. Brackets inserted at 90 mm from top side of FCFcl Plus and protruding ¾ width of joint opening.	≥20 %	E 240–H–X–F–W 5 to W 200 EI 180–H–X–F–W 5 to W 200
	≤400 mm*			E 240–H–X–F–W 5 to W 400 EI 60–H–X–F–W 5 to W 400

* Splices to be covered with 100 mm wide aluminum tape on both sides

B.1.1 Non-fire rated curtain wall façade abutting rigid floor, with floor thickness of minimum 150 mm

B.3.1 Single sided linear joint seal as perimeter seal in floor

Joint Seal: fischer FCFcl Plus as perimeter seal, exposure from underside only, installed with steel brackets flush with top surface of floor, with movement capability

Construction details:

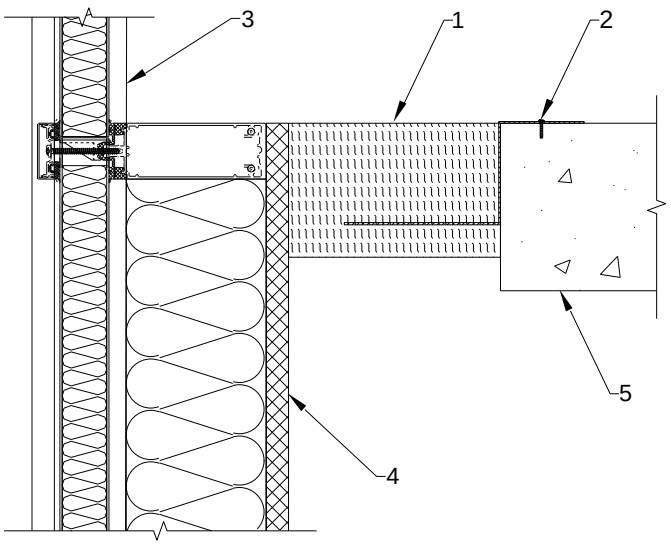

Figure not to scale

Key:

1. fischer FCFcl Plus
2. Bracket (0.9 mm)*
3. Curtain wall façade**
4. Spandrel area***
5. Floor

Table B.3.1

Substrate	Joint width	Movement capability	Compression of backing material	Classification
Curtain wall** / Rigid floor (ρ ≥2400 kg/m³)	≤250 mm	±5 %****	≥18 %	E 120–H–M15–F–W 5 to W 250 EI 90–H–M15–F–W 5 to W 250

* Min. 2 brackets per section of board and to be spaced max 600 mm on center. Brackets inserted at 90 mm from top side of fischer FCFcl Plus and protruding ¾ width of perimeter seal opening.

** Curtain walls with steel framing (made of transoms and mullions (profile 125 x 50, article no. 110020 as per ETA-21/0387) with a maximum width of 983 mm on center between the mullions).

*** Mineral wool protection of spandrel area: Infill between mullions and transoms with stone wool (ρ≥60 kg/ m³) backed with 50 mm thick stone wool board (ρ ≥150 kg/m³)

****movement per EAD 350141-00-1106 with 500 cycles at a rate of 30 cycles per minute compression and extension

Spandrel height: ≤1000 mm. Test results cover smaller panel width and height.

Perimeter seal installation specifics:

fischer FCFcl Plus is installed between mineral wool boards of spandrel area and concrete floor flush to the top surface of floor and transom with min. 18% compression. Splice distance ≥1000 mm. The L-brackets (50 mm wide) of the façade system are fixed to each mullion above splice location of perimeter seal.