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Agrément Certificate
14/5160
Product Sheet 3 Issue 3

ANCON CAVITY WALL TIES

ANCON TEPLO BF AND BFR WALL TIES

This Agrément Certificate Product Sheet(1) relates to Ancon Teplo BF and BFR Wall Ties, basalt fibre composite wall ties for use in tying masonry to masonry walls with M2 and moderately hydraulic lime mortar, and for Type 1 ties with M2 and M12 mortar in new-build or retrofit constructions with a cavity width up to 450 mm (nominal).

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Third issue: 18 June 2025
Originally certified on 3 May 2016

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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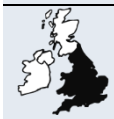
SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that Ancon Teplo BF and BFR Wall Ties, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations:



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	**A1**	**Loading**
Comment:		The products can contribute to satisfying this Requirement. See section 1 of this Certificate.
Requirement:	**B3(1)**	**Internal fire spread (structure)**
Comment:		The products can contribute to satisfying this Requirement. See section 2 of this Certificate.
Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		The products can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		The products can contribute to satisfying this Requirement. See section 6 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The products are acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**7(2)**	**Materials and workmanship**
Comment:		The products are exempt under Regulation 7(3)(h). See section 2 of this Certificate.
Regulation:	**25B**	**Nearly zero-energy requirements for new buildings**
Regulation:	**26**	**CO_2 emission rates for new buildings**
Regulation:	**26A**	**Fabric energy efficiency rates for new dwellings (applicable to England only)**
Regulation:	**26A**	**Primary energy rates for new buildings (applicable to Wales only)**
Regulation:	**26B**	**Fabric performance values for new dwellings (applicable to Wales only)**
Regulation:	**26C**	**Target primary energy rates for new buildings (applicable to England only)**
Regulation:	**26C**	**Energy efficiency rating (applicable in Wales only)**
Comment:		The products can contribute to satisfying these Regulations. See section 6 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)**	**Fitness and durability of materials and workmanship**
Comment:		The products can contribute to a construction satisfying this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**8(3)**	**Fitness and durability of materials and workmanship**
Comment:		The products are exempt under Regulation 8(4)(h). See section 2 of this Certificate.
Regulation:	**9**	**Building standards - construction**
Standard:	1.1(a)(b)	Structure
Comment:		The products can contribute to satisfying this Standard. See section 1 of this Certificate.

Standard:	2.3	Structural protection
Standard:	2.6	Spread to neighbouring buildings
Comment:		The products can contribute to satisfying these Standards, with reference to clauses 2.3.1(1)(2), 2.3.2(1)(2) and 2.6.1(1)(2. See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The products can contribute to satisfying this Standard, with reference to clauses 3.10.1(1)(2) and 3.10.3(1)(2. See section 3 of this Certificate.
Standard:	6.1(b)(c)	Energy demand
Standard:	6.2	Building insulation envelope
Comment:		The products can contribute to satisfying these Standards, with reference to clauses 6.1.1(1), 6.1.2(2) , 6.2.1(1)(2), 6.2.3(1), 6.2.4(2) and 6.2.9(1)(2). See section 6 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The products can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	**12**	**Building standards - conversion**
Comment:		All comments given for the products under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1(1)(2) and Schedule 6(1)(2).

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	**23(1)(a)**	**Fitness of materials and workmanship**
Comment:	**(i)(ii)(b)**	The products are acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**23(2)**	**Fitness of materials and workmanship**
Comment:		The products are exempt under Regulation 23(3)(h). See section 2 of this Certificate.
Regulation:	**28(b)**	**Resistance to moisture and weather**
Comment:		The products can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	**30**	**Stability**
Comment:		The products can contribute to satisfying this Regulation. See section 1 of this Certificate.
Regulation:	**35(1)**	**Internal fire spread — Structure**
Comment:		The products can contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Regulation:	**43(B)**	**Nearly zero-energy requirements for new buildings**
Comment:		The products can contribute to satisfying these Regulations. See section 6 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, Ancon Teplo BF and BFR Wall Ties, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls.*

Fulfilment of Requirements

The BBA has judged Ancon Teplo BF and BFR Wall Ties to be satisfactory for use as described in this Certificate. The products have been assessed as composite wall ties for use in tying masonry to masonry walls with M2 and moderately hydraulic lime mortar, and for Type 1 ties with M2 and M12 mortar in new-build or retrofit constructions with a cavity width up to 450 mm (nominal).

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Ancon Teplo BF and BFR Wall Ties are a range of composite wall ties comprising pultruded basalt fibres set into a resin matrix, with a helical ridge on the bar surface which acts as a drip feature (see Figure 1). Each BF tie has a moulded polymer piece at each end with a hole on either side. BFR ties have a moulded polymer piece at one end only.

The products have the nominal characteristics given in Tables 1 and 2.

Table 1 Nominal characteristics of Ancon Teplo BF Wall Ties

Product	Classification and Dimensions			
	Wall tie Type(1)	Diameter (mm)	Length (mm)	Cavity (mm)
TEPLO4 BF 200	4	4	200	75
TEPLO4 BF 225	4	4	225	100
TEPLO4 BF 250	4	4	250	125
TEPLO2 BF 200	2	5	200	75
TEPLO2 BF 225	2	5	225	100
TEPLO2 BF 250	2	5	250	125
TEPLO2 BF 275	2	6	275	150
TEPLO2 BF 300	2	6	300	175
TEPLO2 BF 325	2	6	325	200
TEPLO2 BF 350	2	7	350	225
TEPLO2 BF 375	2	7	375	250
TEPLO2 BF 400	2	7	400	275
TEPLO2 BF 425	2	7	425	300
TEPLO3 BF 450	3	7	450	325
TEPLO3 BF 475	3	7	475	350
TEPLO3 BF 500	3	7	500	375
TEPLO3 BF 525	3	7	525	400
TEPLO4 BF 550	4	7	550	425
TEPLO4 BF 575	4	7	575	450
TEPLO1 BF 200	1	7	200	75
TEPLO1 BF 225	1	7	225	100
TEPLO1 BF 250	1	7	250	125
TEPLO1 BF 275	1	7	275	150

(1) Type classification as defined in PD 6697 : 2019.

Table 2 Nominal characteristics of Ancon Teplo BFR Wall Ties

Product	Diameter (mm)	Length (mm)	Cavity (mm)	Tie Types[1] bonded into substrates, with 70 mm embedment in a 10 mm diameter hole			
				Brick (20 N·mm^{-2})	AAC (3.6 N·mm^{-2})	AAC (7.3 N·mm^{-2})	C25/C30 Concrete
TEPLO1 BFR 210	7	210	75	1	2	2	1
TEPLO1 BFR 235	7	235	100	1	2	2	1
TEPLO1 BFR 260	7	260	125	1	2	2	1
TEPLO1 BFR 285	7	285	150	1	2	2	1
TEPLO2 BFR 310	7	310	175	2	2	2	2
TEPLO2 BFR 335	7	335	200	2	2	2	2
TEPLO2 BFR 360	7	360	225	2	2	2	2
TEPLO2 BFR 385	7	385	250	2	2	2	2
TEPLO2 BFR 410	7	410	275	2	2	2	2
TEPLO2 BFR 435	7	435	300	2	2	2	2
TEPLO3 BFR 460	7	460	325	3	3	3	3
TEPLO3 BFR 485	7	485	350	3	3	3	3
TEPLO3 BFR 510	7	510	375	3	3	3	3
TEPLO3 BFR 535	7	535	400	3	3	3	3
TEPLO4 BFR 560	7	560	425	4	4	4	4
TEPLO4 BFR 585	7	585	450	4	4	4	4

(1) Type classification as defined in PD 6697 : 2019.

Figure 1 Ancon Teplo BF and BFR Wall Ties

Ancillary Items

The Certificate holder recommends the following ancillary items for use with the products, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- concrete — typical strength C25/C30 with Teplo BFR wall ties
- Fischer FIS V Plus 360 S resin — used with Teplo BFR wall ties
- autoclaved aerated concrete (AAC) — used with Teplo BFR wall ties
- brick or block masonry units — to BS EN 771 : 2011, Parts 1 to 6
- bricklaying mortar/mortar Joints — to BS EN 998-2 : 2016
- cavity trays
- damp-proof membranes.

Applications

The products are intended for use in cavity widths from 75 to 450 mm with a minimum design embedment depth of 62.5 mm in the masonry bed joint. The polymer end pieces enable use of the ties with weaker mortar types. The plain end of Teplo BFR products is bonded into substrates, with a 70 mm embedment in a 10 mm diameter resin filled hole.

Product assessment – key factors

The products were assessed for the following key factors, and the outcome of the assessment is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Data were assessed for the following characteristics.

1.1 Mechanical properties

1.1.1 Results of compressive load capacity tests are given in Table 3.

Table 3 Compressive load capacity

Product assessed	Assessment method	Requirement	Result
Teplo4 BF 250(1)	BS EN 846-5 : 2012, BS EN 845-1 : 2013 and PD 6697 : 2019	350 N over a 140 mm cavity (cavity +15 mm)	Pass
Teplo2 BF 250(2)		1050 N over a 140 mm cavity (cavity +15 mm)	Pass
Teplo2 BF 325(2)		1050 N over a 215 mm cavity (cavity +15 mm)	Pass
Teplo2 BF 425(2)		1050 N over a 315 mm cavity (cavity +15 mm)	Pass
Teplo3 BF 525(3)		650 N over a 415 mm cavity (cavity +15 mm)	Pass
Teplo4 BF 575(4)		350 N over a 465 mm cavity (cavity +15 mm)	Pass
Teplo1 BF 275(5)(6)		2000 N over a 165 mm cavity (cavity +15 mm)	Pass
		4000 N over a 165 mm cavity (cavity +15 mm)	Pass
Teplo4 BF 250(7)		350 N over a 140 mm cavity at 90 days (cavity +15 mm)	Pass
Teplo2 BF 425(8)		1050 N over a 315 mm cavity at 90 days	Pass

Masonry to masonry types:

(1) Tie Type 4 in M2 mortar to PD 6697 : 2019.
(2) Tie Type 2 in M2 mortar to PD 6697 : 2019.
(3) Tie Type 3 in M2 mortar to PD 6697 : 2019.
(4) Tie Type 4 in M2 mortar to PD 6697 : 2019.
(5) Tie Type 1 in M2 mortar to PD 6697 : 2019.
(6) Tie Type 1 in M12 mortar to PD 6697 : 2019.
(7) Tie Type 4 in Moderately Hydraulic Lime mortar to PD 6697 : 2019.
(8) Tie Type 2 in Moderately Hydraulic Lime mortar to PD 6697 : 2019.

1.1.2 Results of tensile load capacity tests are given in Table 4.

Table 4 Tensile load capacity

Product assessed	Assessment method	Requirement	Result
Teplo4 BF 250(1)	BS EN 846-5 : 2012, BS EN 845-1 : 2013 and PD 6697 : 2019	650 N over a 125 mm cavity	Pass
Teplo2 BF 250(2)		1800 N over a 125 mm cavity	Pass
Teplo2 BF 325(2)		1800 N over a 200 mm cavity	Pass
Teplo2 BF 425(2)		1800 N over a 300 mm cavity	Pass
Teplo3 BF 525(3)		1100 N over a 300 mm cavity	Pass
Teplo4 BF 575(4)		650 N over a 300 mm cavity	Pass
Teplo1 BF 275(5)(6)		2500 N over a 150 mm cavity	Pass
		5000 N over a 150 mm cavity	Pass
Teplo4 BF 250(7)		650 N over a 125 mm cavity at 28 days	Pass
		650 N over a 125 mm cavity at 56 days	Pass
		650 N over a 125 mm cavity at 90 days	Pass
Teplo2 BF 425(8)		1800 N over a 300 mm cavity at 28 days	Pass
		1800 N over a 300 mm cavity at 56 days	Pass
		1800 N over a 300 mm cavity at 90 days	Pass

Masonry to masonry types:
(1) Tie Type 4 in M2 mortar to PD 6697 : 2019.
(2) Tie Type 2 in M2 mortar to PD 6697 : 2019.
(3) Tie Type 3 in M2 mortar to PD 6697 : 2019.
(4) Tie Type 4 in M2 mortar to PD 6697 : 2019.
(5) Tie Type 1 in M2 mortar to PD 6697 : 2019.
(6) Tie Type 1 in M12 mortar to PD 6697 : 2019.
(7) Tie Type 4 in Moderately Hydraulic Lime mortar to PD 6697 : 2019.
(8) Tie Type 2 in Moderately Hydraulic Lime mortar to PD 6697 : 2019.

1.1.3 Results of pull-out resistance tests are given in Table 5.

Table 5 Pull-out resistance

Product assessed	Assessment method	Requirement	Result	
			Substrate type	Pull-out resistance (kN)
Ancon Teplo BFR ties with polymer "bird-foot" end, when bonded into pre-drilled holes using Fischer FIS VL 410 C resin with a 70 mm embedment depth	BS EN 846-6 : 2012 and PD 6697 : 2019	Value achieved	Brick	4.73
			Aerated concrete block	2.27
			Dense concrete block	2.29
			Foundation concrete block	11.9

(1) The compressive strength of substrates is brick (20 $N \cdot mm^{-2}$), aerated concrete block (3.6 $N \cdot mm^{-2}$), dense concrete block (C25/30) and foundation concrete block (7.3 $N \cdot mm^{-2}$).

1.2 On the basis of data assessed, the wall ties are suitable for use as defined in PD 6697 : 2019, for the following applications:

- Tie Type 1 — Masonry: heavy duty
- Tie Type 3 — Masonry: general purpose
- Tie Type 3 — Masonry: basic
- Tie Type 4 — Masonry: light duty

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to fire

The Certificate holder has not declared a reaction to fire classification in accordance with BS EN 13501-1 : 2018.

2.2 Resistance to fire

2.2.1 The result of a resistance to fire test at elevated temperatures is given in Table 6.

Table 6 Resistance to fire

Product assessed	Assessment method(1)	Requirement	Result(1)
Ancon Teplo BF and BFR wall ties under a tensile load of 1.8 kN	BS EN 846-6 : 2012 and BS EN 1996-1-2 : 2005	Value achieved	120 mins (integrity)

(1) Copies of test report are available on request to the Certificate holder.

2.2.2 On the basis of data assessed, the products will be unrestricted under the documents supporting the national Building Regulations.

2.2.3 Guidance on the fire-resistance of cavity walls is given in BS EN 1996-1-1 : 2005, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006 and their UK national Annexes, and PD 6697 : 2019.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 The water-shedding details of the ties are effective in preventing the transfer of water across the ties to the inner leaf. The helical ridge feature is continuous, ensuring the drip function is always present in the centre of the wall cavity or residual cavity between the insulation and the external leaf of the wall.

3.1.2 On the basis of data assessed, the products will not adversely affect the resistance of the wall to the passage of moisture, when used in an external cavity wall, and will be unrestricted under the documents supporting the national Building Regulations.

3.2 Condensation

Walls must be designed to limit the risk of interstitial and surface condensation. Guidance must be obtained from BS 5250 : 2021 and BRE Report 262 : 2002.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Data were assessed for the following characteristics.

6.1 Thermal conductivity

6.1.1 The products achieved the thermal conductivities given in Table 7.

Table 7 Thermal conductivity

Product assessed	Assessment method	Requirement	Result
			Thermal conductivity $W \cdot m^{-1} \cdot K^{-1}$
Basalt Fibre (BFR) Tie bars(1)	PD 6697 : 2019, BS EN 1996-1-1 : 2005 and BS EN 1996-1-2 : 2005	Value achieved	0.71
Polymer End		Value achieved	0.22

(1) Composite material for Ancon Teplo BF and BFR Wall Ties.

6.1.2 On the basis of the data assessed, the products have a low thermal conductivity and are unrestricted in use under the documents supporting the national Building Regulations.

6.2 Thermal performance

6.2.1 Calculations of thermal transmittance (U value), including corrections for wall ties if required, must be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report 443 : 2019 using the thermal conductivities given in Table 7f this Certificate.

6.2.2 The U value of a completed cavity wall will depend on the selected insulation thickness, the insulating value of the substrate masonry and its internal finish.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the products were assessed.

8.2 Service life

Under normal service conditions, the products will have a life in excess of 60 years, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed by the BBA, and the following requirements apply in order to satisfy the performance specified in this Certificate.

9.1.2 Ancon Teplo BF and BFR Wall Ties must be used in accordance with the requirements of BS EN 1996-1-1 : 2005, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006, BS EN 1996-3 : 2006 and their UK National Annexes, and PD 6697 : 2019.

9.1.3 Structures of masonry walls incorporating the ties must be constructed in accordance with the following technical specifications:

- BS EN 1996-1-1 : 2005, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006, BS EN 1996-3 : 2006 and their UK National Annexes, and PD 6697 : 2019.
- the national Building Regulations.

9.1.4 The masonry wall mortar joint thickness must be a minimum of 10 mm and in accordance with BS EN 845-1 : 2013. If the ties are to be used in mortar joints with a thickness greater than 10 mm, guidance must be obtained from the Certificate holder.

9.1.5 The products must be designed to have a minimum embedment length of 62.5 mm in accordance with BS EN 845-1 : 2013.

9.1.6 The products incorporate a helical ridge on the bar surface to prevent water transfer across the tie (see section 3 and Figure 1).

9.1.7 Ties must be evenly distributed over the wall area, except around openings, and should preferably be staggered.

9.1.8 It is possible to increase the number of ties used per m^2 to achieve a stronger tie Type in accordance with PD 6697 : 2019. For example, a Type 3 tie may be able to give a performance in accordance with a Type 2 tie by using a greater number of ties per m^2. This approach is outside the scope of this Certificate. For more information, the Certificate holder's advice must be sought.

9.1.9 For bonding Teplo BFR plain end ties into the existing masonry or concrete walls, Fischer FIS V Plus 360 S resin must be injected into a 10 mm diameter hole, 70 mm deep. It must be ensured that the hole is free from debris by using either a brush or a blow bulb. Fischer FIS V Plus 360 S resin is then injected. The plain end of the Teplo BFR wall tie is inserted into the resin, ensuring it is pushed all the way to the back of the hole and the resin is allowed to cure.

9.1.10 At the vertical edges of an opening, unreturned or unbonded edges, and vertical expansion joints, additional ties must be used at a rate of one per 300 mm height, located not more than 225 mm from the edge.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with this Certificate, the requirements of BS EN 1996-1-1 : 2005, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006 and their UK National Annexes, and PD 6697 : 2019, and the Certificate holder's instructions.

Procedure

9.2.3 Ideally, the outer leaf brickwork should be kept one course clear during installation of the ties. The first run of ties is to be laid as near as possible to, though not directly on, the damp-proof course, and built into the brickwork and blockwork as construction proceeds.

9.2.4 The wall ties are sandwiched between brickwork and blockwork within the horizontal bed joint of the mortar. The ties are pressed down and buried within the mortar joint to ensure complete cover. The embedment length of the ties must be 62.5 mm. For BFR ties, the plain end must be placed as per the manufacturer's instructions.

9.2.5 Installed ties must be clear of mortar droppings to prevent water from crossing to the inner masonry leaf.

9.2.6 Typical installation details of Ancon Teplo BF and BFR Wall Ties are shown in Figures 2a and 2b.

Figure 2a Typical installation details Ancon Teplo BF and BFR Wall Ties

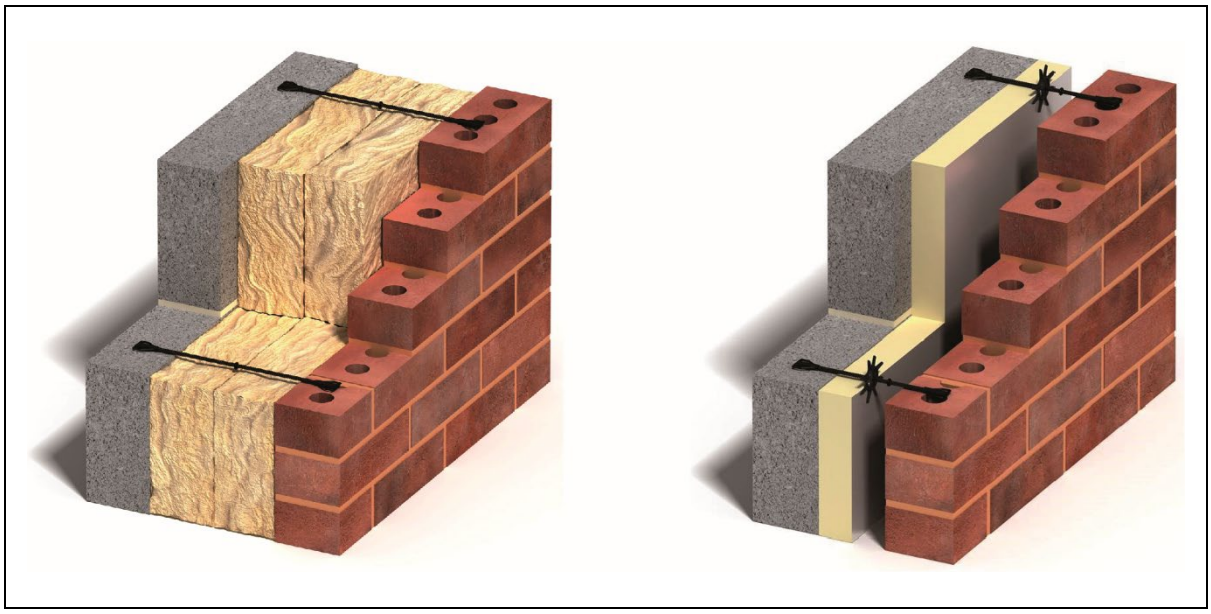
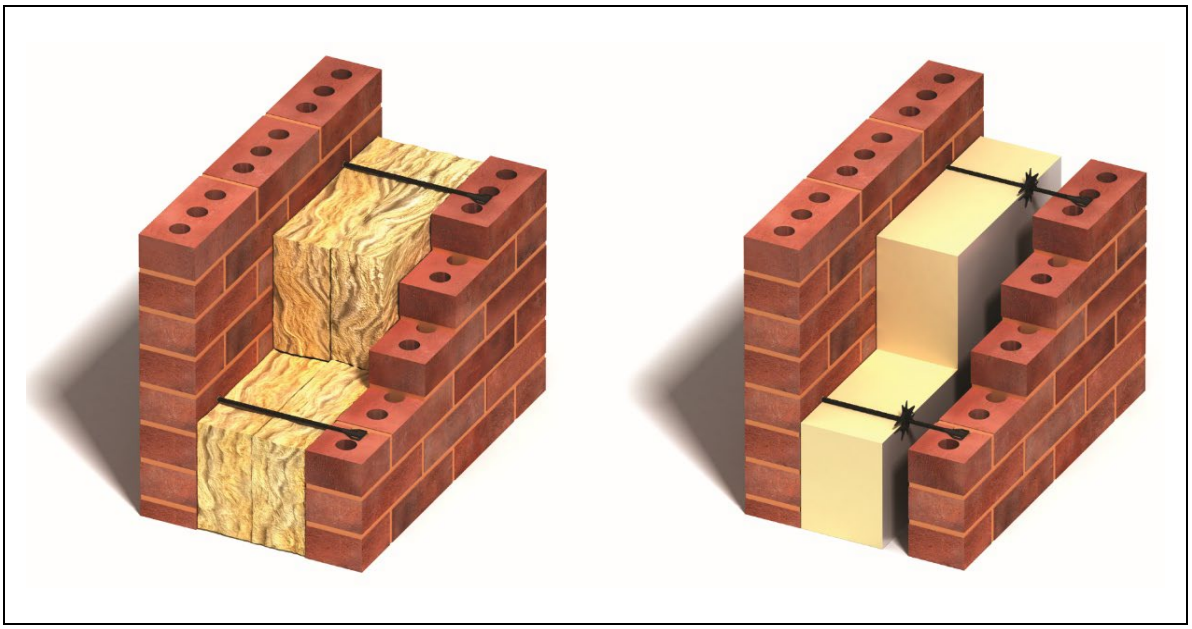


Figure 2b Typical installation details Ancon Teplo BF and BFR Wall Ties



9.3 Workmanship

Practicability of installation was assessed by the BBA, on the basis of Certificate holder's information. To achieve the performance described in this Certificate, installation of the products must be carried out by a competent general builder, or a contractor, experienced with these types of products.

9.4 Maintenance and repair

As the products are confined within the wall cavity and have suitable durability, maintenance is not required.

10 Manufacture

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

11 Delivery and site handling

11.1 The Certificate holder stated that the products are delivered to site in card boxes bearing the product name, the Certificate holder's name, batch number and weight of contents in kilograms.

11.2 Delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate.

† ANNEX A – SUPPLEMENTARY INFORMATION

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

Bibliography

BRE Report 262 : 2002 *Thermal insulation : avoiding risks*

BRE Report 443 : 2019 *Conventions for U-value calculations*

BS 5250 : 2021 *Code of practice for control of condensation in buildings*

BS EN 771-1 : 2011 + A1 : 2015 *Specification for masonry units — Clay masonry units*
BS EN 771-2 : 2001 + A1 : 2015 *Specification for masonry units — Calcium silicate masonry*
BS EN 771-3 : 2001 + A1 : 2015 *Specification for masonry units — Aggregate concrete masonry units (Dense and lightweight aggregates)*
BS EN 771-4 : 2001 + A1 : 2015 *Specification for masonry units — Autoclaved aerated concrete masonry units*
BS EN 771-5 : 2001 + A1 : 2015 *Specification for masonry units — Manufactured stone masonry units*
BS EN 771-6 : 2011 + A1 : 2015 *Specification for masonry units — Natural stone masonry units*

BS EN 845-1 : 2013 *Specification for ancillary components for masonry — Ties, tension straps, hangers and brackets*

BS EN 846-5 : 2012 *Methods of test for ancillary components for masonry — Determination of tensile and compressive load capacity and load displacement characteristics of wall ties (couplet test)*
BS EN 846-6 : 2012 *Methods of test for ancillary components for masonry — Determination of tensile and compressive load capacity and load displacement characteristics of wall ties (single end test)*

BS EN 998-2 : 2016 *Specification for mortar for masonry — Masonry mortar*

BS EN 1996-1-1 : 2005 *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
NA to BS EN 1996-1-1 : 2005 + A1 : 2012 UK National Annex to *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
BS EN 1996-1-2 : 2005 *Eurocode 6 : Design of masonry structures — General rules — Structural fire design*
NA to BS EN 1996-1-2 : 2005 UK National Annex to *Eurocode 6 : Design of masonry structures — General rules — Structural fire design*
BS EN 1996-2 : 2006 *Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*
NA to BS EN 1996-2 : 2006 UK National Annex to *Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*
BS EN 1996-3 : 2006 *Eurocode 6 : Design of masonry structures — Simplified calculation methods for unreinforced masonry structures*
NA + A1 : 2014 to BS EN 1996-3 : 2006 UK National Annex to *Eurocode 6 : Design of masonry structures — Simplified calculation methods for unreinforced masonry structures*

BS EN 13501-1 : 2018 *Fire classification of construction products and building elements - Classification using data from reaction to fire tests*

BS EN ISO 6946 : 2017 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*

PD 6697 : 2019 *Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2*

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Conditions

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