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Agrément Certificate

25/7463

Product Sheet 1 Issue 1

VALCAN CLADDING SUPPORT SYSTEM

VITRAFIX VFM RAINSCREEN CLADDING SUPPORT SYSTEM

This Agrément Certificate Product Sheet ⁽¹⁾ relates to the VitraFix VFM Rainscreen Cladding Support System, for use as a sub-frame to support cladding on external or internal walls constructed from reinforced concrete, masonry, steel-frames or timber-frames, of new or existing domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

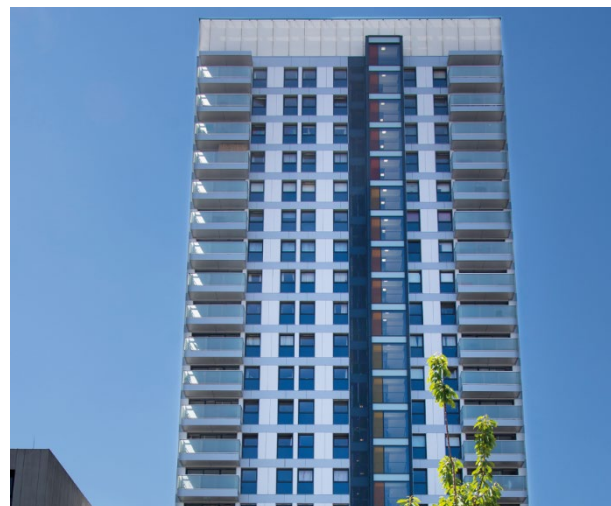
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

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 system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of issue: 1 October 2025

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.

British Board of Agrément

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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 the VitraFix VFM Rainscreen Cladding Support System, 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 system is acceptable for use as set out in section 1 of this Certificate.
Requirement:	B3(4)	Internal fire spread (structure)
Comment:		The system can contribute to satisfying this Requirement. See section 2 of this Certificate.
Requirement:	B4(1)	External fire spread
Comment:		The system is restricted by this Requirement. See section 2 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The system is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	7(2)	Materials and workmanship
Comment:		The system is unrestricted by this Regulation. See section 2 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The system 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 system is unrestricted for this Regulation. See section 7 of this Certificate.
Regulation:	9	Building standards – construction
Standard:	1.1(a)(b)	Structure
Comment:		The system is acceptable, with reference to clause 1.1.1 ⁽¹⁾⁽²⁾ of this Standard. See section 1 of this Certificate.
Standard:	2.4	Cavities
Comment:		The system can contribute to satisfying this Standard, with reference to clauses 2.4.1 ⁽¹⁾⁽²⁾ , 2.4.2 ⁽¹⁾⁽²⁾ and 2.4.9 ⁽¹⁾⁽²⁾ . See section 7 of this Certificate.
Standard:	2.6	Spread on neighbouring buildings
Comment:		The system is restricted by this Standard, with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See section 7 of this Certificate.
Standard:	2.7	Spread on external buildings
Comment:		The system may be unrestricted by this Standard, with reference to clause 2.7.1 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.

Standard:	7.1(a)	Statement of sustainability
Comment:		The system 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 – conversions
Comment:		All comments given for the system 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)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The system is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	23(2)	Fitness of materials and workmanship
Comment:		The system is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation:	30	Stability
Comment:		The system is acceptable. See section 1 of this Certificate.
Regulation:	35(4)	Internal fire spread
Comment:		The system may contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation:	36(a)	External fire spread
Comment:		The system may be restricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, the VitraFix VFM Rainscreen Cladding Support System, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards, Part 6 Superstructure (excluding roofs), Chapter 6.9 Curtain walling and cladding*.

The opinion of the BBA does not amount to any endorsement or approval by NHBC and does not in any way guarantee that NHBC will approve such product / system as compliant with the NHBC Technical Requirements and Standards.

Fulfilment of Requirements

The BBA has judged the VitraFix VFM Rainscreen Cladding Support System to be satisfactory for use as described in this Certificate. The system has been assessed as a sub-frame to support cladding on external or internal walls constructed from reinforced concrete, masonry, steel-frames or timber-frames, of new or existing domestic and non-domestic buildings.

ASSESSMENT

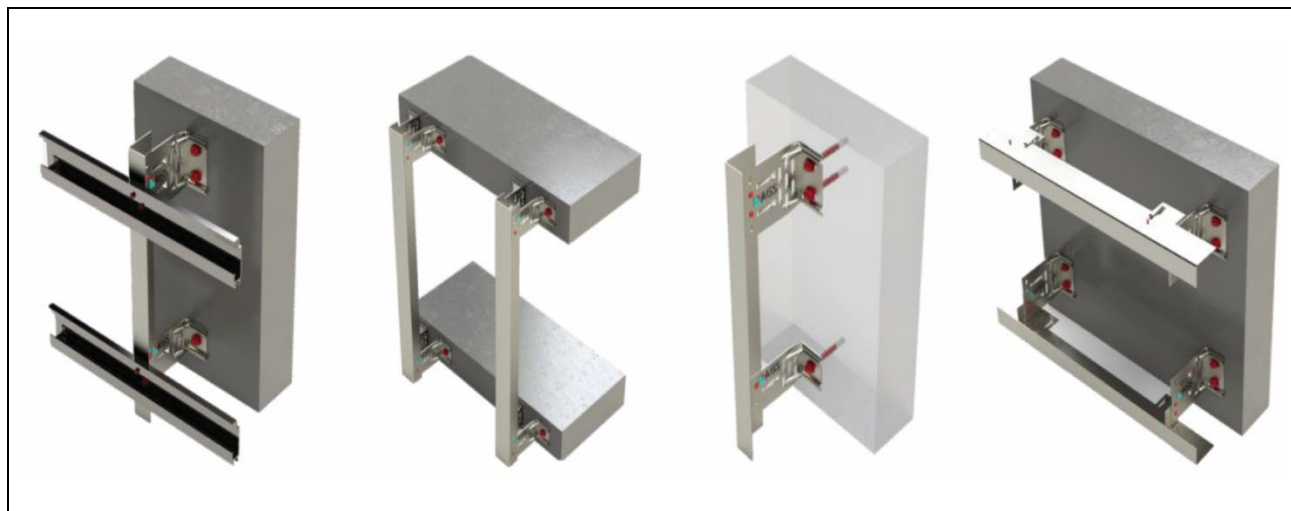
Product description and intended use

The Certificate holder provided the following description for the system under assessment. The VitraFix VFM Rainscreen Cladding Support System (see Figure 1) consists of:

- profiles — rails made of carbon steel of grade GD 320 with ZM 310 coating, or grade GD 430 with ZM 310 coating, or of an aluminium alloy of EN AW 6063, EN AW 6060 or EN AW 6005, T6 aluminium, with a maximum length of 7000 mm

- wall brackets — L profiled sliding and fixed brackets, fixed to the substrate using the Φ 9 or Φ 11 mm holes, using M8 (with a 20 mm outer diameter washer) and M10 (with a 16 mm outer diameter) fixings respectively. The brackets are made of carbon steel grade GD 320 with ZM 430 coating. Sliding or fixed brackets use one or two fixings, respectively
- extensions for steel brackets — made of carbon steel with grade GD 320 steel with a ZM 430 coating
- adaptor — made of carbon steel of grade GD 320 with ZM 430 coating, used between bracket and profile to enable the profile to be installed horizontally
- fixings — profiles are fixed to brackets using 1 and 2 aluminium rivets with an enlarged head, or A2/A2 or A4/A4 stainless steel rivets or self-drilling screws, with a minimum diameter Φ of 4.8 mm.

Figure 1 Typical VitraFix VFM Support System details – profiles/brackets arrangement



The system's components are manufactured to the following details:

- L profile made of carbon steel with grade GD 320 steel to BS EN 10346 : 2015, with a 24 μ m thick ZM 310 zinc-magnesium coating or 35 μ m thick ZM 430 zinc-magnesium coating to BS EN 10346 : 2015 (see Table 3 and Figure 4 of this Certificate)
- T profile made of an aluminium alloy of EN AW 6063, EN AW 6060 or EN AW 6005, T6 to BS EN 755-9 : 2016 (see Table 3 and Figure 4 of this Certificate)
- angle profile made of an aluminium alloy of EN AW 6063, EN AW 6060 or EN AW 6005, T6 to BS EN 755-9 : 2016 (see Table 3 and see Figure 4 of this Certificate)
- C profile made of carbon steel with grade GD 320 steel to BS EN 10346 : 2015, with a 24 μ m thick ZM 310 zinc-magnesium coating to BS EN 10346 : 2015 (see Table 3 and see Figure 4 of this Certificate)
- Ω profile made of carbon steel with grade GD 320 steel to BS EN 10346 : 2015, with a 24 μ m thick ZM 310 zinc-magnesium coating to BS EN 10346 : 2015 (see Table 3 and Figure 4 of this Certificate)
- sliding and fixed brackets made of carbon steel with grade GD 320 steel to BS EN 10346 : 2015, with a 24 μ m thick ZM 310 zinc-magnesium coating or 35 μ m thick ZM 430 zinc-magnesium coating to BS EN 10346 : 2015, and to the profile details given in Tables 1 and 2 and Figures 2 and 3 of this Certificate
- extensions for steel brackets made of carbon steel with grade GD 320 steel to BS EN 10346 : 2015, with a 35 μ m thick ZM 430 zinc-magnesium coating to BS EN 10346 : 2015 (see Table 3 and Figure 4 of this Certificate)
- adaptor made of carbon steel with grade GD 320 steel with a 35 μ m thick ZM 430 zinc-magnesium coating to BS EN 10346 : 2015 (see Table 3 and Figure 4 of this Certificate).

Ancillary Items

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

- fixings — for attaching the brackets to the substrate wall
- fixing mechanism — for attaching the cladding panels to the subframe system
- substrate wall
- cavity barriers
- insulation within the cavity
- cladding panels.

Product assessment – key factors

The system was assessed for the following key factors, and the outcome of the assessments 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 Structural and mechanical properties

Strength and stability

1.1.1 An assessment of sample calculations (deflection and stresses) against the requirements of BS EN 1990 : 2023, BS EN 1991-1-4 : 2005, BS EN 1993-1-1 : 2022 and BS EN 1993-1-3 : 2024, and their UK National Annexes, was performed. The outcome of the assessment was that the designed structure meets the ultimate and serviceability limit state conditions.

1.1.2 Details of the brackets, with their design resistances, are shown in Tables 1 and 2. The design resistance of the connections must be greater than that of the brackets, as tabulated.

Table 1 VitraFix VFM Brackets⁽¹⁾ — design resistances

Bracket long leg length (Y) (mm)	Bracket short leg length (mm)	Depth (Z) (mm)	Thickness (mm)	Bracket name	Design resistance (kN) ⁽²⁾	
					Horizontal (axial)	Vertical (shear)
120	50	70	2.5	VitraFix VFM Single Bracket (75) – 120 mm	3.67	0.92
140	50	70	2.5	VitraFix VFM Single Bracket (75) – 140 mm	3.67	0.92
170	50	70	2.5	VitraFix VFM Single Bracket (75) – 170 mm	3.67	0.92
210	50	70	2.5	VitraFix VFM Single Bracket (75) – 210 mm	3.67	0.61
250	50	70	2.5	VitraFix VFM Single Bracket (75) – 250 mm	3.67	0.36
290	50	70	2.5	VitraFix VFM Single Bracket (75) – 290 mm	3.67	0.36

(1) See Figure 2.

(2) The fixings and profile mechanical resistances are outside the scope of this Certificate.

1.1.3 The design of the profiles and associated connections must satisfy the requirements of BS EN 1993-1-1 : 2022, BS EN 1993-1-4 : 2006 and BS EN 1999-1-1 : 2023, and their UK National Annexes, using the mechanical properties of the steel grade adopted. On the basis of data assessed, the design resistance was calculated according to BS EN 1993-1-1 : 2005, Section 6, applying partial factors in accordance with the UK National Annex to BS EN 1993-1-1 : 2022.

1.1.4 The following profiles are covered under the assessment in Table 1 of this Certificate: Mag L profile 6410, Mag L profile 6415, Mag L profile 6425, Mag L 6510, Mag L 6515, Mag L 6525, Mag L 10615, Mag L 10625, Mag L 61125, Omega 1, C profile, Valcan T1, Valcan T2, Valcan T4. The profiles' mechanical resistances are outside the scope of this Certificate.

1.1.5 To establish the design resistance for VitraFix VFM Single (70) Bracket 170, 210 and 290, the bracket to substrate connection was carried out using 1 or 2 M10 bolts with a washer with an outer diameter of 20 mm (with a beam

opening width in the foot equal to 11 mm), or with 1 or 2 M8 screws with a washer with an outer diameter of 16 mm (in the case of brackets, with a beam opening in the foot equal to 9 mm); the fixings were embedded 90 mm into the substrate. To establish the design resistance for the bracket to profile connection, 4.8 mm $\varnothing$ x 18 mm stainless steel screws were used, spaced 20 mm. The fixings' mechanical resistances are outside the scope of this Certificate.

1.1.6 To establish the design resistance for VitraFix VFM Single (70) Bracket 120, 140 and 250, the bracket to substrate connection was carried out using 1 or 2 M10 x 100 mm bolts with a 2.5 mm M10 washer; the fixings were embedded 90 mm into the substrate. To establish the design resistance In the case of the connection for the bracket to profile connection, 4.8 mm $\varnothing$ x 25 mm stainless steel and 4.8 mm $\varnothing$ x 10 mm aluminium were used, with a maximum spacing of 25 mm.

1.1.7 With respect to sections 1.1.5 and 1.1.6, the VitraFix VFM Brackets shown in Table 1 of this Certificate are fixed through one fixing hole to the substrate, and the VitraFix VFM Brackets shown in Table 2 of this Certificate are fixed through two fixing holes to the substrate.

Figure 2 VitraFix VFM Bracket (measurements in mm)

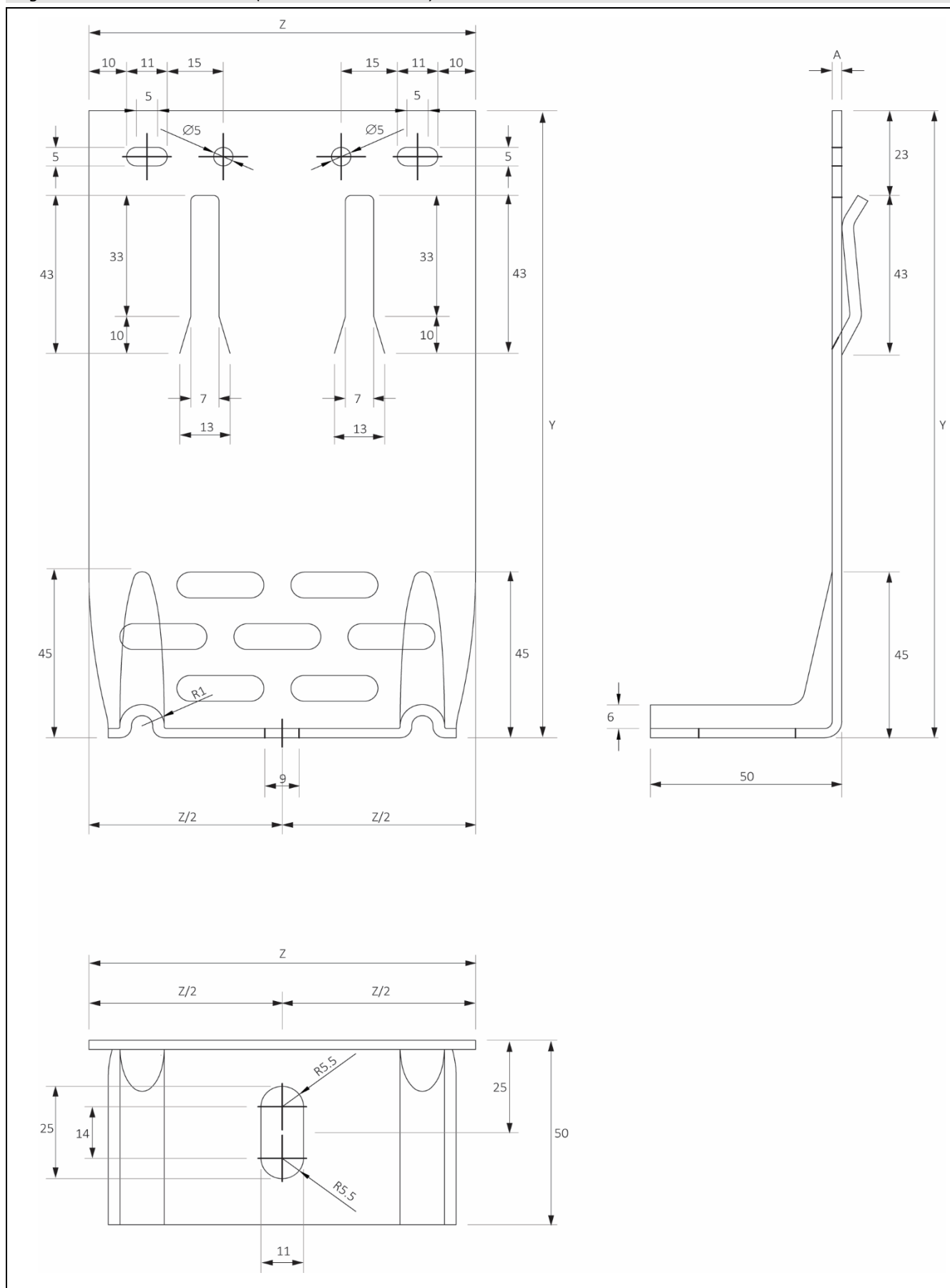


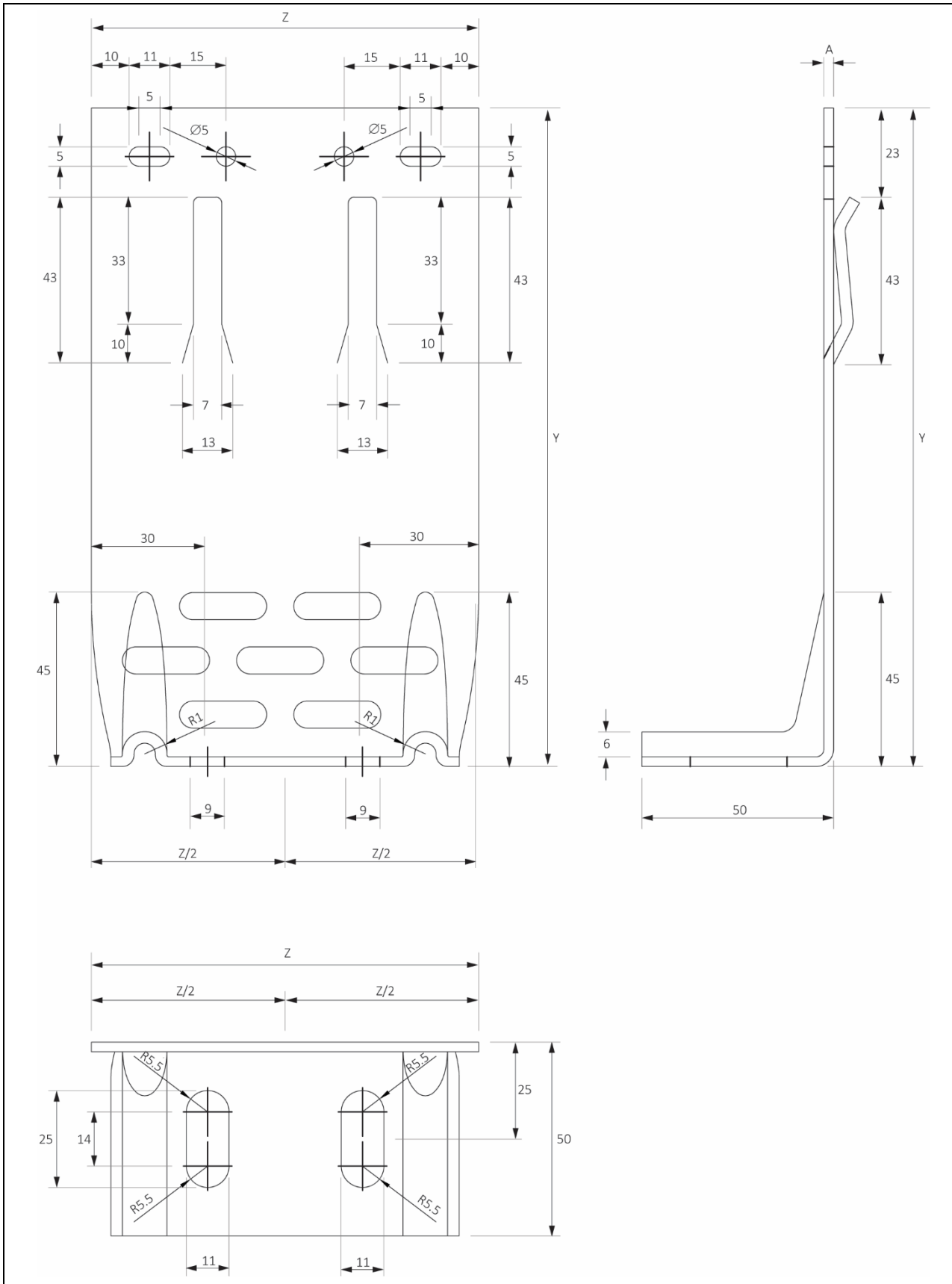
Table 2 VitraFix VFM Brackets⁽¹⁾ — design resistances

Bracket long leg length (V) (mm)	Bracket short leg length (mm)	Depth (Z) (mm)	Thickness (mm)	Bracket name ⁽²⁾	Design resistance (kN) ⁽²⁾	
					Horizontal (axial)	Vertical (shear)
120	50	130	2.5	VitraFix VFM Double Bracket (130) – 120 mm	7.56	3.60
120	50	160	2.5	VitraFix VFM Double Bracket (160) – 120 mm	7.56	3.60
120	50	190	2.5	VitraFix VFM Triple Bracket (190) – 120 mm	7.56	3.60
140	50	130	2.5	VitraFix VFM Double Bracket (130) – 140 mm	7.56	3.60
140	50	160	2.5	VitraFix VFM Double Bracket (160) – 140 mm	7.56	3.60
140	50	190	2.5	VitraFix VFM Triple Bracket (190) – 140 mm	7.56	3.60
170	50	130	2.5	VitraFix VFM Double Bracket (130) – 170 mm	7.56	3.60
170	50	160	2.5	VitraFix VFM Double Bracket (160) – 170 mm	7.56	3.60
170	50	190	2.5	VitraFix VFM Triple Bracket (190) – 170 mm	7.56	3.60
210	50	130	2.5	VitraFix VFM Double Bracket (130) – 210 mm	7.68	2.89
210	50	160	2.5	VitraFix VFM Double Bracket (160) – 210 mm	7.68	2.89
210	50	190	2.5	VitraFix VFM Triple Bracket (190) – 210 mm	7.68	2.89
250	50	130	2.5	VitraFix VFM Double Bracket (130) – 250 mm	7.68	2.04
250	50	160	2.5	VitraFix VFM Double Bracket (160) – 250 mm	7.68	2.04
250	50	190	2.5	VitraFix VFM Triple Bracket (190) – 250 mm	7.68	2.04
290	50	130	2.5	VitraFix VFM Double Bracket (130) – 290 mm	7.68	2.04
290	50	160	2.5	VitraFix VFM Double Bracket (160) – 290 mm	7.68	2.04
290	50	190	2.5	VitraFix VFM Triple Bracket (190) – 290 mm	7.68	2.04

(1) See Figure 3.

(2) The fixings and profile mechanical resistances are outside the scope of this Certificate.

Figure 3 VitraFix VFM Bracket (measurements in mm)



1.2 Design considerations

System design

The geometric properties of the profile sections are given in Table 3, and are for use in structural design of the profiles.

Table 3 Geometric properties of the profile sections

Profile	Profile name	Area mm ²	Second moment of area		Section modulus		Radius of gyration	Radius of gyration
			I _y (mm ⁴)	I _z (mm ⁴)	S _y (mm ³)	S _z (mm ³)	r _y (mm)	r _z (mm)
Steel angle profiles – with ZM 430 coating								
L 60 x 40 x 2.5 mm	Mag L profile 6425	244	92735.13	34141.38	2258.65	1099.29	19.51	11.83
L 60 x 50 x 2.5 mm	Mag L profile 6525	269	99845.64	63830.02	2338.11	1692.95	19.27	15.41
L 100 x 60 x 2.5 mm	Mag L profile 10625	393.75	425316.69	121879.19	6273.33	2549.90	32.87	17.59
L 60 x 110 x 2.5 mm	Mag L profile 61125	418.75	124712.04	550102.66	2573.96	7489.33	17.26	36.24
Steel angle profiles – with ZM 310 coating								
L 60 x 40 x 1.0 mm	Mag L profile 6410	99.00	38572.80	14402.80	926.76	455.48	19.74	12.06
L 60 x 40 x 1.5 mm	Mag L profile 6415	147.75	57107.52	21221.27	1378.32	675.13	19.66	11.98
L 60 x 50 x 1.0 mm	Mag L profile 6510	109	41476.88	26666.88	958.75	696.96	19.51	15.64
L 60 x 50 x 1.5 mm	Mag L profile 6515	162.75	61433.27	39421.40	1426.20	1035.36	19.43	15.56
L 100 x 60 x 1.5 mm	Mag L profile 10615	237.75	259302.33	74879.83	3803.34	1554.25	33.03	17.75
Steel Ω profiles – with ZM 310 coating								
42 x 26 x 47 x 26 x 42 x 1.5 mm	Omega 1	264	32305.97	320840.30	—	—	11.06	34.85
Steel C profiles – with ZM 310 coating								
C 35 x 40 x 35 x 1.5 mm	C-profiles	165	53228.75	21442.39	2475.76	908.93	17.96	11.40
Aluminium angle profiles								
L 60 x 40 x 2 mm	Valcan L / K1	196	75157.58	27797.58	1822.23	889.67	19.58	11.91
Aluminium T profiles								
T 100 x 60 x 2 mm	Valcan T1	320	108141.67	166706.67	2190.21	3334.13	18.38	22.82
T 60 x 40 x 2 mm	Valcan T2	200	82154.67	10706.67	1937.61	535.33	20.27	7.32
T 90 x 90 x 2 mm	Valcan T3	360	312000	121560	4588.24	2701.33	29.44	18.38
T 120 x 50 x 2 mm	Valcan T4	340	68630.98	288033.33	1583.08	4800.56	14.21	29.11
Hanger profile A 74 x 20 x 2 mm	A	280	177146.84	14665.15	—	—	25.13	7.23
Adaptor — see Figure 4	For extension pieces, the geometric properties may be calculated on the profile detail as shown in Figure 4							
Steel extensions for the bracket – with ZM 430 coating								
80 x 70 x 2.5 mm - see Figure 4	Extension 8725	For extension pieces, the geometric properties may be calculated on the profile detail as shown in Figure 4						
75 x 130 x 2.5 mm - see Figure 4	Extension 751325	For extension pieces, the geometric properties may be calculated on the profile detail as shown in Figure 4						
75 x 160 x 2.5 mm - see Figure 4	Extension 751625	For extension pieces, the geometric properties may be calculated on the profile detail as shown in Figure 4						

Figure 4 Component detail

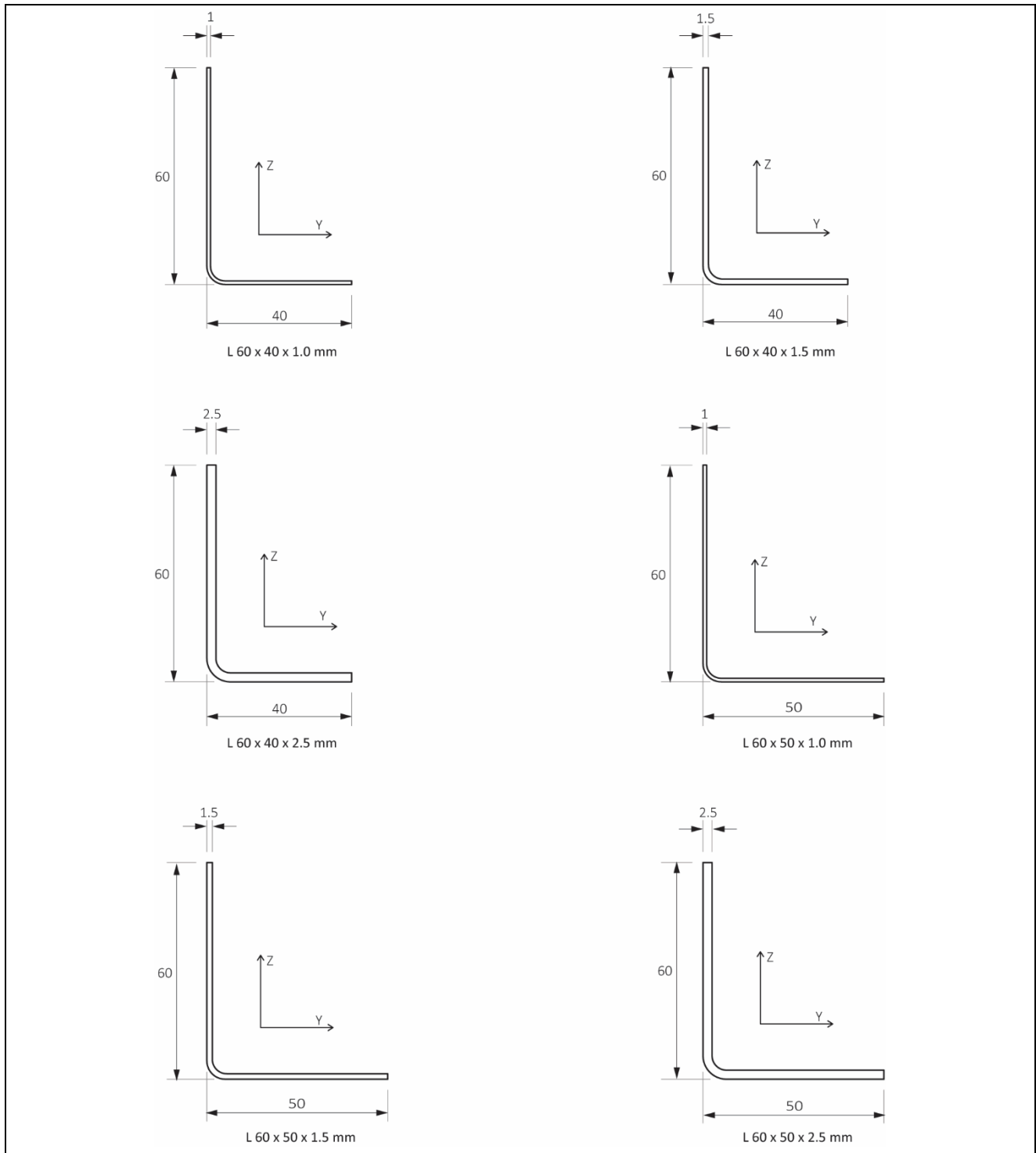


Figure 4 Component detail (continued)

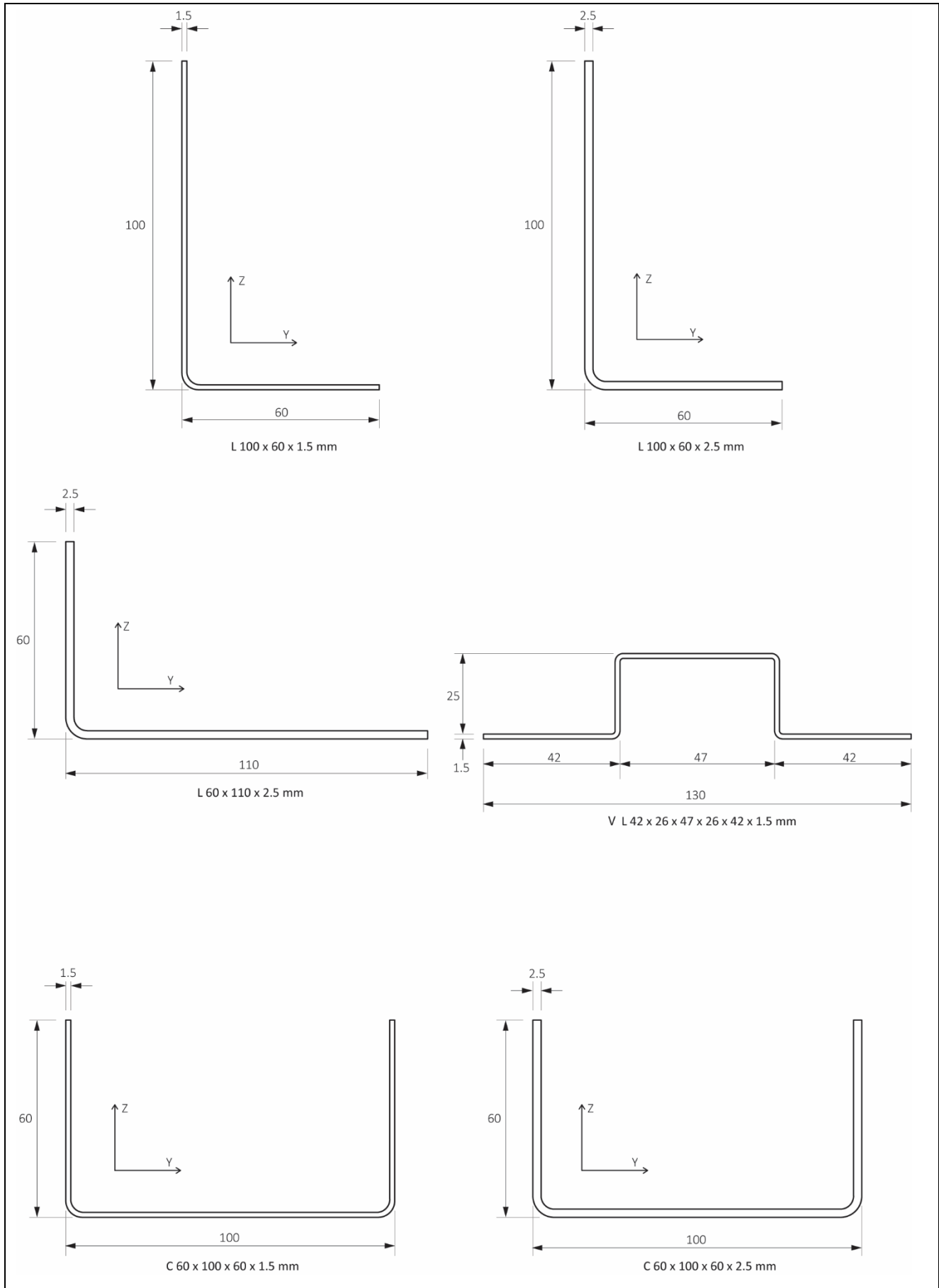


Figure 4 Component detail (continued)

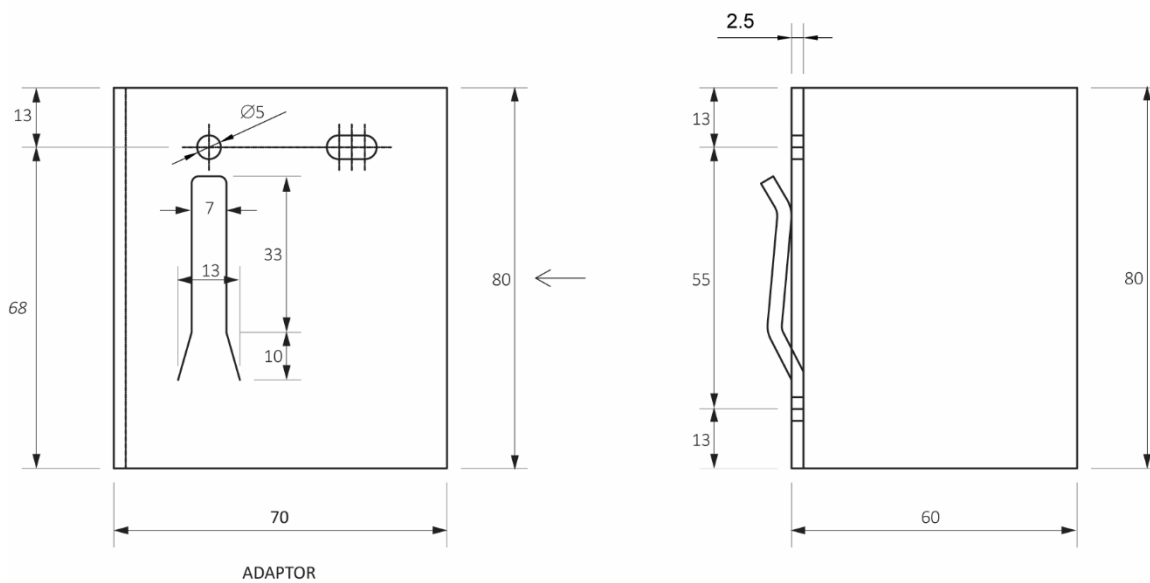
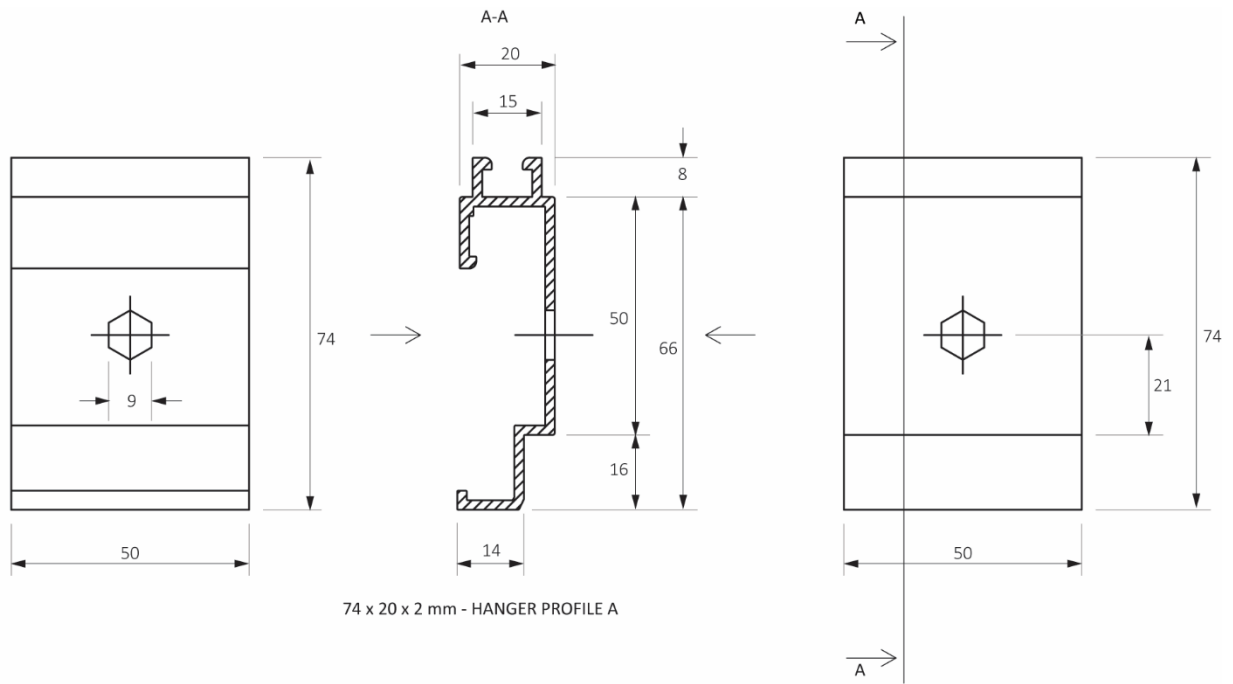
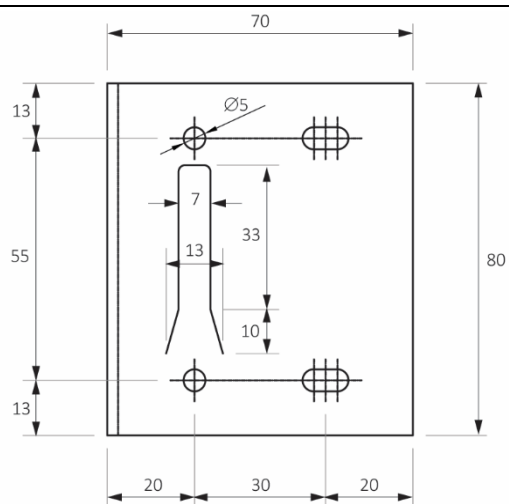
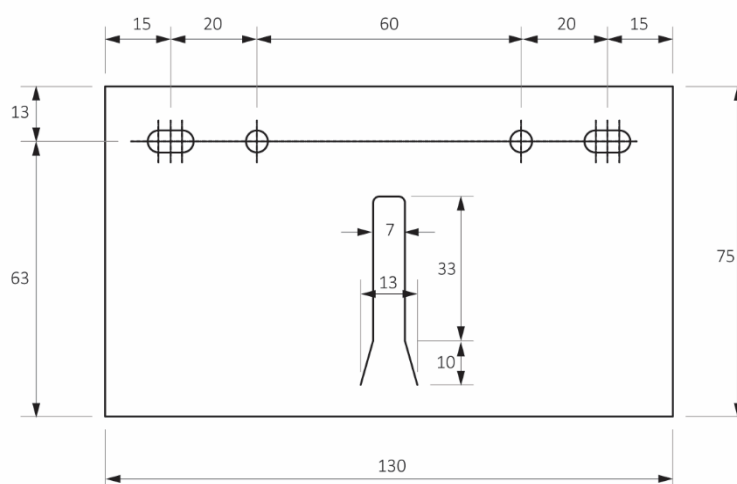


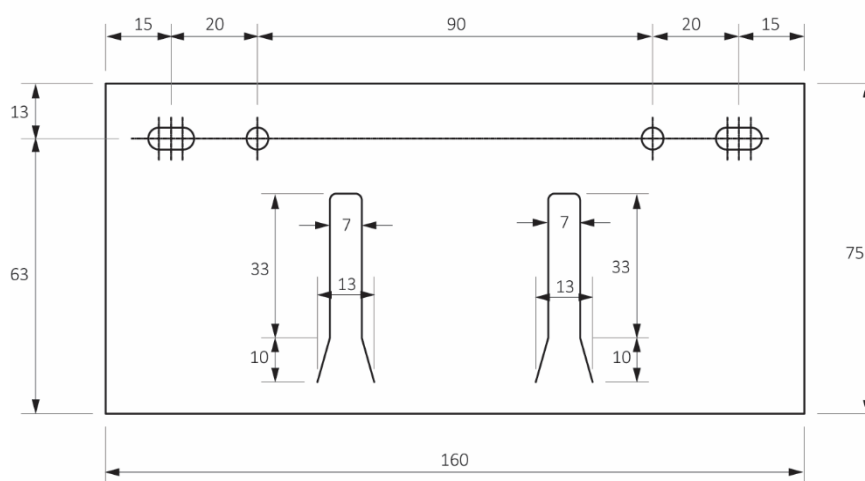
Figure 4 Component detail (continued)



80 x 70 x 2.5 mm - BRACKET EXTENSION



75 x 130 x 2.5 mm - BRACKET EXTENSION



75 x 130 x 2.5 mm - BRACKET EXTENSION

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to fire

2.1.1 The system components (profiles and wall brackets) and associated rail-to-bracket fixings are designated as A1, without the need for testing, by European Commission Decision 96/603/EC, and are not subject to any restrictions on building height or proximity to relevant boundaries.

2.1.2 Designers must refer to the relevant national Building Regulation guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, service penetrations and combustibility limitations for other materials and components used in the overall wall.

2.2 Resistance to fire

Where a wall incorporating the system is required to achieve a period of fire resistance, its performance must be confirmed by a suitably experienced and competent individual or by a test from a suitably accredited laboratory.

3 Hygiene, health and the environment

Not applicable.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Data were assessed for the following characteristics.

7.1 Reuse and recyclability

The aluminium and steel components can be recycled.

8 Durability

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

8.2 Service life

8.2.1 The durability and service life of the system will depend upon the building location, immediate environment and general conditions of the components. Under normal service conditions, the cladding support components will have a life in excess of 35 years, provided the system is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.2.2 In particularly corrosive environments, such as severe industrial or coastal locations, consideration must be given to selecting the ZM 430 coating.

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 assessed in this Certificate.

9.1.2 Design wind actions must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. Due consideration must be given to higher pressure coefficients applicable to corners of the building as recommended in this Standard (see section A.1 of this Certificate).

9.1.3 The adequacy of the substrate wall to which the cladding support components are fixed is outside the scope of this Certificate and must be verified by a suitably experienced and competent individual. It must have sufficient strength to resist independently the loads imparted directly by the cladding support components, cladding panels and wind actions normally experienced in the UK, as well as any in-plane force effects. It must be weathertight and reasonably airtight and designed and constructed in accordance with the requirements of the national Building Regulations and Standards given below. The contribution of the cladding support system to the stability of the substrate wall is assumed to be negligible:

- masonry walls must be designed and constructed in accordance with the relevant recommendations of BS EN 1996-1-1 : 2022, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2023, and their UK National Annexes, PD 6697 : 2019, BS 8000-0 : 2014 and BS 8000-3 : 2020
- concrete walls must be designed and constructed in accordance with BS EN 1992-1-1 : 2023 and BS EN 1992-1-2 : 2023, and their UK National Annexes
- steel-frame walls must be structurally sound and designed and constructed in accordance with BS EN 1993-1-3 : 2024, and its UK National Annex
- timber-frame walls must be designed and constructed in accordance with PD 6693-1 : 2019, BS EN 1995-1-1 and BS EN 1995-1-2 : 2004 and their UK National Annexes, with workmanship in accordance with BS 8000-5 : 1990 and preservative-treated in accordance with BS EN 351-1 : 2007 and BS 8417 : 2011.

9.1.4 The subframe profiles and distances between the supports are determined with regard to the maximum deflection, acceptable resistances, wind zone, terrain category and exposure of the facade surface (location, facade height and form parameters). The subframe must be able to transmit the loads (self-weight of the panels and profiles, and wind actions) to the substrate wall. The supporting subframe must have sufficient stiffness, such that its deformation does not affect the performance of the cladding panels.

9.1.5 The design and installation of the cladding support system must be checked by a suitably experienced and competent individual. The designer must ensure that:

- the support systems and cladding to be supported are compatible
- the sub-frame is designed in accordance with the relevant codes and Standards, has adequate resistance to the applied actions and is such as to limit mid-span deflections to $\text{span}/500$ (as recommended by the Certificate holder) and cantilever deflections to $\text{span}/150$
- the panels are fixed to the subframe using the specified fixing mechanisms
- the specified fixings of the panel to the sub-frame, and between subframe members, must have adequate resistance to the applied actions
- the fixings of the subframe support to the supporting substrate wall have adequate tensile pull-out strength and corrosion resistance (outside the scope of this Certificate). An appropriate number of site-specific pull-out tests must be conducted on the wall as appropriate, to determine the minimum pull-out resistance to failure of the fixings, as well as their characteristic pull-out resistance in accordance with the guidance given in BS EN 1990 : 2023
- any thermal expansion effects of both the support systems and the cladding to be supported are taken into account in the design and detailing.

9.1.6 A combination of horizontal and vertical actions must be checked by a suitably experienced and competent individual, in accordance with BS EN 1999-1-1 : 2007, BS EN 1999-1-3 : 2007, BS EN 1993-1-1:2006 and BS EN 1993-1-3 : 2006 and their UK National Annexes, in conjunction with BS EN 1990 : 2002 and its UK National Annex.

9.1.7 For standard three-metre-long profiles, a gap of 10 mm between adjacent profiles must be incorporated to allow for expansion. For other rail lengths, the gap must be proportionally increased. Reference should be made to the relevant Standards for the coefficient of thermal expansion of the profiles. Movement joints in the supporting structure must be maintained through the rail system.

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 (see Figures 5 and 6) and the Certificate holder's instructions. A summary of instructions and guidance is provided in Annex A of this Certificate.

9.2.3 The supporting substrate wall must be at a vertical level. The brackets are fixed to the substrate wall using fixings of an appropriate type and size (outside the scope of this Certificate), as determined by design.

9.2.4 The profiles are inserted into the brackets and, after adjustment for line and level, fixed to the brackets using 1 and 2 aluminium rivets with an enlarged head, or A2/A2 or A4/A4 stainless steel rivets or self-drilling screws, with a minimum diameter Φ 4.8 mm.

9.2.5 The distance from the edge of the aluminium profile to the centre of the rivet/screw must be at least $1.5 \times \Phi$.

9.2.6 The ventilation pathways behind the cladding must not be allowed to become blocked, or the insulation dislodged, where it may be vulnerable to wetting.

Figure 5 Installation detail of VitraFix VFM System – vertical cross-section

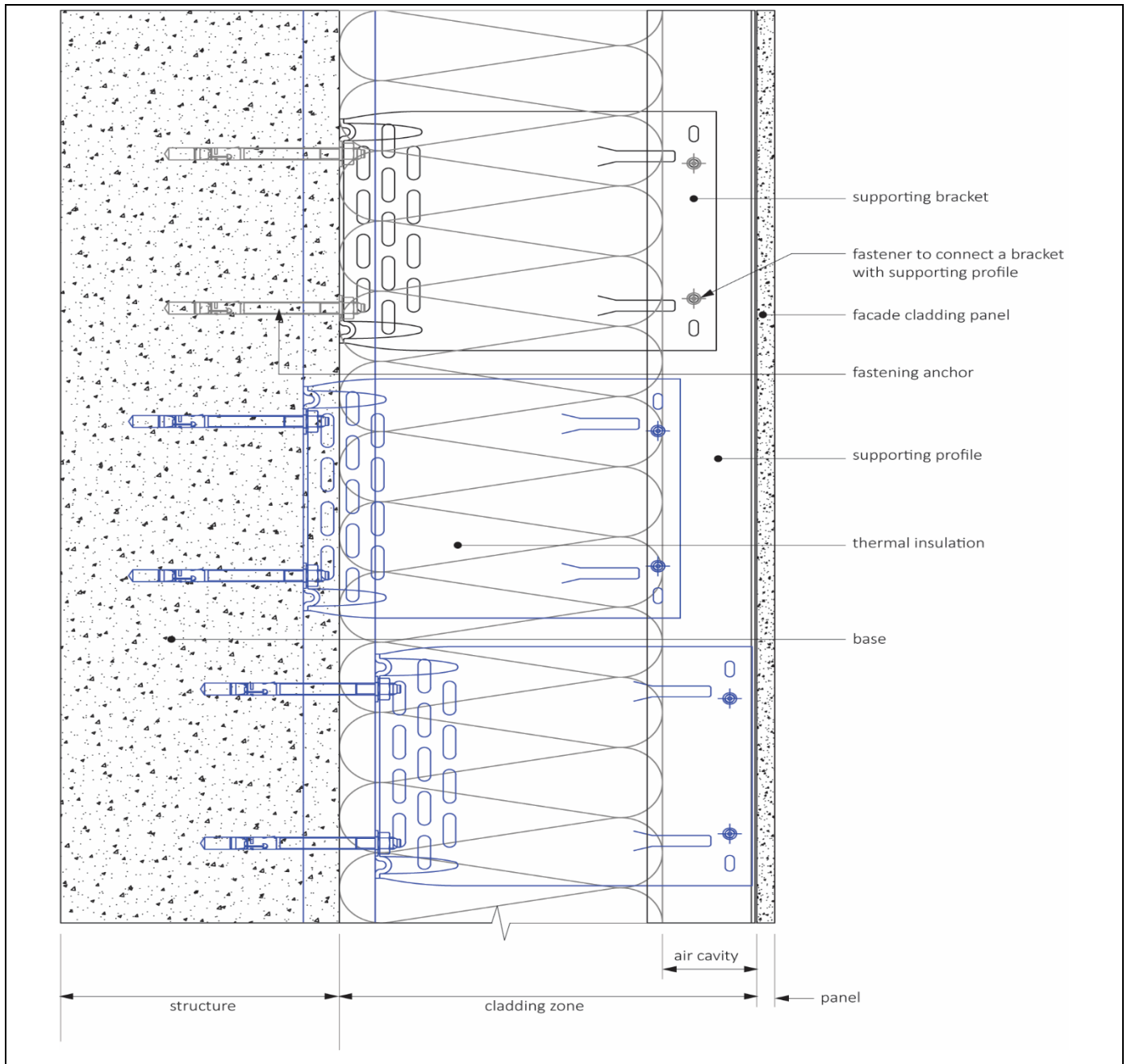
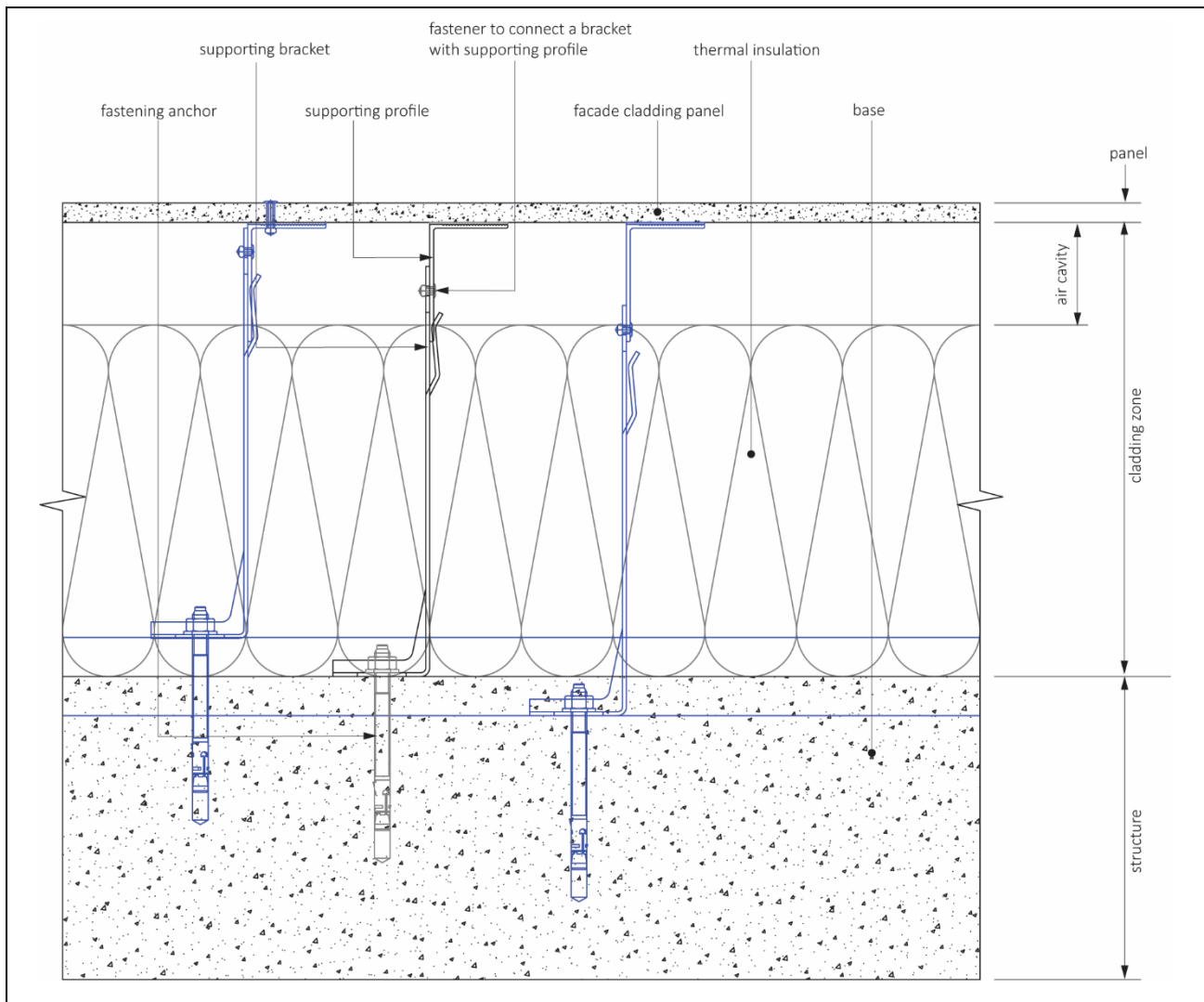


Figure 6 Installation detail of VitraFix VFM System – horizontal cross-section



9.3 Workmanship

Practicability of installation was assessed by the BBA on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the system must be carried out by installers who have been trained and approved by the Certificate holder.

9.4 Maintenance and repair

As the system is confined within the wall cavity and has suitable durability, maintenance is not required.

10 Manufacture

10.1 The production processes for the system 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. 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 system is delivered to site in cartons on pallets. Packaging bears the production order number, item name, length, weight, quantity and project name.

11.2 Delivery and site handling must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 The pallets must be stored on a dry, flat, and level surface, suitably protected from the weather.

11.2.2 The system must be handled with care, and all health and safety regulations observed. Care must be taken when handling long lengths of rail, especially at height.

Supporting information in this Annex is relevant to the system 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.

CLP Regulations

The Certificate holder has taken the responsibility of classifying and labelling the system components under the *GB CLP Regulation* and *CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Additional guidance

Additional information on installation

A.1 In accordance with BS EN 1990 : 2023 and its UK National Annex, it is recommended that a partial load factor applied to a wind load of 1.5 is used, to determine the design wind load to be resisted by the cladding support system (see section 9.1.2).

A.2 The system, when incorporated in back ventilated and drained cavity rainscreen cladding systems, will not have an adverse effect on the removal of water from the cavity by drainage and ventilation.

A.3 The Certificate holder can provide technical advice at the design and installation stages but such advice is outside the scope of this Certificate.

A.4 Cladding panels (outside the scope of this Certificate) deemed to be compatible with the system are appropriately fixed to the profiles.

A.5 Where specified, insulation must be tightly butted around the brackets and secured to the substrate wall using the appropriate fixings.

A.6 An adaptor can be used, which would be fixed to the brackets so that support profiles can be installed horizontally.

A.7 The air space between the back of the cladding panels and the supporting wall (or insulation, where installed, within the cavity) should meet the minimum specifications in *NHBC Standards, Chapter 6.9*.

A.8 Where required to protect the substrate wall from wind-driven rain, a suitable vapour permeable membrane must be applied to the surface.

A.9 The impact resistance of a cladding system is a function of the support framing arrangement and the cladding panel used. The design engineer must ensure that the cladding system incorporating the VitraFix VFM Rainscreen Cladding Support System has adequate impact resistance for the support frame arrangement and cladding panels used, for the intended Use Category as defined in EAD 090062-00-0404 : 2018, Table G.2.

A.10 For the effective removal of moisture from the cavity, a minimum ventilation area of 5000 mm² per metre run of cladding must be provided at the building base point and at the roof edge. To prevent the ingress of birds, vermin, insects and/or rain, all ventilation openings must be suitably protected with a ventilation protection mesh, perforated sheet or similar, or they should be baffled.

Bibliography

- BS 8000-0 : 2014 + A1 : 2024 *Workmanship on construction sites — Introduction and general principles*
BS 8000-3 : 2020 *Workmanship on building sites — Code of practice for masonry*
- BS EN 755-9 : 2016 *Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Profiles, tolerances on dimensions and form*
- BS EN 1990 : 2023 *Eurocode. Basis of structural and geotechnical design*
NA to BS EN 1990 : 2002 + A1 : 2005 UK National Annex for Eurocode — *Basis of structural design*
- BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 : Actions on structures — General actions — Wind actions*
NA to BS EN 1991-1-4 : 2005 + A1 : 2010 UK National Annex to Eurocode 1 — *Actions on structures — General actions — Wind actions*
- BS EN 1993-1-1 : 2022 + A1 : 2014 *Eurocode 3 — Design of steel structures — General rules and rules for buildings*
NA + A1 : 2014 to BS EN 1993-1-1 : 2005 + A1 : 2014 UK National Annex to Eurocode 3 — *Design of steel structures — General rules and rules for buildings*
BS EN 1993-1-3 : 2024 *Eurocode 3. Design of steel structures. Cold-formed members and sheeting*
NA to BS EN 1993-1-3 : 2006 UK National Annex to Eurocode 3 — *Design of steel structures — General rules — Supplementary rules for cold-formed members and sheeting*
BS EN 1993-1-4 : 2006 + A1 : 2020 *Eurocode 3 — Design of steel structures – General rules – Supplementary rules for stainless steels*
NA + A1 : 2015 to BS EN 1993-1-4 : 2006 + A1 : 2015 UK National Annex to Eurocode 3 — *Design of steel structures — General rules – Supplementary rules for stainless steels*
- BS EN 1992-1-1 : 2023 + A1 : 2014 *Eurocode 2 — Design of concrete structures — General rules and rules for buildings*
NA + A2 : 2014 to BS EN 1992-1-1 : 2004 + A1 : 2014 UK National Annex to Eurocode 2 — *Design of concrete structures — General rules and rules for buildings*
BS EN 1992-1-2 : 2023 + A1 : 2019 *Eurocode 2 — Design of concrete structures — General rules — Structural fire design*
NA to BS EN 1992-1-2 : 2004 UK National Annex to Eurocode 2 — *Design of concrete structures — General rules — Structural fire design*
- BS EN 1996-1-1 : 2005 + A1 : 2012 *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
UK NA to BS EN 1996-1-1 : 2005 UK National Annex to + A1 : 2012 *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*
UK 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*
UK 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*
UK NA 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 1999-1-1 : 2007 + A2 : 2013 *Eurocode 9 — Design of aluminium structures — General structural rules*
NA to BS EN 1999-1-1 : 2007 + A1 : 2009 UK National Annex to Eurocode 9 — *Design of aluminium structures — General structural rules*
BS EN 1999-1-3 : 2007 + A1 : 2011 *Eurocode 9 — Design of aluminium structures — Structures susceptible to fatigue*
NA to BS EN 1999-1-3 : 2007 + A1 : 2011 UK National Annex to Eurocode 9 — *Design of aluminium structures — Structures susceptible to fatigue*
- BS EN 10162 : 2003 *Cold rolled steel sections — Technical delivery conditions — Dimensional and cross-sectional tolerances*
- BS EN 10346 : 2015 *Continuously hot-dip coated steel flat products for cold forming – Technical delivery conditions*

EAD 090062-00-0404 : 2018 *Kits for external wall claddings mechanically fixed*

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

PN-EN 13501-1 : 2019 *Fire classification of construction products and building elements – Classification using data from reaction to fire tests.*

Conditions of Certificate

Conditions

1 This Certificate:

- relates only to the product that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales.
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).

2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

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- the right of the Certificate holder to manufacture, supply, install, maintain or market the product
- actual installations of the product, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to UKCA marking and CE marking.

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

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