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Agrement Certificate

19/5671

Product Sheet 4

NVELOPE RAINSCREEN SYSTEMS

NVELOPE NVF2F RAINSCREEN CLADDING SUPPORT SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to Nvelope NVF2F Rainscreen Cladding Support System, for use as a sub-frame, typically spanning floor slab to floor slab, to support cladding on the external or internal wall structure of new or existing buildings.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Mechanical resistance and stability — the system can be designed to support the cladding and to transfer the design loads to the end of the floor slab or substrate wall structure safely (see section 6).

Behaviour in relation to fire — the system (fixings, brackets, and rails) has an A1 reaction to fire classification in accordance with BS EN 13501-1 : 2018 (see section 7).

Drainage and ventilation — provided correct details are adopted, the system can provide adequate drainage and ventilation behind the cladding (see section 8).

Durability — the system will have a service life in excess of 35 years (see section 10).



The BBA has awarded this Certificate to the company named above for the systems described herein. This system have been assessed by the BBA as being fit for their 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 First issue: 10 June 2022

Hardy Giesler
Chief Executive Officer

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

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

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Regulations

In the opinion of the BBA, Nvelope NVF2F 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 presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



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

Requirement:	A1	Loading
Comment:		The system can be designed to adequately transfer the design loads from the cladding to the substrate wall structure. See sections 6.7 and 6.8 of this Certificate.
Requirement:	B4(1)	External fire spread
Comment:		The system is unrestricted by this Requirement. See section 7.1 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The system is acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.
Regulation:	7(2)	Materials and workmanship
Comment:		The systems is unrestricted by this Regulation. See section 7.1 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The system is acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	1.1(a)(b)	Structure
Comment:		The system can be designed to adequately transfer the design loads from the cladding to the substrate wall structure, with reference to clause 1.1.1 ⁽¹⁾⁽²⁾ of this Standard. See sections 6.7 and 6.8 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The system is unrestricted by this Standard with respect to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See section 7.1 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The system is unrestricted by this Standard with respect to clauses 2.7.1 ⁽¹⁾⁽²⁾ . See section 7.1 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The system can contribute to meeting 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.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



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

Regulation:	23	Fitness of materials and workmanship
Comment:		The system is acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.
Regulation:	30	Stability
Comment:		The system can be designed to adequately transfer the design loads from the cladding to the substrate wall structure. See section 6.7 and 6.8 of this Certificate.

Regulation:	36(a)	External fire spread
Comment:	The system is unrestricted by this Regulation. See section 7.1 of this 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.

See section: 3 *Delivery and site handling* (3.2 and 3.6) of this Certificate.

Additional Information

NHBC Standards 2022

In the opinion of the BBA, the Nvelope NVF2F 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*, Clauses 6.9.4 *Loads*, 6.9.5 *Supports and fixings*, and 6.9.6 *Durability*.

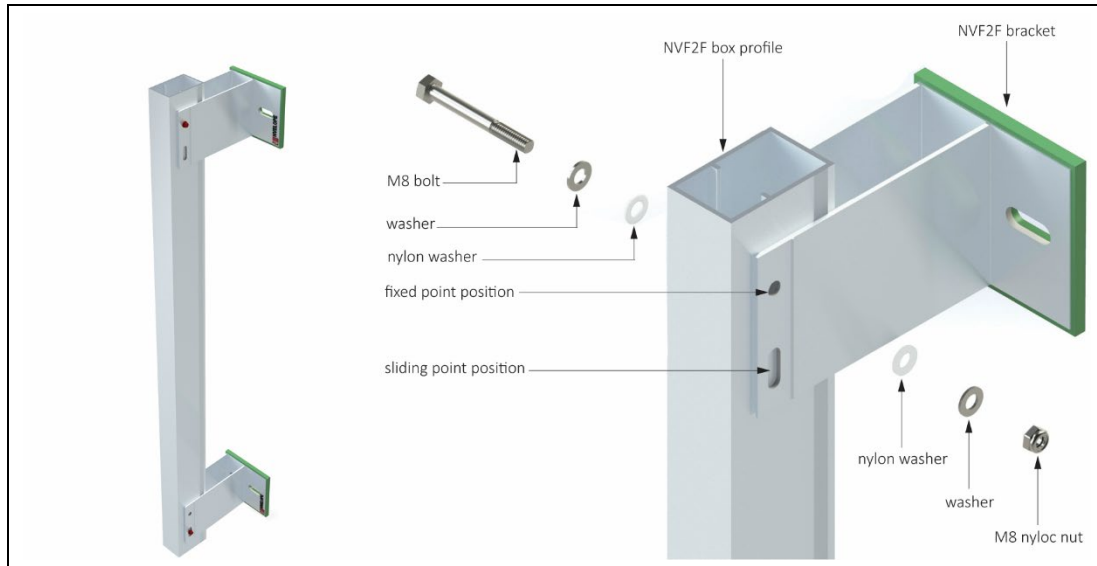
Technical Specification

1 Description

1.1 The Nvelope NVF2F Rainscreen Cladding Support System is typically attached to the end of the floor slab, to support the cladding on the external or internal wall structure of buildings (see Figure 1), and consists of:

- NVF2F Brackets — brackets fitted to the substrate using appropriate fixings (outside the scope of this Certificate):
 - brackets have a leg length of 72 to 222 mm (see Figure 2 and Table 1)
 - brackets have a height of 100 mm. They are supplied with two base hole-diameter sizes of 37 x 12.5 mm
 - brackets have a thickness of 3.0 mm, with a standard foot width of 110 mm
 - brackets feature a 5 mm thick polypropylene isolator/thermal break (insulating properties outside the scope of this Certificate) fitted to the foot
- NVF2F box profiles — rails of Box and 'T' Box profile with a 3.0 mm thickness and the dimensions shown in Figure 2, fixed to the NVF2F brackets using M8 bolts, which provide a fixing area for the cladding panels. Lengths are project specific, up to 7200 mm maximum
- NVF2F spigots — 40 x 40 x 200 mm box profiles with a 3.0 mm thickness, used to connect NVF2F box profiles
- brackets and box profiles are uncoated as standard.

Figure 1 Typical rail/bracket arrangement

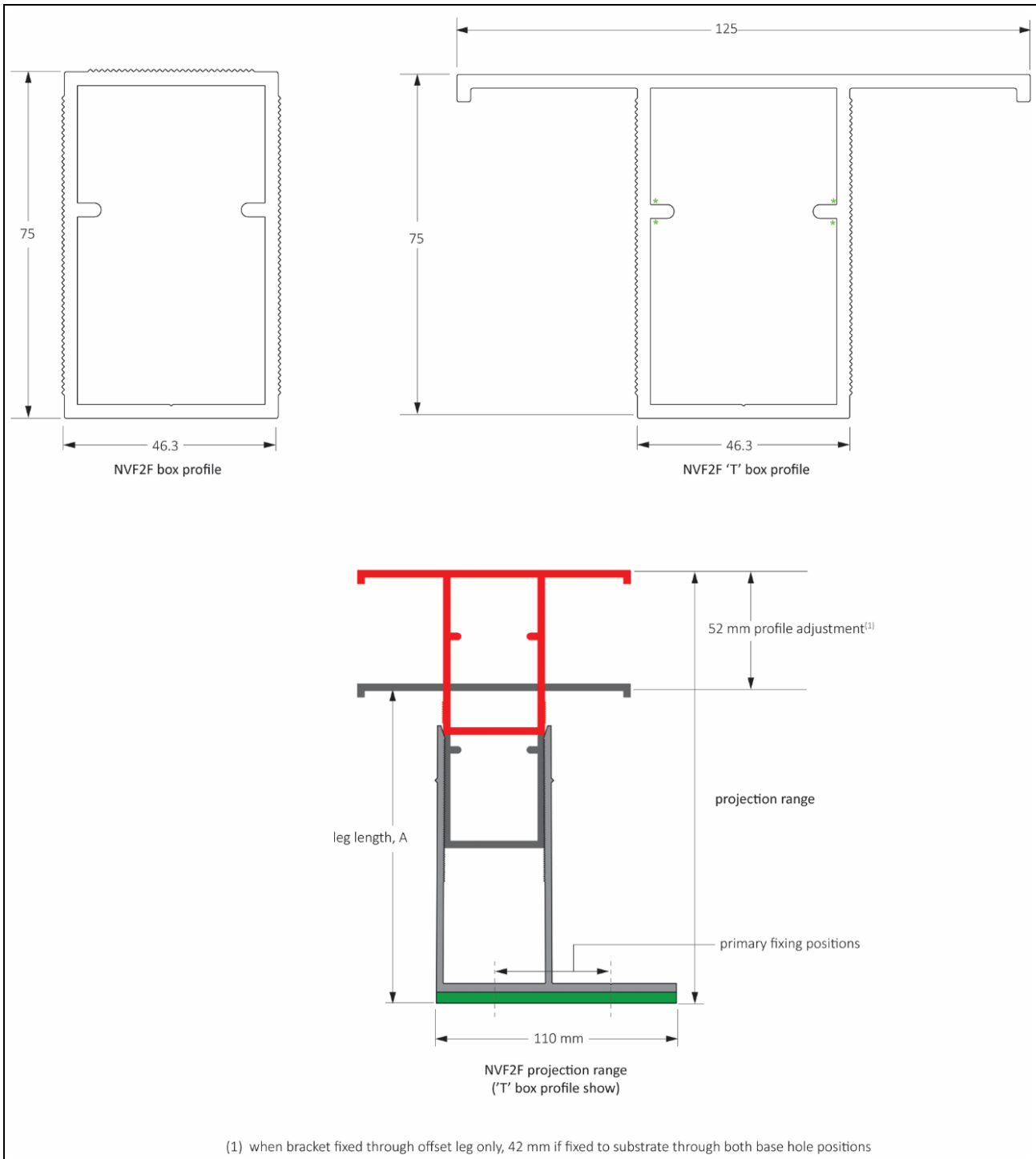


1.2 The components (see Figure 2) are manufactured from aluminium alloy, to a minimum grade of EN AW 6005A T6 to BS EN 573-3 : 2019, with the exception of the Isolator/thermal breaks, which are manufactured from green injection moulded polypropylene.

1.3 The components have the characteristics described in Tables 1 and 2 (see section 6 of this Certificate).

1.4 The brackets are fixed to the end of the floor slab using stainless steel anchors of a predetermined size. The box profiles are secured to the brackets using stainless steel M8 bolts and washers with nylon M8 washers and nyloc nuts as shown in Figure 1.

Figure 2 Component details and projection range



1.5 Components specified for use with the system, recommended by the Certificate holder but outside the scope of this Certificate, include:

- rails can be ordered with anodised or polyester powder coated finishes (uncoated as standard)
- 12 mm diameter primary fixing— stainless steel screw, used as primary fixing to the end of the floor slab
- stainless steel M8 bolts and washers with nylon M8 washers and nyloc nuts, used for fixing NVF2F box profiles to brackets
- SX3 Fastening Screws — 29 mm self-drilling and self-tapping screws made of austenitic stainless steel grade A4 with a washer made of aluminium, or stainless steel A4 with vulcanised EPDM sealant, used to connect NVF2F box profiles using spigots
- vapour permeable membrane (also known as breather membrane) – in line with BS 5250 : 2021
- insulation

- cavity
- cavity barriers
- protection to ventilation openings eg mesh, perforated sheet, or similar
- external cladding (and fixings).

2 Manufacture

2.1 The components are manufactured from extruded sections of aluminium alloy with the exception of the isolator/thermal breaks which are made from green injection moulded polypropylene.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out 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.

2.3 The manufacturer's management systems have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015.

3 Delivery and site handling

3.1 The aluminium rails are wrapped on pallets. Every pallet carries a label bearing the manufacturer's name.

3.2 Packs of rails should be stacked horizontally, on sufficient bearers to prevent distortion, to a maximum height of one metre. Other components should be stored safely until ready for use.

3.3 The pallets should be stored on a dry, flat and level surface, suitably protected from the weather. Ancillary items should be stored in separate boxes.

3.4 The brackets are delivered to site in cartons of a size suitable for manual handling. Isolation pads, when required, are supplied attached to the base of the aluminium brackets. The cartons are palletted and shrink-wrapped.

3.5 The system components should be handled with care. Damaged items should be discarded.

3.6 Protective clothing should be worn, as required, and all health and safety regulations observed. Care should be taken when handling long lengths of rail, especially at height.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Nvelope NVF2F Rainscreen Cladding Support System.

Design Considerations

4 Use

4.1 Nvelope NVF2F Rainscreen Cladding Support Systems, when installed in accordance with this Certificate, are satisfactory for use in back-ventilated and drained cavity rainscreen cladding systems, as well as for internal cladding systems as a sub-frame to support cladding to the end of the floor slab, or the external or internal wall structure, of new and existing buildings.

4.2 The system is applied to the outside of the external or internal wall structures of new or existing buildings, typically spanning floor slab to floor slab. Application must be carried out strictly in accordance with this Certificate and the Certificate holder's instructions, by cladding contractors who are suitably qualified.

4.3 The substrate wall to which the systems are to be fixed must be structurally sound, and satisfy the requirements of the relevant national Building Regulations and Standards.

4.4 It is important for designers, planners, contractors and/or installers to ensure that the system and the substrate wall have adequate structural capacity to support cladding panels in accordance with the design and installation requirements of the cladding panel supplier.

5 Practicability of installation

The system is designed to be installed by cladding contractors who are suitably qualified.

6 Mechanical resistance and stability

6.1 The substrate wall to which the cladding components are to be fixed should be designed and constructed in accordance with the requirements of the relevant national Building Regulations and Standards.

6.2 Assessment of structural performance of the systems for individual buildings must be carried out by a designer or a suitably qualified and experienced individual to ensure that:

- the support systems and cladding to be supported are compatible
- any thermal expansion effects of both the support systems and the cladding to be supported are taken into account in the design and detailing.
- the specified fixings have adequate tensile and pull-out strength to resist the applied actions
- the fixing of the support brackets to the supporting wall has adequate tensile, shear and 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 substrate wall to determine the minimum pull-out resistance to failure of the fixings
- The characteristic pull-out resistance to concrete should be determined in accordance with the guidance given in EOTA TR055 : 2018, using 50% of the mean value of the five smallest measured values at the ultimate load.

6.3 The supporting floor slab or wall must be able to resist the gravity load from the self-weight of the cladding, the wind actions and any racking loads, on its own. No contribution from the cladding system may be assumed in this respect.

6.4 The wind actions on the wall should be calculated in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. Due consideration should be given to the high-pressure coefficients applicable to corners of the building as recommended in this Standard. In accordance with BS EN 1990 : 2002 and its UK National Annex, it is recommended that partial load factors are used to determine the ultimate wind load to be resisted by the system.

6.5 A combination of horizontal and vertical actions must be checked by an appropriately qualified design engineer, in accordance with BS EN 1999-1-1 : 2007 and BS EN 1999-1-3 : 2007, and their UK National Annexes, in conjunction with BS EN 1990 : 2002 and all relevant standard parts and its corresponding UK National Annex.

6.6 For combined loads, check that (actual vertical load / allowable vertical load) + (actual horizontal load/allowable horizontal load) ≤ 1.0, in line with BS EN 1999-1-1 : 2007.



6.7 Details of the brackets, with their design loadbearing resistances, are shown in Table 1. The design loadbearing resistance of the connections should be greater than that of the bracket and adaptor as tabulated.

Table 1 NVF2F Bracket — design resistances (for bracket out-stand leg)

Bracket leg length (A) ⁽¹⁾ (mm)	Projection range ⁽²⁾ (mm)	Design resistance (kN) ⁽³⁾⁽⁴⁾	
		Vertical (shear)	Horizontal (axial)
72	79 – 127	8.81	15.94
122	125 – 177	8.00	11.24
172	175 – 227	5.00	7.68
222	225 – 277	1.27	7.02



- (1) Includes isolator/thermal break (see Figure 2).
- (2) Distance between back face of isolator pad to face of rail profile, assuming fixing to offset leg only (see Figure 2).
- (3) Unfactored loads limited to lower of tested ULS or 6 mm maximum deflection.
- (4) Partial material factor of 1.1 applied in line with BS EN 1999-1-1 : 2007 and its UK National Annex.

6.8 The geometric properties of the box profiles (Box and 'T' Box Profiles) can be found in detail in Table 2, for use by the structural designer for the rail design.

Table 2 Box and 'T' Box Profile section details

	Dimension		thickness (mm)	area (mm ²)	Second moment of area		Product of Inertia <i>I_{xy}</i> (mm ⁴)	Radius of gyration		Distance to centre of gravity	
	X	Y			<i>I_{xx}</i>	<i>I_{yy}</i>		Axis x-x	Axis y-y	x	y
	(mm)	(mm)			(mm ⁴)	(mm ⁴)		(mm)	(mm)	(mm)	(mm)
F2F Box Profile	47.3 ⁽¹⁾	75.5 ⁽²⁾	3	744	542851	264554	0	27	18.9	23.65	38.3
F2F T Box Profile	125	75	3	988	767665	793241	0	27.9	28.3	62.5	46.9

- (1) Including 0.5 mm deep corrugations to side of profile. See Figure 2.
- (2) Including 0.5 mm deep corrugations to face of profile. See Figure 2.

6.9 Details of the bolts for connecting the support rails to the brackets can be found in section 1.5 and Figure 1.

6.10 The design of the rails and associated connections must satisfy the requirements of BS EN 1999-1-1 : 2007, using the mechanical properties of the aluminium grade adopted. Mid-span deflections should be limited to span/200 and cantilever deflections limited to span/150.

6.11 To allow for deflection limits used in Table 1, a minimum rail gap of 10 mm is recommended.

6.12 In general, the rails should be fixed at mid-length using normal clearance holes (fixed point), and allowed to expand toward the ends using slotted holes (flexible or sliding point) (see Figures 1 and 2). When single spanning between floor slabs, one rail end will be a fixed point and the other end a flexible or sliding point. To allow for expansion, a minimum gap of 2.5 mm per metre length should be provided. For calculation purposes, the coefficient of thermal expansion for aluminium may be taken as $23 \times 10^{-6} \cdot K^{-1}$. Existing movement joints in the supporting structure should be maintained through the rail system. For three-metre-long rails, a gap of 10 to 15 mm between adjacent rails is recommended.

6.13 The design and the installation must be checked by a suitably competent and experienced engineer or other appropriately qualified person.

6.14 Any insulation behind the cladding must be suitably fixed to the supporting wall and protected, to resist the forces of wind suction. Insulation should be, at least, of the semi-rigid type (eg boards or batts).

Impact loading

6.15 The impact resistance of a cladding system is a function of the support framing arrangement and the cladding panel used. The structural engineer should ensure that the cladding system incorporating the Nvelope NVF2F

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, which is reproduced (in part) in Table 3 of this Certificate.

Table 3 Definition of impact use categories (reproduced from EAD 090062-00-0404 : 2018)

Use Category	Description
I	A zone readily accessible at ground level to the public and vulnerable to hard body impacts but not subjected to abnormally rough use.
II	A zone liable to impacts from thrown or kicked objects, but in public locations where the height of the kit will limit the size of the impact; or at lower levels where access to the building is primarily to those with some incentive to exercise care.
III	A zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects.
IV	A zone out of reach from ground level.

7 Behaviour in relation to fire



7.1 The aluminium NVF2F brackets, rails and associated rail-to-bracket fixings have a reaction to fire classification of A1 in accordance with BS EN 13501-1 : 2018 and are not subject to any restriction on building height or proximity to boundaries.

7.2 Aluminium NVF2F brackets feature polypropylene isolator/thermal breaks, used for isolation and to reduce the risk of thermal bridging across the bracket/wall interface. They are largely protected by the cladding panels and, considered to be present in relatively small quantities, are unlikely to significantly affect the overall fire performance of the cladding.

7.3 The aluminium components are non-toxic during fabrication and in normal use and do not produce toxic effects when exposed to fire.

7.4 Designers should refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity barriers, service penetrations and combustibility limitations for other materials and components used in the overall wall construction, for example, thermal insulation or external cladding.

8 Drainage and ventilation

8.1 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.

8.2 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 should be suitably protected with a ventilation protection mesh, perforated sheet or similar, or should be baffled.

8.3 The air space between the back of the cladding panels and the supporting wall (or insulation where installed within the cavity) should be as wide as possible, allowing for normal building tolerances. Guidance on recommended cavity widths is given in *NHBC Standards 2022*, Chapter 6.9, Clause 6.9.18 *Rainscreen Cladding*.

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

9 Maintenance

The system is confined behind the cladding panels and does not require special maintenance.

10 Durability



10.1 The system, when used as prescribed in this Certificate, can be expected to have a service life in excess of 35 years in normal UK conditions.

10.2 NVF2F brackets should be used with polypropylene isolator/thermal breaks (supplied with the brackets) when used with cement-based materials or where there is a risk of bi-metallic contact. Unprotected aluminium interacts with these materials, resulting in severe corrosion.

11 Reuse and recyclability

The polypropylene and aluminium components can be recycled.

Installation

12 General

12.1 The system must be installed in accordance with the manufacturer's recommendations, the requirements of this Certificate, and any specifications laid down by the project consulting engineer or designer.

12.2 The Certificate holder can provide technical assistance at the design stage, and installation assistance at the start of the installation.

13 Procedure

13.1 Based on a preliminary survey of the wall and architectural/structural design, a grid layout for the sub-frame is first prepared.

13.2 The brackets (with isolator pad, if required) are fixed to the end of the floor slab or substrate wall using stainless steel fixings of an appropriate size as determined by design (see sections 1.5, 6.2 and 6.4).

13.3 The box profiles are inserted into the brackets and, after adjustment for line and level, fixed to the brackets using M8 bolts, as determined by design (see sections 1.5, 6.8 and 13.4). To allow the M8 bolt to be installed, fully drill through the box profile at the relevant fixed or sliding point location on the bracket, using a suitable 9 mm drill bit.

13.4 The box profiles are normally attached to the end of the floor slab or substrate wall to span one or more storey heights. The box profiles are normally anchored at the top bracket position using the round holes on the brackets (fixed point/dead loads) and allowed to expand at all other bracket position using the elongated holes on the brackets (flexible point).

13.5 Where specified, NVF2F spigots slide into and are used to connect NVF2F box profiles. Fixed through the side of the lower box profile with a SX3 fastener at a minimum distance of 20 mm from the box profile end to allow the upper box profile to remain free for thermal expansion.

13.6 Where specified, insulation should be tightly butted around the brackets and secured to the substrate wall using the appropriate fixings.

13.7 Where required to protect the substrate wall or insulation from wind-driven rain, an appropriate vapour permeable membrane should be applied to the surface. Guidance on recommended vapour control is given in *NHBC Standards 2022*, Chapter 6.9, Clause 6.9.9 *Damp proofing and vapour control*.

13.8 Cladding panels (outside the scope of this Certificate) deemed to be compatible with the system are appropriately fixed to the vertical rails.

Technical Investigations

14 Tests

Tests were carried out and the results assessed to determine:

- bracket ultimate limit strength
- bracket compression and shear strength when deflection limited.

15 Investigations

15.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

15.2 An assessment was made to the system in relation to:

- resistance to permanent and variable actions
- section properties for profiles
- behaviour in relation to fire
- durability.

15.3 Based on a visit to a site installation, an assessment was made of the system practicability of installation and performance in use.

Bibliography

BS 5250 : 2021 *Management of moisture in buildings. Code of practice*

BS EN 573-3 : 2019 *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 3: Chemical composition and form of products*

BS EN 1990 : 2002 + A1: 2005 *Eurocode — Basis of structural 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 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 ISO 9001 : 2015 *Quality management system — Requirements*

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

EOTA TR055 : 2018 *Design of fasteners based on EAD 330232-00-0601*

16 Conditions

16.1 This Certificate:

- relates only to the product/system 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
- is valid only within the UK
- 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
- is subject to English Law.

16.2 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.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system 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.

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

16.5 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:

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

16.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system 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.