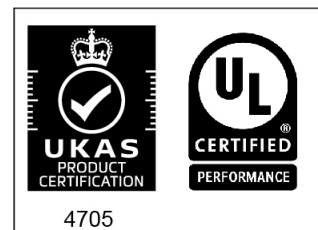


RF50-FR

Rear Fixed 50mm Fire Rated Rainscreen System





**Certificate of UL
Mark R40503**

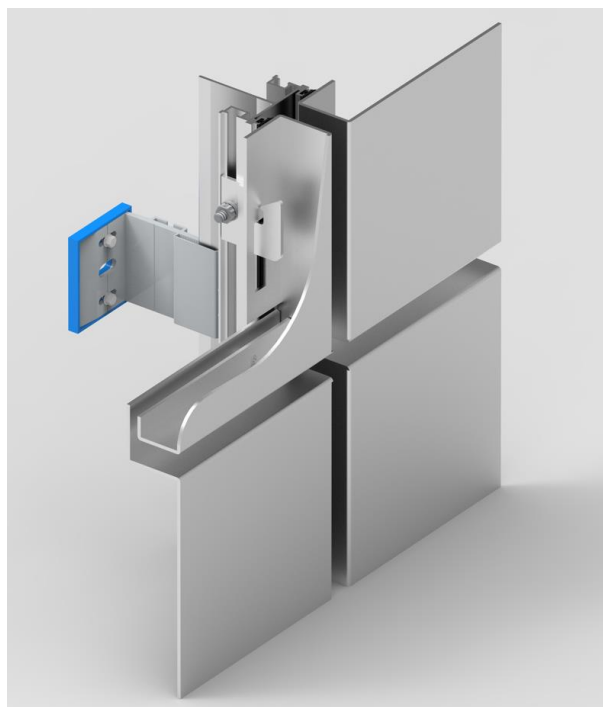


Certificate for the UL Mark – Performance of Curtain Walling and Rainscreen Cladding

Section 1 – Certificate Details:

Customer Name:	EDM Spanwall Facades Limited	Certification Body:	UL International (UK) Ltd
Customer Address:	Comber Road Carryduff Belfast BT8 8AN	Certification Body Address:	Halesfield 2 Telford Shropshire TF7 4QH
UL Scheme:	BSFO Performance of Curtain Walling and Rainscreen Cladding Systems Issue 1	Certificate Number:	R40503
Date of Certification Commencement:	2 nd September 2022	Date of Certification Expiry:	1 st September 2025
Certificate Compiled by:	Mark Swanborough Certification Leader	Certificate Approved by:	Michael Wass Engineering Manager
Signed:		Signed:	

Section 2 – Product covered by this Certificate:



System Name	System Type
RF50 FR - Rainscreen System Aluminium Panels	Drained and Ventilated Rainscreen System with Aluminium Panels
This Certification Covers <ul style="list-style-type: none">- A detailed overview of the certified product- An assessment of the certified company's factory production control system.- A review of the products documentation to help demonstrate compliance with the applicable requirements of the NHBC standard 2020 chapter 6.9.- A review of the certified products contribution to any key requirements of the building regulations.- An overview of the certified company's product installation requirements and procedures.- An overview of all supporting test documentation used for the product evaluation.- Ongoing surveillance of the certified company's factory production control system and procedures.- The conditions under which this product certification is valid.	

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Section 3 – Product Specification and full description of the certified product

Product Description

EDM Spanwall Facades Limited (the certificate holder) tested and certified product is the RF50 FR - Rainscreen System, a Ventilated Rainscreen Cladding System with Aluminium Panels.

Product details

Full product name:	RF50 FR
Product type:	Rainscreen System
Product description:	Drained and Ventilated Rainscreen System with 50mm Deep Panel
Manufactured by:	The certificate holder

Support Framing and bracketry

Material:	Aluminium Alloy 6063 T6
Finish:	Mill Finish
Vertical rail Ref:	Spanwall Mullion 504 FR
Horizontal rail Ref:	N/A
Fixing method (rail to backing wall):	Tek Screw
Fixing Ref:	SFS SX3/28-S16-6.0x48
Fixing method (rail to rail):	M5 Tek Screw
Fixing Ref:	Spanwall M5 Tek Screw 507
Max Span between vertical rails:	1279.5mm
Max Span between horizontal rails:	N/A
Brackets ref:	Spanwall Wall Bracket 300mm
OSCI supports:	Siderise Open State Cassette Inserts are mechanically fixed into the RF50-FR Panel with retaining plates fixed to inner return folds of the panel

Panels:

Material:	Aluminium
Material spec:	3103 H14
Finish:	Mill Finish
Thickness:	3mm
Reinforcing:	3mm Aluminium Stiffeners
Max height of panel:	1860 Landscape 3680 Portrait (Grid Centre Size)
Max width of panel:	3830 Landscape 1830 Portrait (Grid Centre Size)
Max size of panel by area (m2):	7.1238 m2
Fixing method:	Hook On secured with Anti-Lift Screw 509R
Bracket/clip ref:	Spanwall 505 / 506
Screws/fixings ref:	Spanwall M8 Bolt / Nut / Washer 508

Interface Details (Back wall to window/door inserts)

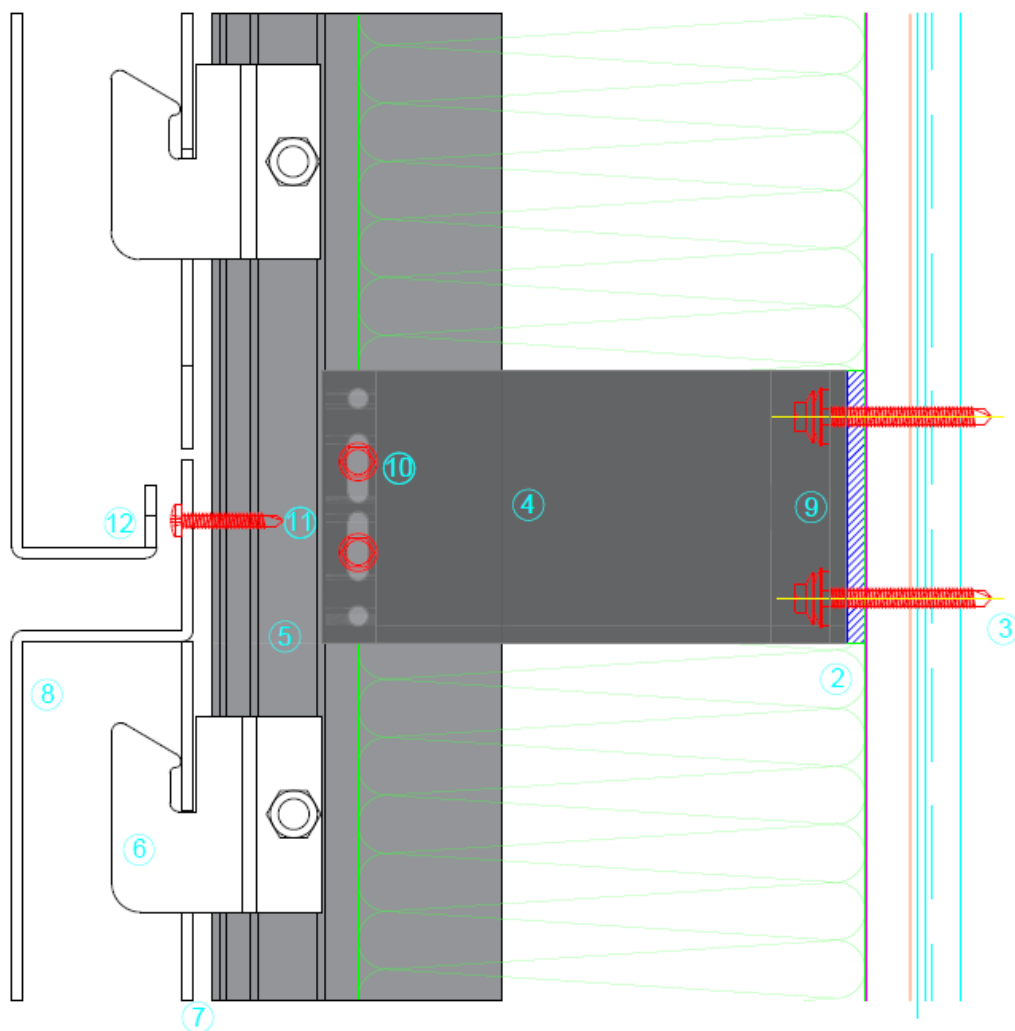
Window interface detail:	Refer to product drawing
Door interface detail:	n/a

Backing Wall

Structural support type:	SFS
Insulation type:	N/A
Insulation thickness:	N/A
Airtight membrane:	Proctor Procheck FR200
Watertight membrane:	As above
Particle board detail:	RCM Y-Wall 12mm
Sealants and tapes:	SikaTack Panel / Proctor Reflectafoil Tape 100mm Soudal Fix All Crystal
Fixings ref:	Rufpert DF3 CSK Wing Driller Light 4.8 x 38

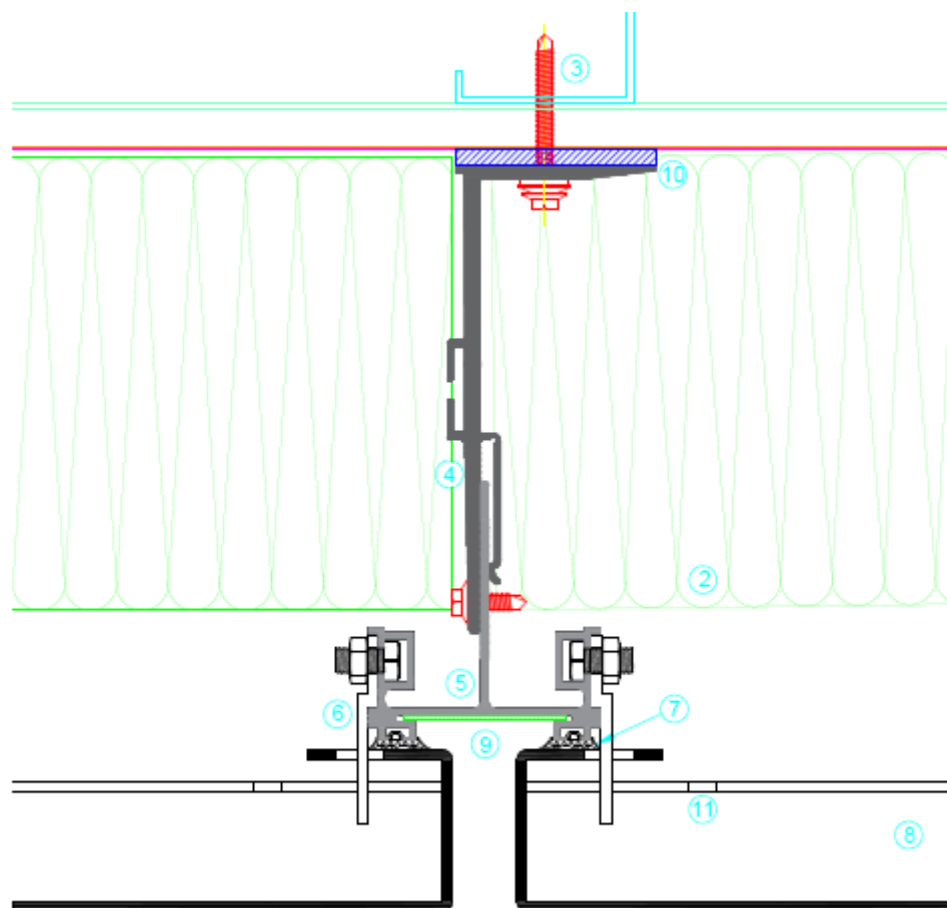
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Figure 1.0 – Standard Make Up Details



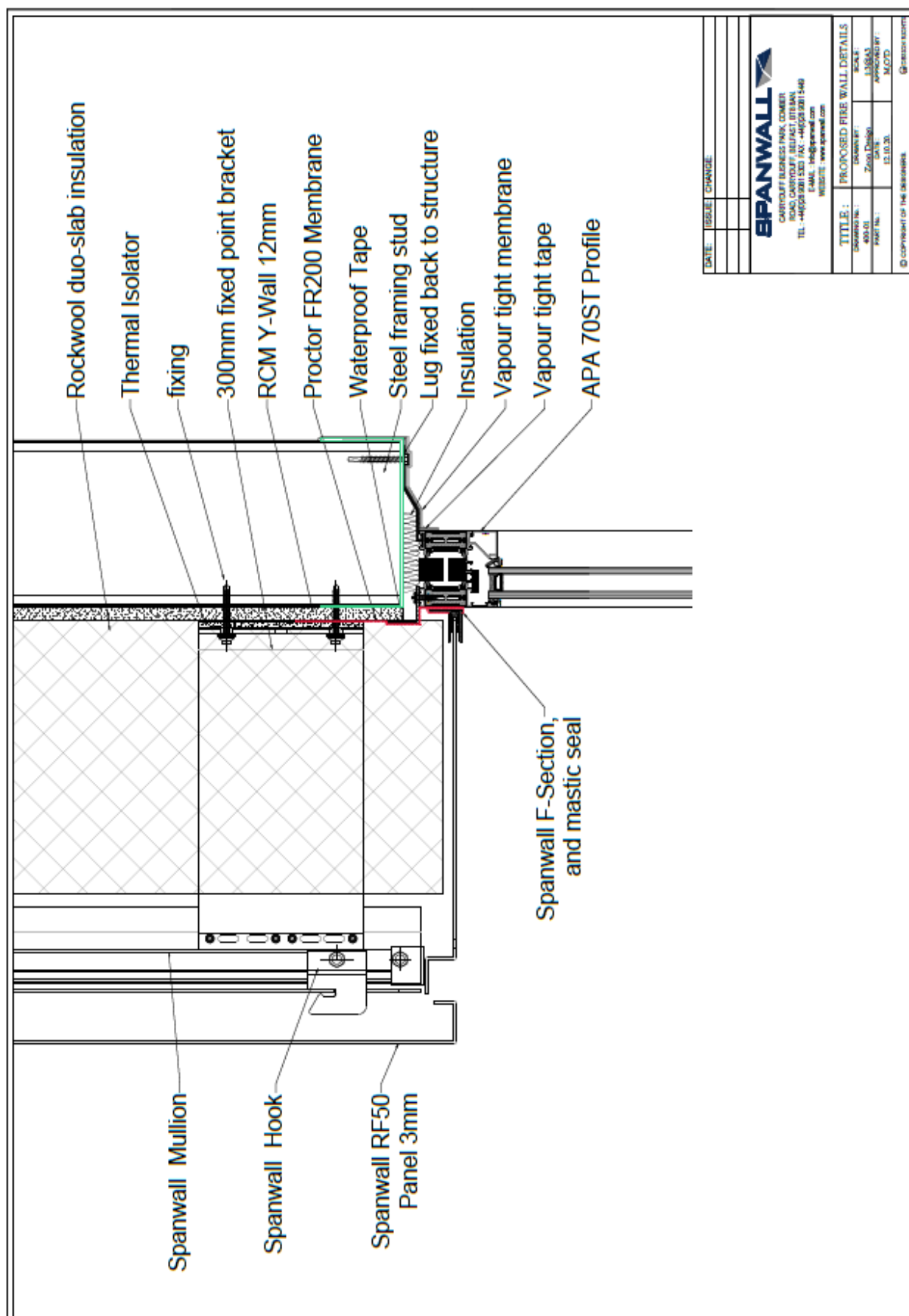
Item	Description
1	Metsec System (by others)
2	Insulation (by others)
3	Wall Fixing (by others)
4	Wall Bracket
5	Mullion
6	Hook
7	EPDM Gasket
8	Rainscreen Cassette Panel
9	Thermal Isolator
10	Mullion Fixing
11	Anti-Lift Fixing
12	Drainage Hole

Figure 1.1 – Typical Vertical Joint Detail



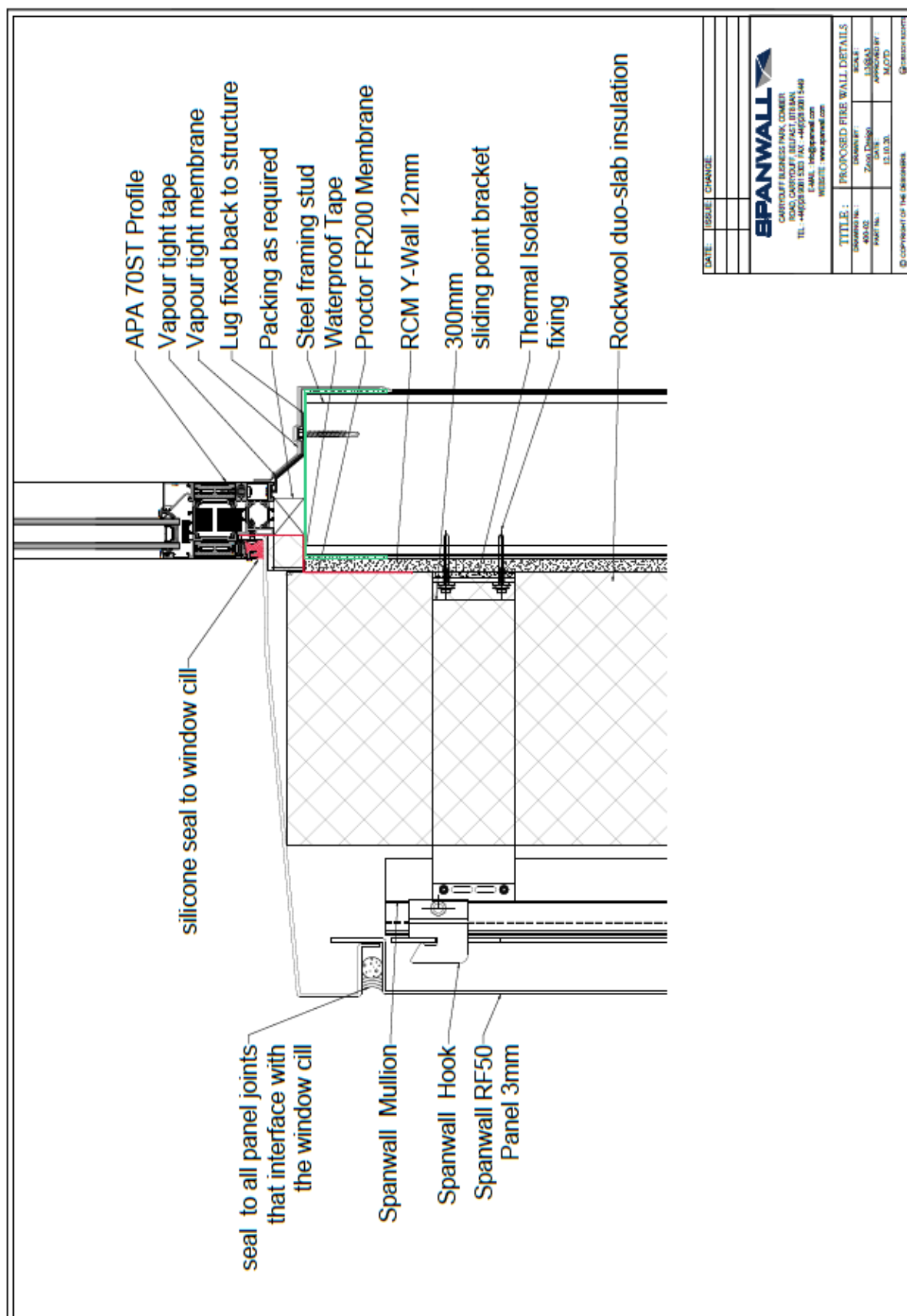
Item	Description
1	Metsec System (by others)
2	Insulation (by others)
3	Wall Fixing (by others)
4	Wall Bracket
5	Mullion
6	Hook
7	EPDM Gasket
8	Rainscreen Cassette Panel
9	Infill Strip (Optional)
10	Thermal Isolator

Figure 1.2 – Typical Window Head Detail



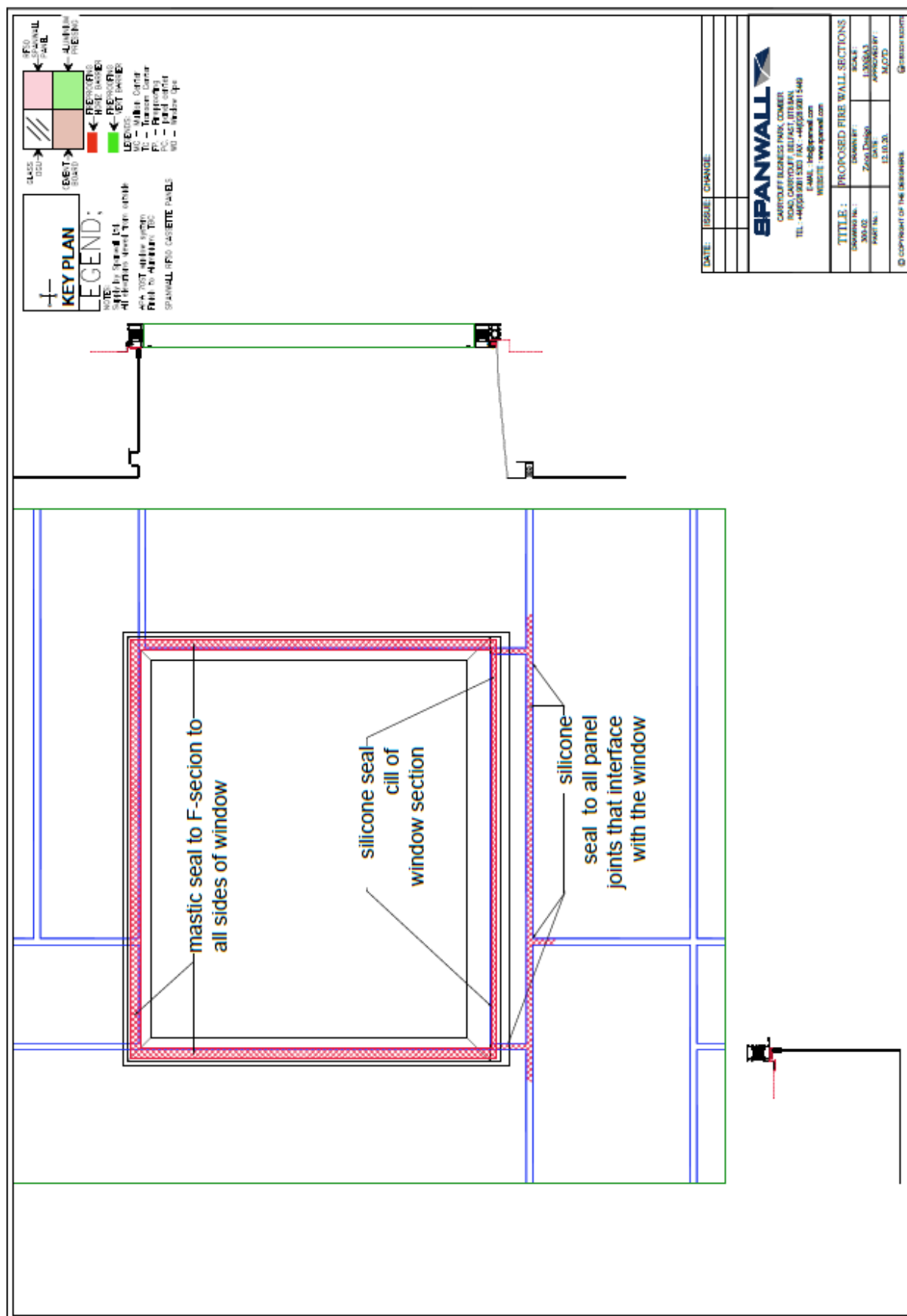
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Figure 1.2 – Typical Window Cill Detail



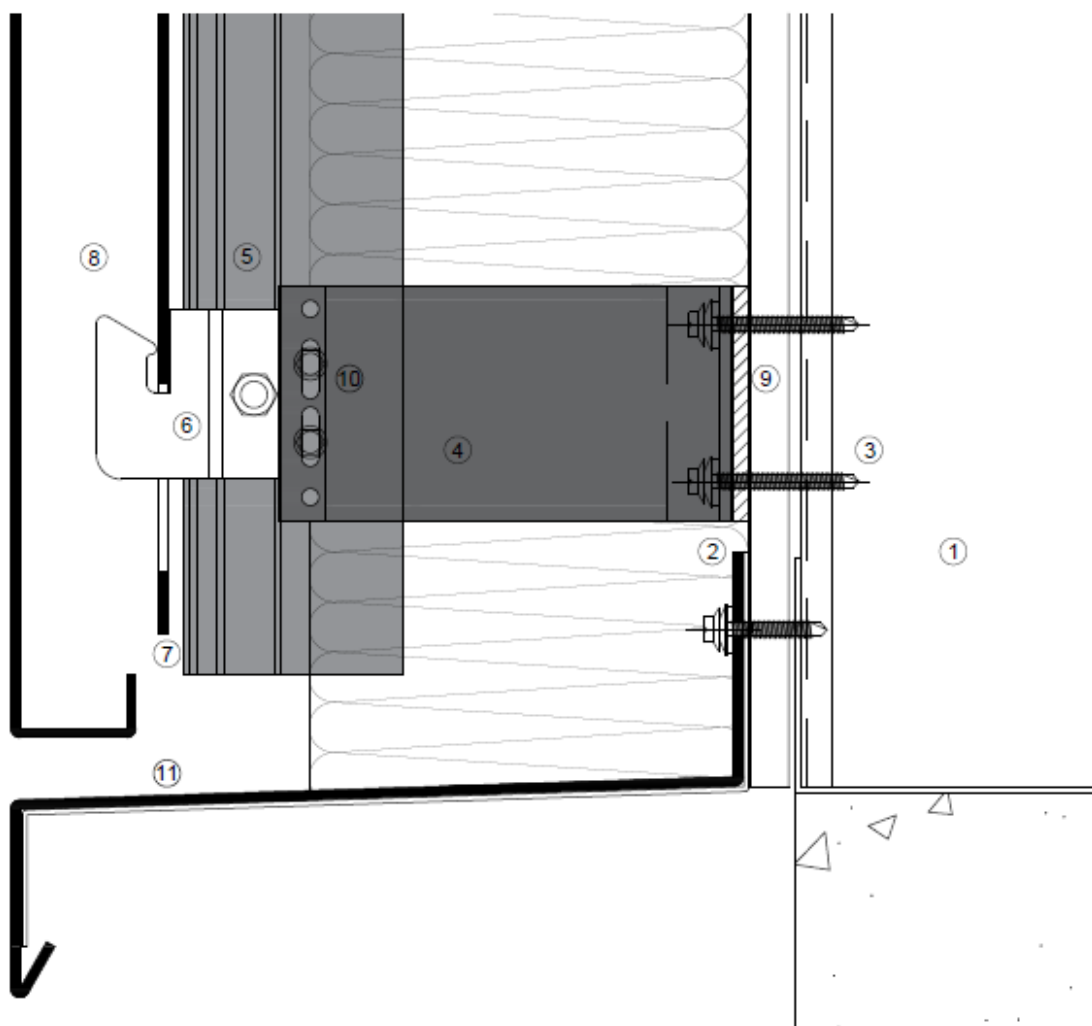
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Figure 1.2 – Typical Window Interface Seal details



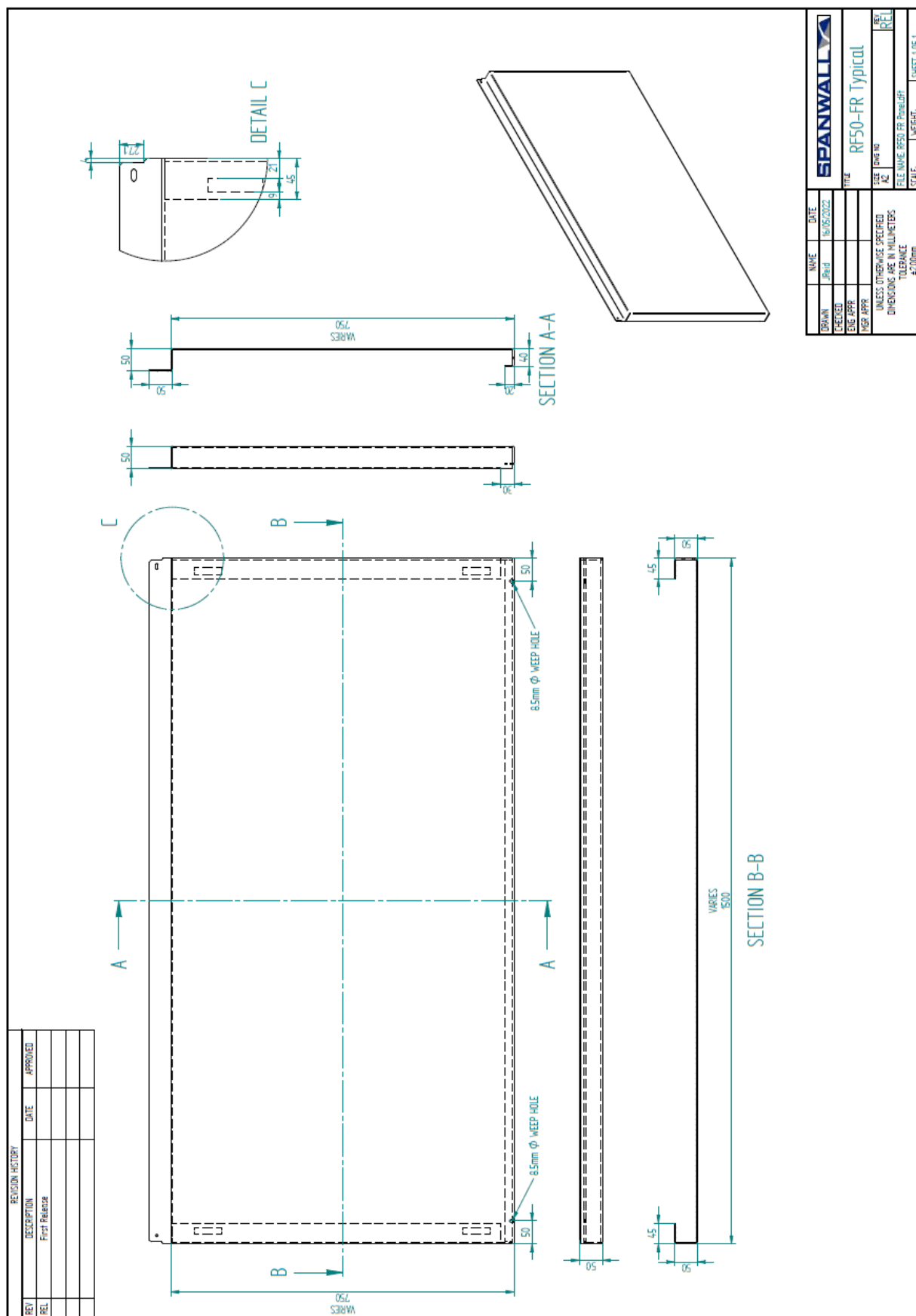
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Figure 1.3 – Floor Slab Details



Item	Description
1	Metsec System (by others)
2	Insulation (by others)
3	Wall Fixing (by others)
4	Wall Bracket
5	Mullion
6	Hook
7	EPDM Gasket
8	Rainscreen Cassette Panel
9	Thermal Isolator
10	Mullion Fixing
11	Bottom Cill

Figure 1.4 – Typical RF 50 Panel



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Section 4 – Factory Production Control

The certificate holder supply Rainscreen cladding systems to the UK, European and other export markets. The company head office is situated in Belfast Northern Ireland. The aluminium panels and associated brackets are fabricated/assembled at the site in Belfast. All items are dispatched/transported directly to the client's site. The certificate incorporates the partnership between the certificate holder and their approved supply chain to produce the RF50 FR - Rainscreen System Cladding System.

An initial factory production control audit has been carried out at the certified products manufacturing site to assess the effectiveness of the following:

- Contract review – enquiries, quotations, and orders
- Production planning and organisation
- Control of purchasing, including supplier approvals
- Control and storage of incoming materials and components
- Control of documentation related to the production, quality control/inspection, packaging and despatch
- Identification and traceability of certified products
- Ongoing production inspection, testing and records thereof
- Maintenance of production equipment
- Training Records of personnel
- Internal audit reports including non-conformances and corrective actions
- Customer complaint procedures
- Installation guide and processes
- Non-conforming products
- Labelling of products

UL International (UK) Ltd, witnessed the production processes at the Belfast site listed above and it can be confirmed that procedures and controls were carried out as specified/documented and were in line with the UL certification scheme requirements. All of the manufacturing sites will be subjected to annual surveillance audits to ensure ongoing compliance and effectiveness.

Section 5 – Design documentation review of the certified product

A review of the certified products documentation was conducted in order to help demonstrate compliance with the appropriate sections of the NHBC Standard 2020 requirements section 6.9 and the UL scheme document. At least the following requirements were evaluated in the review and were found to show evidence that complies.

- 3.1 Loads and movements
The RF50 FR - Rainscreen Cladding System, including brackets and fixings, allow movement without causing damage or deformation, and calculations carried out by external structural engineers with regards to the support structure to demonstrate that loads are safely transferred to the building. Recommended fastening spaces are based on calculations in accordance with Eurocode EN 1991-1-4:2005.
- 3.2 Support and Fixings
The RF50 FR - Rainscreen Cladding System has demonstrated that it can be securely fixed with suitably durable fixings to ensure adequate in-service performance. A TN76 impact test has been carried out on this system by a UKAS accredited laboratory – see section 6 for further details. Hook On secured with Anti-Lift Screw 509R see fig 1.3 item 6.
- 3.3 Durability
The product provides satisfactory durability (subject to routine inspection and maintenance). The system has been designed to avoid the need for disproportionate work when repairing or replacing individual components. Corrosion resistant fixings are used, and bimetallic corrosion has been considered. Aluminium alloy conforms to 013 H14.
- 3.4 Interfaces
The RF50 FR - Rainscreen Cladding System has suitable interfaces and resists the penetration of water and wind and has designed to be weather resistant. A CWCT Section 9 hose test was successfully conducted on a window interface installed

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in the system. The certificate holder supplied drawings provide details on how to fit/install and ensure that the window detail doesn't compromise the system erecting or build. EPDM adhesive sealant between EPDM membrane and uPVC windows is used. The cladding system wall cavity will be fully drained and vented in accordance with NHBC Chapter 6.9 requirements for a minimum 38mm clear cavity width. See technical report – R21869 CWCT – Standard for systemised building envelopes – 2005.

- 3.5 **Insulation**
Insulation is to be supplied by others; the certificate holder can supply further details on the appropriate location of insulation via drawings. When insulation is purchased the installation guidance supplied is to be followed.
- 3.6 **Damp proofing and vapour control**
The RF50 FR - Rainscreen Cladding System, including damp proofing materials is designed to adequately resist the passage of water into a building and allows water vapour to pass outwards. EPDM adhesive sealant and EPDM membranes are utilised. Cavity trays are to be fitted at the base of the system and above any openings.
- 3.7 **Electrical continuity and earth bonding**
The RF50 FR - Rainscreen Cladding System product operation and maintenance guide specify electrical continuity and earth bonding is to be managed by separate contactors onsite during installation.
- 3.8 **Maintenance**
The design allows for appropriate access arrangements for the purposes of cleaning, inspection, maintenance and repair. Guidance is supplied with the RF50 FR - Rainscreen Cladding System product with further details. Should there be a requirement where a panel or panels require replacing this can be carried out in an isolated area rather than stripping full elevations to replace in most cases.
- 3.10 **Ventilation screens**
Any ventilation openings over 10mm are protected from the entry of birds and animals, a suitable anti-vermin mesh will be supplied ensure compliance.
- 3.11 **Handling and storage**
An onsite assessment of the manufacturer confirmed that materials, products and systems are protected and stored in a satisfactory manner to prevent damage, distortion, uneven weathering and any degradation.
- 3.12 **Weather resistance**
The RF50 FR - Rainscreen Cladding System has been designed to resist the passage of water to inside the building. A CWCT Sequence B test has been carried out on this system by a UKAS accredited laboratory – see section 7 tests 5 and 6 for further details. All external seals and joins are made from suitable mortars to prevent unwanted water ingress.
- 3.13 **Thermal bridging and condensation**
The RF50 FR - Rainscreen Cladding System and the insulation used has been designed/considered so that thermal bridging is considered and managed.
- 3.14 **Air infiltration**
The cladding system has air barriers and vapour barriers drawings and further details can be provided by the certificate holder.
- 3.15 **Opening doors and lights**
Openable windows are installed so that they fit neatly and have minimal gaps to ensure effective weatherproofing of the system is maintained, detailed drawings are available on request see figure 1.2.
- 3.16 **Drainage**
Drainage holes are incorporated into channels to allow any moisture to dissipate down the backs of the panels without collecting/puddling within the channel. See fig 1.0 item 12, fig 1.1 item 11 and Fig 1.4 Panel drawing.
- 3.17 **Fire**
Data to support testing to fire performance classification in accordance with br135:2013 annex B classification report eui-20-000374 BR 135 (3rd edition): 2013, as tested according to BS 8414-2:2020. Report from Efectis UK/Ireland, Unit 15f, Kilroot Business Park, Larne Road, Bt38 7pr, Carrickfergus.

Section 6 – Comments on the certified products contribution to The Building Regulations

A review of the key related requirements from The Building Regulations 2010 (England and Wales) was conducted based on the information declared by the certificate holder, and the data provided for the documentation review. The following comments have been made on whether the certified product can contribute to the Building Regulations requirements.

The Building Regulations 2010 (England and Wales)

Requirement	Comment/s
A.1 Loading	The externally sourced calculations, statements and reports provided gives confidence that this regulation is contributed towards by the product certified.
B2(1) Internal fire spread (linings) and B4 (1) External fire spread	Data to support testing to fire performance classification in accordance with br135:2013 annex B classification report eui-20-000374 BR 135 (3rd edition): 2013, as tested according to BS 8414-2:2020. Report from Efectis UK/Ireland, Unit 15f, Kilroot Business Park, Larne Road, Bt38 7pr, Carrickfergus. This gives confidence that this regulation is contributed towards by the product certified.
C2 (B) Resistance to moisture	The CWCT Report R21869 (details in section 8) gives confidence that this regulation is contributed towards by the product certified when designed as a fully drained and back vented rainscreen cladding system.
7. Materials and workmanship	The evidence of method statements and staff training provided gives confidence that this regulation is contributed towards by the product certified.

The Building (Scotland) Regulations 2004 (as amended)

Requirement	Comment/s
30 Stability	The externally sourced calculations, statements and reports provided gives confidence that this regulation is contributed towards by the product certified.
28(B) Resistance to weather and moisture	The CWCT Report R21869 (details in section 8) gives confidence that this regulation is contributed towards by the product certified.
36(A) External fire spread	Data to support testing to fire performance classification in accordance with br135:2013 annex B classification report eui-20-000374 BR 135 (3rd edition): 2013, as tested according to BS 8414-2:2020. Report from Efectis UK/Ireland, Unit 15f, Kilroot Business Park, Larne Road, Bt38 7pr, Carrickfergus. This gives confidence that this regulation is contributed towards by the product certified.
23 Fitness of materials and workmanship	The evidence of method statements and staff training provided gives confidence that this regulation is contributed towards by the product certified.

Section 7 – Product installation

General

This product must be installed in accordance with the certificate holder recommendations and the requirements of this certificate. The certificate holder has specified that all product installers will be independently trained and certified by them or other relevant industry training providers on correct installation and best practices for the system.

Product delivery

The product is delivered to clients on suitable pallets transported by long distance haulage companies. Heavy-duty packaging is used for the products and this was demonstrated during the onsite visits of the facility. Each delivery is labelled with details including order number reference, location, product name, type, size, quantity and weight.

Site survey

The certificate holder has specified that prior to installation of Cladding System; a pre-installation survey of the property has to be carried out by the installer to determine whether the site is suitable for product installation and if any repairs are required to the building wall.

Section 8 - Supporting CWCT test documentation

General

Air and water testing of the RF50 FR - Rainscreen System was carried out in accordance with the CWCT Standard test sequence B. The Panels tested were of a similar size and configuration to those which will be manufactured and sold in the UK market.

Test sample size and configuration

UL test report R21869. The product testing was accordance with UL guidance document WEL 354. The sample was 5.9 m wide by 8.0 m in height featured and was installed on an SFS backing wall. See Fig 1.5.

Testing carried out

CWCT Test Methods for Building Envelopes – Dec 2005; Sections 5, 6, 7, 9, 11, 12 & CWCT TN 76. The testing was conducted on the 23rd November 2020 and completed on the 26th November 2020.

Test laboratory

UL International (UK) Ltd, Telford, Shropshire TF7 4QH (UKAS 5772)

Test Results (reference report number R20556)

Test type	Peak Test Pressure	Result	Date of test	Classification
Test 1 – Air Leakage – Infiltration	600 Pa	Pass	23.11.20	A4
Test 2 – Air Leakage – Exfiltration	100 Pa	N/A	23.11.20	N/A
Test 3 – Water Penetration (Static Pressure)	600 Pa	Pass	23.11.20	R7
Test 4 – Wind Resistance (Serviceability) – Backing Wall	2400 Pa	Pass	23.11.20	-
Test 5 – Air Leakage – Infiltration	600 Pa	Pass	23.11.20	A4
Test 6 – Air Leakage – Exfiltration	100 Pa	N/A	23.11.20	N/A
Test 7 – Repeat Water Penetration (Static Pressure)	600 Pa	Pass	30.03.20	R7
Test 8 – Water Penetration - Dynamic Aero Engine	600 Pa	Pass	23.11.20	-
Test 9 – Water Penetration - Hose	-	Pass	24.11.20	-
Test 10 – Wind Resistance – (Serviceability) - Cavity	2400Pa	Pass	25.11.20	-
Test 11 – Wind Resistance (Safety) -Backing Wall	3600 Pa	Pass	25.11.20	-
Test 12 – Wind Resistance (Safety) -Cavity	3600 Pa	Pass	25.11.20	-
Test 13 – Impact Resistance (Retention of Performance)	-	Class 2	26.11.20	CAT B
Test 14 – Impact Resistance (Safety to persons)	-	Negligible Risk	26.11.20	CAT B

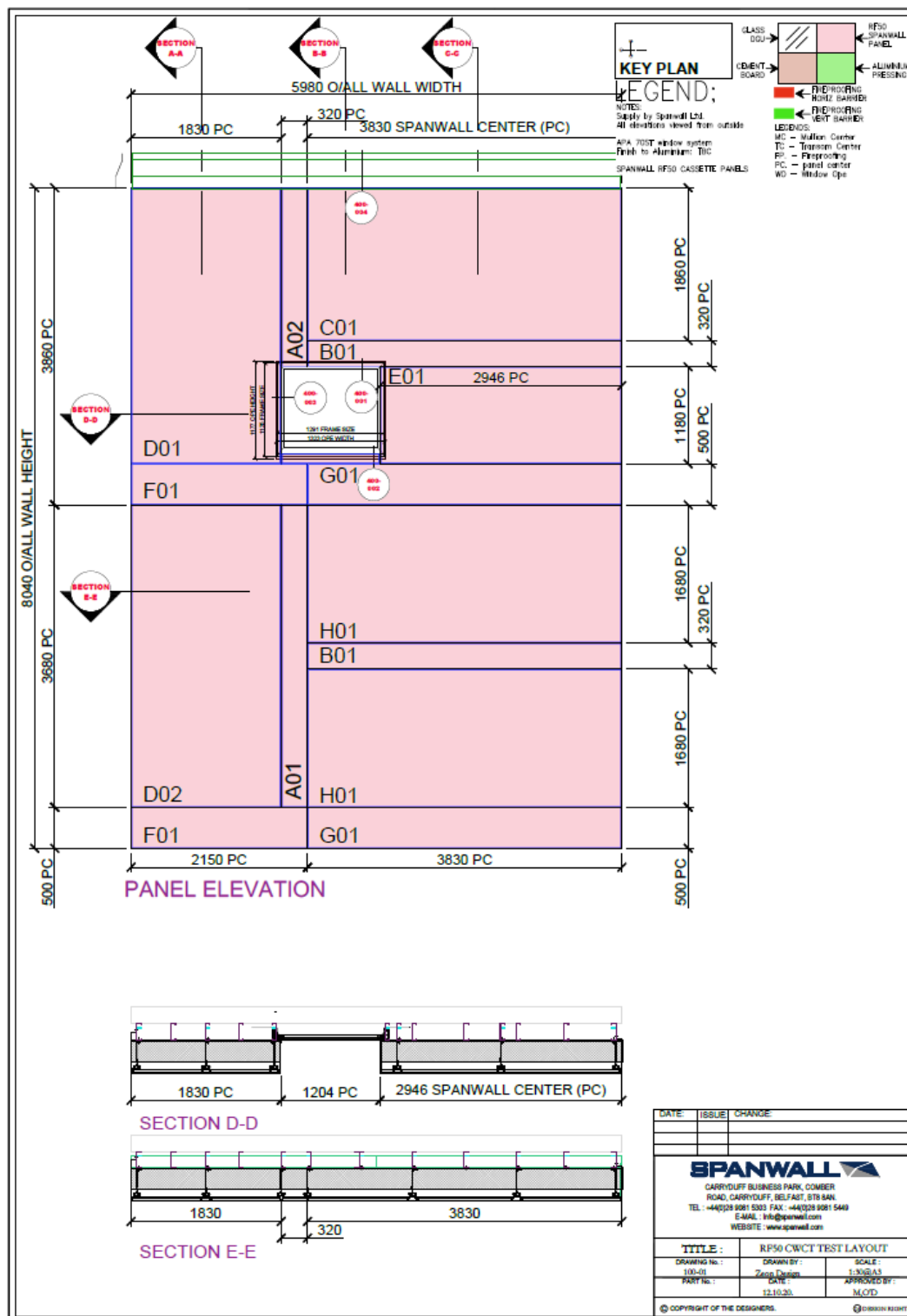
Conclusion

A review of the test report demonstrated that the test sample successfully passed all of the above CWCT test requirements. The test sample was supplied and erected on to the test laboratory's test chamber by the certificate holder. The dismantling was conducted on 30th November and 1st December 2020 by representatives of EDM Spanwall Facades Limited and was witnessed by representatives of UL International (UK) Limited.

There was no water evident in the system in parts designed not to be wetted, and it was found that the system fully complied with the system drawings provided by EDM Spanwall Facades Limited at the time of the dismantle.

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Figure 1.5 Test sample mock-up



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Section 9 – Certification conditions

This UL Certificate:

1. Covers the product/system that is named and described on the front page only.
2. Should be read in conjunction with the UL Mark – Performance of Curtain Walling and Rainscreen Cladding and Cladding Support Systems for Use in the United Kingdom.
3. Is granted to the company listed front page only.
4. Subject to availability of the referenced manufacturers system information
5. Is valid within the UK only.
6. Will remain valid for the period listed on the front page provided that the product and the manufacturer comply with the UL Mark requirements.

Please check the validity and issue level of this certificate with UL International (UK) Ltd or check the list of certified products online via www.ul.com. UL International (UK) Ltd, is not responsible for any complaints, legal issues or liability regarding the incorrect manufacture or installation of any UL certified products. This is not fire certification; evidence of fire performance should be obtained directly from the company certified. For more details the UL certification terms, conditions and the Scheme document should be read in conjunction with this certificate.



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