

# SF40-FR

Shadow Fixed 40mm Fire Rated Rainscreen System

## H92 NBS Source Specification

## TO BE READ WITH PRELIMINARIES / GENERAL CONDITIONS

### 120 RAINSCREEN CLADDING

- **Drawing reference(s):** Insert Project Specific Drawings
- **Primary support structure:** By others
- **Rainscreen cladding system:** Spanwall SF40-FR Aluminium Rainscreen System – adjustable, discreet-fix, pre-finished, cassette panel system.
- **Manufacturer and Reference:** Spanwall Facades Limited, Unit 1, Carryduff Park, Comber Road, Carryduff, Belfast BT8 8AN  
Telephone: +44 (0)28 9081 5303  
Email: [info@spanwall.com](mailto:info@spanwall.com)  
Web: [www.spanwall.com](http://www.spanwall.com)
- **Installation:** To be carried out by a contractor with the necessary experience, and expertise, as approved by the system manufacturer.
- **Type:** Labyrinth Joint, Discreet-Fix, Cassette Rainscreen System, Drained and Back Ventilated
- **Panel:** Folded panel cassette with return folds on all sides, stiffened as necessary to meet performance criteria for deflection under wind load as per clause 350. Demountable, mechanically secured using self-drilling, mechanical fixing into vertical support rail.
- **Panel Material and Thickness:** Aluminium Alloy 3000 Series H14, 3mm / 4mm  
*Other thickness' and materials are available, please consult with Spanwall.*
- **External Finish:** Project Specific (e.g. PPC A2, Anodised A1)
- **External Colour:** Project Specific
- **Panel Tolerances:**
  - +/- 2mm permitted deviation for panels up to 3000mm long
  - +/- 3mm permitted deviation for panels over 3000mm long
  - Squareness of panels +/- 4mm
  - Tolerances on curved panels subject to radii, please contact Spanwall Limited.
- **Joint Width:** Standard 20mm between panel edges (Options for 30mm+ )  
*Other joint widths/types are possible, please consult with Spanwall.*
- **Joint Type:** Labyrinth Horizontal / Over- lapping Vertical
- **Air Gap:** 38mm as per CWCT
- **Support System:** Rainscreen support system comprising of L or T rails, Coloured Dome Self drilling / tapping fixing screws, fixed to Aluminium Helping Hand Brackets on thermally broken isolators. The support framing must allow for calculated expansion movement of the whole system vertically and horizontally.
- **Support Material:** Extruded Aluminium in 6065/T6 grade alloy.
- **Panel Fixing:** Extruded Aluminium Hooks / A2 Austenitic Stainless Steel self-drilling anti-lift fixings.
- **Backing Wall:** [By others](#)
- **Breather Membrane:** [By others](#) (as Clause 785)
- **Thermal Insulation:** [By others](#) (as Clause 776)
- **Other Requirements:** Cappings, Cills, Jambs, Louvres, Perforated Screens etc: contact Spanwall or visit [www.spanwall.com](http://www.spanwall.com)

### 130 MAJOR NON-STANDARD COMPONENTS

- **Manufacturer:** [by Spanwall Facades Ltd]
- **Product reference:** [N/A]
- **Material:** [Aluminium]
- **Finish:** [Polyester powder coated]
- **Fixing:** [As necessary, in consideration of good practice]

## GENERAL REQUIREMENTS / PREPARATORY WORK

### 210 DESIGN

- Complete the detail design of the rainscreen cladding and associated features shown on the preliminary design drawings to meet the requirements of this specification.
- Co-ordinate detailed design with that for all related works.
- Submit detailed drawings prior to fabrication.

### 220 SPECIFICATION

- Performance Testing:
  - System testing to The Centre for Window and Cladding Technology (CWCT) Standards for systemised building envelopes See Clause 310 of this Specification
  - System testing for wind resistance, 2400pa Serviceability & 3600pa Safety.
  - (Spanwall Certificate Number 20/113 by UL International (UK) Limited)

### 221 SPECIFICATION

- Fire Testing:
  - Fire performance classification in accordance with BR135:2013 Third Edition 2013 as tested according to BS 8414-2:2015+A1-2017.
  - Classification report EUI-18-000094
  - BS EN 13501-1: Fire Classification A2-s1,d0 (PPC)

### 230 INFORMATION TO BE PROVIDED DURING DETAILED DESIGN

- Submit the following cladding particulars:
  - A schedule of detailed design drawings and dates for submission for comment
  - A schedule of dead loads that will be transmitted from the rainscreen cladding to the primary support structure.
  - Proposed fixing details and system relevant to the structural design and construction methods of adjustments and tolerances.
  - A schedule of all fabrication tolerances/size tolerances.
  - A detailed fabrication and installation programme in compliance with the Main Contract master programme.
  - A quality plan in compliance with CWCT 'Guide to good practice for facades', Section 6.
  - Proposals to support any outstanding applications for Building Regulation consents or relaxations.

### 232 QUALITY PLAN

- In accordance with BS EN ISO 9001

### 235 INFORMATION TO BE PROVIDED BEFORE COMMENCEMENT OF MANUFACTURE OF SPANWALL SF40-FR RAINSCREEN SYSTEM

- Submit the following cladding particulars:
  - Detailed drawings to fully describe the installation of the rainscreen cladding system.
  - Project specific fabrication, handling, and installation method statements.
  - Certification for incorporated components manufactured by others confirming their suitability for proposed locations in the rainscreen cladding.
  - Recommendations for spare parts for future repairs or replacements.
  - Recommendations for safe dismantling, recycling, or disposal of products.

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## 240 PRODUCT SAMPLES

- Before commencing detailed design provide the CA with identified samples of:
  - Panel Type & Finish.
  - Obtain approval before proceeding.

## 260 FABRICATION SAMPLES

- At an agreed stage during detailed design work provide the CA with samples of:
  - Submit samples Spanwall SF40-FR incorporating horizontal and vertical joints for Clause 120
  - Obtain approval before proceeding.

## DESIGN/PERFORMANCE REQUIREMENTS

### 310 CWCT 'STANDARD FOR SYSTEMISED BUILDING ENVELOPES'

- General: Comply with:
  - Part 2 – loads, fixings, movement
  - Part 3 – Air, water, and wind resistance
  - Part 4 – Operable components, additional elements & means of access
  - Part 5 – Thermal, moisture & acoustic performance
  - Part 6 – Fire performance
  - Part 7 – Robustness, durability, tolerances, and workmanship

### 335 INTEGRITY OF VENTILATED RAINSCREEN CLAD WALLS

- Requirement: Panel stiffening, mid-span support spacing and hook spacing to be confirmed by Spanwall based upon the below loading information.
- Panel dead load
- Façade Wind Load. ([To be advised by the structural engineer](#))
- Hard body impact loads to CWCT TN76
- Soft body impact loads to CWCT TN76

### 350 DEFLECTION UNDER WIND LOAD

- Requirement: For listed components, at positive pressure & negative applications of the design wind pressure, normal deflections are not to exceed:
  - Framing Members: L/200
  - Panels: L/90

### 370 APPEARANCE AND FIT

- Requirement: For rainscreen cladding wall:
  - To ensure the position and alignment of all parts and features as shown on the preliminary design drawings.
  - To accommodate deviations in the primary support structure, provided always that the latter is within stated design tolerances for the element structure.
- Primary support structure: Before commencing installation of the rainscreen cladding system, carry out survey sufficient to verify that required accuracy of erection can be achieved.
  - Give notice: If the structure will not allow the required accuracy or security of erection.
  - Design tolerances: allowance for panel design manufacturing tolerances of +/- 2mm of panels over 3000mm long; system joints allow +/- 2mm of adjustment, cladding zone on majority of constructions allow +/- 10mm adjustment.

### 380 GENERAL MOVEMENT

- Requirement: rainscreen cladding must accommodate anticipated building movements as follows: [To be calculated by the project structural engineer.](#)

## 385 THERMAL MOVEMENT - SERVICE TEMPERATURE RANGES

- Requirement: To CWCT 'Standard for systemised building envelopes' clause 2.7.2 amended and/ or with the addition of the following:

## 390 AIR PERMEABILITY GENERALLY

- To comply with CWCT Standard as laid down in Document: (Guide to good Practice for Walls with ventilated Rainscreens).

## 420 WATER PENETRATION

- Onto internal surfaces or into cavities not designed to be wetted must not occur when the rainscreen wall is subjected to a test pressure.

## 430 THERMAL PROPERTIES

- Method for calculating the thermal transmittance (U-value) of the rainscreen wall:  
Weighted U-value.
- Average U-value of the rainscreen wall to be: Insert W/m<sup>2</sup>K

## 450 VAPOUR CONTROL LAYER

- A vapour control layer if required, to the method described in BS5250, annex D, may be provided as part of the whole wall construction on the warm side of insulation – by others.

## 460 SOUND TRANSMITTANCE BETWEEN INTERIOR AND EXTERIOR OF RAINSCREEN CLAD WALL

- Minimum sound reduction indices (R) to BS EN ISO 140-3

## 465 SOUND TRANSMITTANCE BETWEEN ADJOINING FLOORS ABUTTING RAINSCREEN CLAD WALL

- Minimum sound reduction indices (R) to BS EN ISO 140-3

## 460 SOUND TRANSMITTANCE BETWEEN ADJOINING ROOMS ABUTTING RAINSCREEN CLAD WALL

- Minimum sound reduction indices (R) to BS EN ISO 140-3

## 490 CAVITY FIRE BARRIERS TO BS 476-20

- Requirement: To resist the passage of flames and smoke for not less than... Insert periods and criteria, if required by Approved Document B of building regulations or by fire consultant.  
By Others

## PRODUCTS

### 710 ALUMINIUM ALLOY FRAMING SECTIONS

- Standards: To BS EN 6063-T6

### 711 ALUMINIUM ALLOY SHEET

- Standards: To BS EN 485, BS EN 515, and BS EN 573.
- Alloy, temper and thickness to suit application and specified surface finish.

### 720 STAINLESS STEEL SHEET

- Standards: To the relevant parts of BS EN 10029, BS EN 10048, and BS EN ISO 9445.
- Grade: To BS EN 10088-2 generally, 1,4301 (316).
- Thickness: 1.5mm Min

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## 730 MECHANICAL FIXINGS

- Austenitic Stainless Steel: To BS EN ISO 3506 grade A2 generally, grade A4 when used in severely corrosive environments, or:
- Aluminium: Complying with BS 1474 and BS EN 755.

## 731 ADHESIVES

- Must not degenerate by moisture and/or water vapour.

## 735 FIXINGS AND FASTENERS

Must be: To be of approved type and manufactured from non-ferrous materials.

- Of dimensions not less than recommended by their manufacturers.
- Capable of adequate three dimensional adjustment to accommodate primary support structure and rainscreen cladding fabrication/installation tolerances.

## 760 Gaskets

- Noncellular rubber to BS 4255-1
- Cellular rubber to ASTM-C509
- Resistant to oxidation, ozone, and UV degradation.

## 770 GENERAL SEALANTS

- Must be stable and compatible with all contact products and finished and be selected in accordance with BS 6213 from: Silicone to BS 5889
- One Part polysulfide to BS 5215
- Two Part polysulfide to BS 4254
- One or Two Part polyurethane.

## 776 THERMAL INSULATION

- Material: [By Others](#)
- Manufacturer and reference: [Insert](#)
- Thickness: [Insert \\_\\_\\_mm exact thickness determined by thermal analysis of complete wall build up](#)
- Keep as dry as possible during installation

## 785 BREATHER MEMBRANE

- Project Specific, by others applied as per manufacturers recommendations: [By Others](#)

## FINISHES

### 830 POLYESTER POWDER COATING

- Requirement: As section Z31

### 840 ANODIZING

- Requirement: As section Z33

### 850 POLYVINYLIDENE FLUORIDE (PVDF) COATING

- Standards: To BS 4842, AAMA 2604-05 or AAMA 2605-05, subject to minimum coating thickness recommended by the sheet supplier.

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## FABRICATION AND INSTALLATION

### 910 GENERALLY

- Fabricate and install rainscreen cladding in accordance with this specification and final detail drawings.
- Fabricators and installers must employ competent rainscreen cladding operatives. Records of their experience are to be provided to the CA on request.
- Select and align all products to ensure uniformity of appearance.
- Joints must only occur at positions indicated on final detail drawings.
- Isolate dissimilar metals to prevent electrolytic corrosion.
- Do not mark surfaces visible in the complete installation.

### 911 METALWORK

- As section Z11, unless specified otherwise in this section.

### 922 FIXINGS/ADHESIVES APPLICATION

- As section Z20, unless specified otherwise in this section.

### 925 SEALANT APPLICATION

- As section Z22, unless specified otherwise in this section.

### 930 ASSEMBLY

- Carry out as much assembly as possible in the workshop.
- Joints, other than movement joints and designed open joints, must be rigidly secured, reinforced where necessary and fixed with hairline abutments.
- Take precautions to prevent displacement of components in assembled units. Obtain approval for any reassembly on site.

### 945 HANDLING AND STORAGE

- Panels should be stored in an area that is free from traffic and out of direct sunlight where possible.
- Panels must be handled in a manner which prevents damage taking place and installed in accordance with current installation manual.
- Final stripping of the protective poly-film should be carried out as work proceeds to avoid tide marking around the edge of pulled back film.
- The finished façade must be protected from abuse by other trades to avoid damage to the paint film or aluminium skin.

### 950 SUITABILITY OF STRUCTURE

- Not less than 8 weeks before commencement of rainscreen cladding installation carry out a geometric survey of the supporting structure, checking line, level, and fixing points. Report immediately to the CA if structure will not allow the required accuracy or security of erection.
- Co-ordinate geometric survey for rainscreen cladding with any other survey(s) for adjacent cladding.
- Set out erection datum points, lines, and levels for a complete elevation at a time unless otherwise agreed with the CA.

### 960 PRELIMINARY RAINSCREEN CLADDING INSTALLATION

- Complete an agreed area of cladding for inspection and approval of appearance by the CA.

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## 970 RAINSCREEN CLADDING INSTALLATION

- Commence rainscreen cladding panel fixing only when other trades have completed their work; e.g. electrical and mechanical first fix; insulation (if by others); to minimise damage to finished work.
- Set out straight, parallel, and truly aligned.
- Tighten mechanical fixings to recommended torque figures, where stated.
- Only remove protective coverings when necessary to avoid scratches and abrasion damage.
- Agree locations of physical barriers to be erected by the main contractor for the protection of vulnerable works.

## 980 INTERFACES

- Ensure that flashings, closures, etc. are located correctly and neatly overlap the rainscreen cladding to form a weather tight junction.

## 985 DAMAGE

- Do not repair rainscreen cladding without approval. Such approval will not be given where products and units are badly damaged or where the proposed repair will impair performance and/or appearance.
- Record damage of cladding panels: schedule damaged panels on record drawings.
- Record of repairs: schedule repaired panels on record drawings.

## 990 CLEANING

- At Practical Completion or when otherwise agreed with the CA and thoroughly clean rainscreen cladding areas. Cleaning agents for the purpose must be approved by the rainscreen cladding manufacturer and incorporated products manufacturers.

## 995 MAINTENANCE

- Prepare a maintenance manual in accordance with CWCT 'Guide to good practice for facades', Section 10. Unless otherwise instructed or agreed the manual must be completed and handed over to the CA at Practical Completion.





**Talk to us today...**

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