Project
Sparkle Street, Manchester

Document Type
Window System Report with Details and Hardware

Document Number
SPS-ASFD-ZZ-ZZ-RP-X-RP00-0011

Revision
C01

ASFD Ltd – JRL Facades Design Services
Belfast – London – Basel – Dubai – Sevilla

Verification

Revision	Date	Remarks	Creator	Checker	Approver	Status
P01	09/02/26	First Issue	BSZ	PPY	PPY	-
C01	16/04/26	Gateway 2 Issue	BSZ	PPY	PPY	-

References

Standards

[S1] BS EN 14351-1:2006 + A2:2016 – Windows and doors Product standard

Table of Contents

		Page
1	**Summary**	**5**
1.1	Short Description and manufacturer	5
1.2	General requirements	5
1.3	Finishes	5
2	**Windows Systems performance and ironmongery**	**6**
2.1	Aluprof Aluminium system general information-Typical Window	6
2.2	Hardware and Ironmongery	7
2.3	Window Operations	9
2.4	Performance specifications	10
3	**Window Details**	**11**

1. Summary

JRL Façades are the specialist Trade Contractor employed to procure and install the window elements of the façade and associated works on Sparkle Street project.
This document provides details of various window types used in the project.
All windows and doors have clear glass. For glass types and spec, please refer to the Glass Schedule document: SPS-ASFD-ZZ-ZZ-SH-X-SH02-0001.

1.1 Short description and manufacturer

Manufacturer to be confirmed at a later stage

Overall thermal performance U-Value: Please Refer to Thermal Strategy Report - All façade Types

1.2 General requirements

The design allows for a thermally broken aluminium framed window and door system with a polyester powder coated finish externally and internally. For the RAL colour reference of the frames please refer to Architectural information.
The selected window systems are to provide inward opening turn casements to habitable rooms, and inward opening glazed and panel doors to communal and commercial areas. All external openings will have PPC pressed aluminium reveal linings, colour matched to the window frame colour.

In order to comply with ventilation requirements, all rooms feature at least one openable vent.
Windows will be fitted with integrated restrictors that can be manually over-ridden in order to:

- Enhance safety in day-to-day operation
- Meet purge ventilation requirements
- Facilitate replacement of triple glazing units
- Facilitate cleaning of the glass, if necessary.

1.3 Finishes

Profile finish: **Anodic Bronze - Smooth Matt Y2214F, Interpon D2525**

Internal hardware finish: **Natural Anodized**
External hardware finish: **Natural Anodized**

2 Window & Door Systems Performance and ironmongery

2.1 Aluprof Aluminium system general information-Typical Window

ALUPROF
ALUMINIUM SYSTEMS



Window & door system
MB-86N

The highly efficient MB-86N window and door system makes it possible to satisfy the diverse needs of users. There are two versions of the profiles, the ST and the SI, which are designed to meet different thermal energy efficiency requirements. The system provides superb performance parameters.

Another advantage of the MB-86N is the high durability of the profiles, which make it possible to produce large-scale and heavy structures. Several versions are available. The MB-86US is a window with a concealed vent. The MB-86 Casement provides an outward-opening window with a thermal break. The MB-86B has been developed to meet the requirements of the Belgian market.



WINDOW & DOOR SYSTEM / **MB-86N**

WINDOWS MB-86N

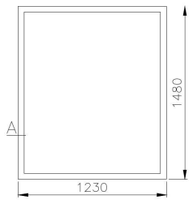
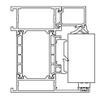
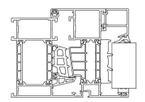
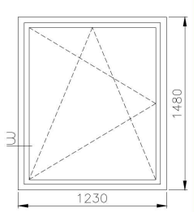
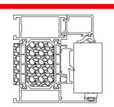
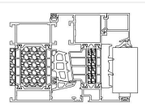

MB-86N ST


MB-86N SI

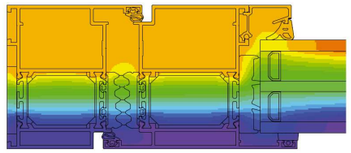

MB-86US


MB-86 Casement

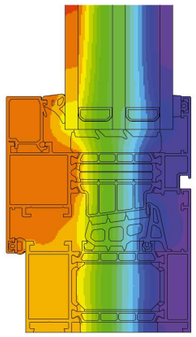
Examples of heat transfer coefficients U_w

WINDOWS SCHEMES	SECTION A OR B		Value Uw W/(m²K) for construction with double chamber glass and warm spacer	
			U_g=0.5	U_g=0.7
	MB-86N ST	 K528612X	0.79	0.96
		 K528612X + K528702X	0.89	1.02
	MB-86N SI	 K528612X	0.67	0.83
		 K528612X + K528702X	0.76	0.89

WINDOW & DOOR SYSTEM / **MB-86N**



Distribution of isotherms in **MB-86N SI+** door



Distribution of isotherms in **MB-86N SI** window

FEATURES AND AESTHETICS

- wide range of profiles guarantees the desired aesthetics and resistance
- with its new shape, wide thermal breaks allow the use of an additional barrier in the profiles' insulation zone
- two-component, central gasket seals perfectly and thermally insulates the space between the casement and the frame
- glazing strips with additional sealing, comes in three versions: Standard, Prestige and Style
- profiles' shapes are well adapted to numerous multi-point locking systems, including concealed hinges
- a wide range of glazing allows the use of all common types of windows triple glazing units, acoustic or security panes
- profiles' drainage functionality is available in two versions: traditional and concealed
- anti-burglary windows and doors up to RC4 class

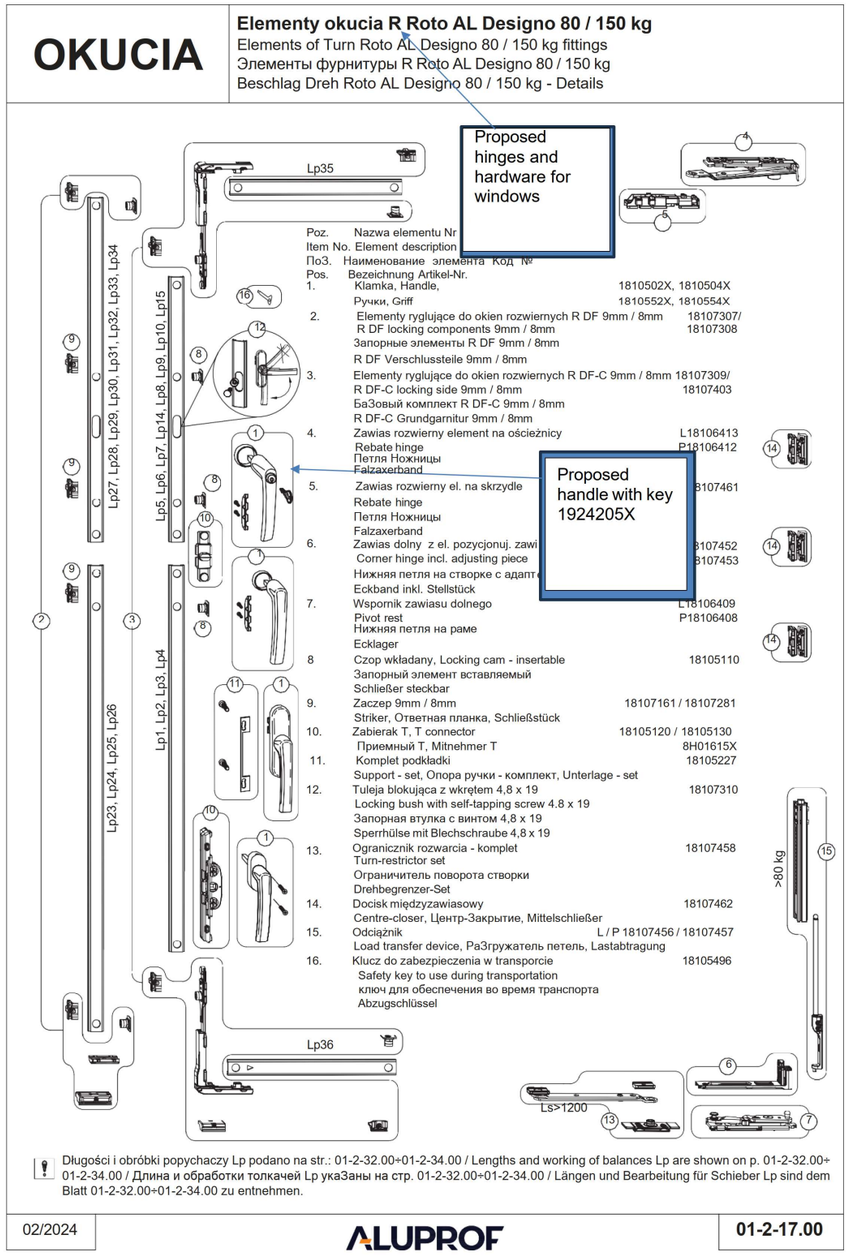
TECHNICAL SPECIFICATION	MB-86N	MB-86B	MB-86US	MB-86 Casement
Depth of frame (window / door)	77 mm / 77 mm	77 mm / 77 mm	77 mm	77 mm
Depth of leaf (window / door)	86 mm / 77 mm	86 mm / 77 mm	80.8 mm	77 mm
Glazing range (window / door)	frame: 8.5 to 61 mm leaf: 17.5 to 70 mm / frame: 8.5 to 61 mm	frame: 13 to 61 mm leaf: 21 to 70.5 mm / frame: 13 to 61 mm	frame: from 7 to 52 mm leaf: from 15 to 60 mm	frame: from 13 to 61 mm leaf: from 22 to 70 mm
PROFILES DIMENSIONS				
Max. size (H×W) (window / door)	H to 3000 mm L to 1700 mm / H to 3000 mm L to 1400 mm	H to 2500 mm L to 1500 mm / H to 2600 mm L to 1400 mm	H to 2500 mm L to 1600 mm	H to 2500 mm L to 2400 mm / H to 2800 mm L to 1400 mm
SIZE LIMITATIONS				
Solutions (window / door)	fixed window, side-hung window, hopper window, tilt-and-turn window, single & double outward and inward openable door		fixed window, side-hung window, hopper window, tilt-and-turn window	fixed, side-hung, awning and bottom-hung

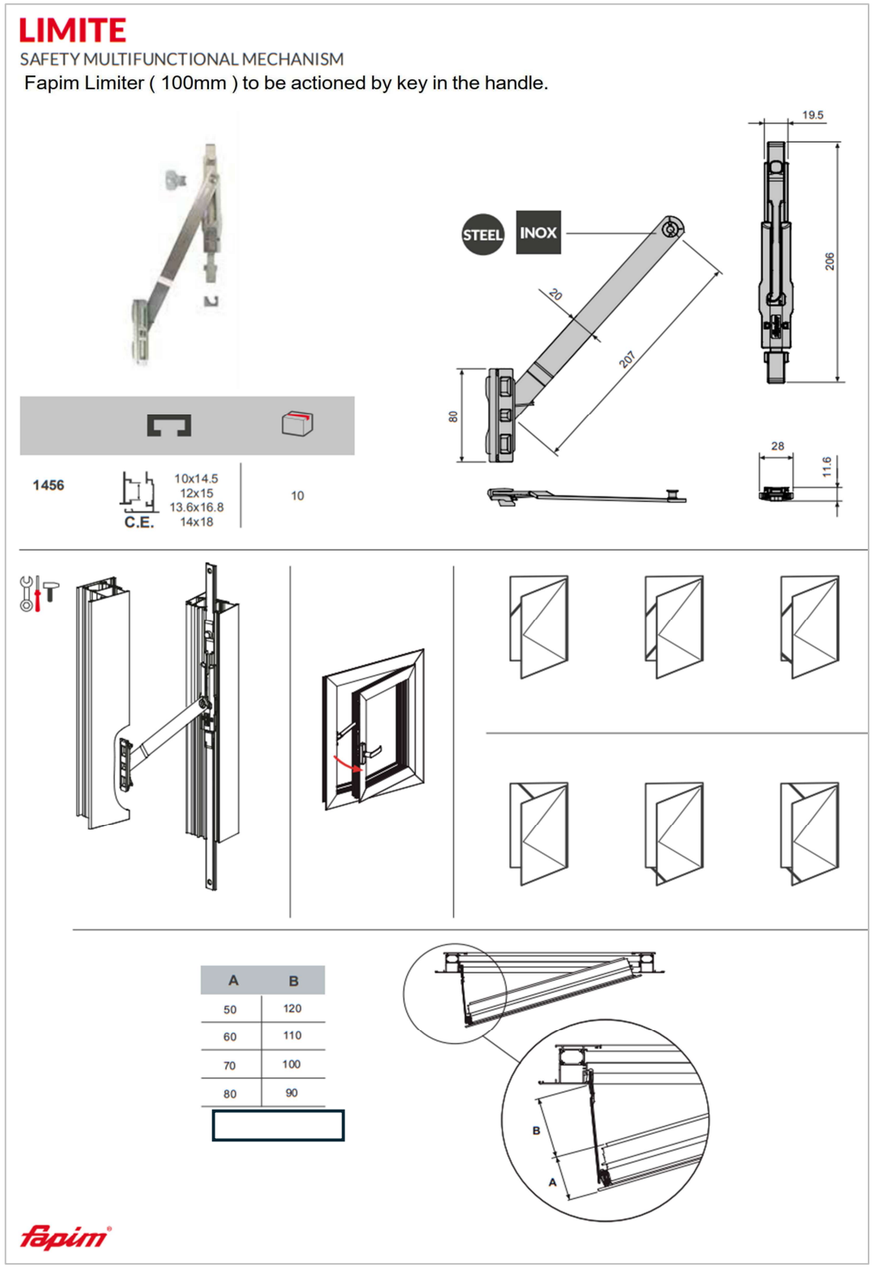
PERFORMANCE	MB-86N	MB-86B	MB-86US	MB-86 Casement
Air permeability (window / door)	class 4, EN 12207	class 4, EN 12207	class 4, EN 12207	class 4, EN 12207
Water tightness (window / door)	class E 4800*, EN 12208, klasa E1500, EN 12208 / class E1350 Pa	class 9A, EN 12208 / class 6A, EN 12208	class E 1350, EN 12208	E1950 Pa, EN 12208
Thermal insulation (window / door)	U_w from 0,62 W/(m²K)* U_w from 0,68 W/(m²K)** U_D from 0,80 W/(m²K)***	—	—	—
Windload resistance (window / door)	class CE3330 (3330Pa) EN 12210 / class C5 (2000Pa), class B5 (2000Pa) EN 12210	class C4, EN 12210 / class C5, EN 12210	class C5, EN 12210	class C5, EN 12210
Impact resistance (window / door)	—	class 3 / class 3	—	class 3 / klasa 3

* - U_w for MB-86N SI-based fixed window casement size 1700×2800 mm, with glazing U_g=0,5 W/(m²K)
** - U_w for MB-86N SI-based openable window casement size 1700×2150 mm, with glazing U_g=0,5 W/(m²K)
*** - U_D for MB-86N SI+ door size 1400×3000 mm, with glazing U_g=0,5 W/(m²K)

2.2 Hardware and Ironmongery

All windows are equipped with a 90 degree limiter and a fapim 100mm limiter. The limiter is released by using the key from the handle, and turning it 180 degrees to allow the window to open to 90 degrees.

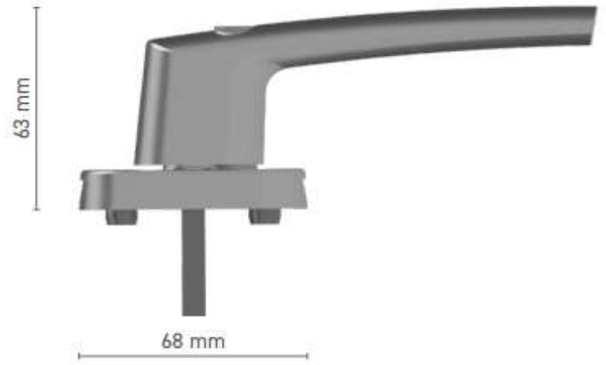




ALUPROF STANDARD / STANDARD TBT window handle with spindle



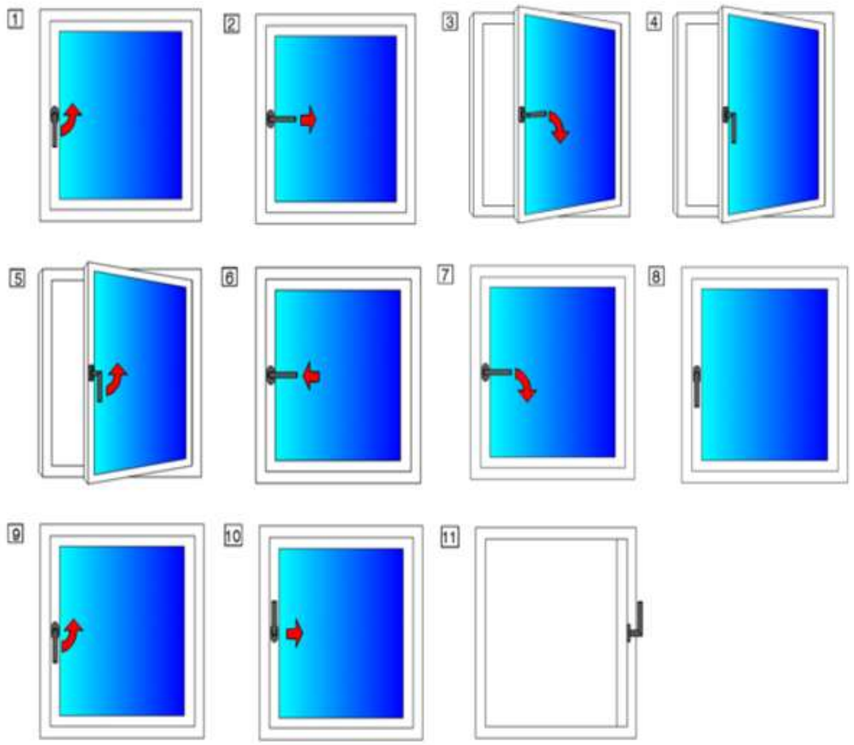




Item number	1924202X / 1924203X
Available colours	natural anodised · inox anodised · white · anthracite · black
Drive	square spindle 7 mm
Handle fittings	single-function cylinder / TBT

2.3 Window Operations

1 - 4 Open and arrest the Turn-Only sash, 5 - 8 Close the Turn-Only sash, 9 - 11 Open the Turn-Only sash 40°



1. When the handle points downwards, the window is closed.
2. Turn the handle to horizontal position.
3. Open the window sash.
4. When the handle points downwards, the window is arrested at an opening width of 90mm.
5. Turn the handle to horizontal position.
6. Close the window sash.
7. Turn the handle downwards to the vertical position.
8. The window is closed and locked.
9. When the handle points downwards, the window is closed.
10. Turn the handle by 180°.
11. Open the window sash to **90°**. Window is limited in the opening angle of **90°**.

2.4 Performance specifications

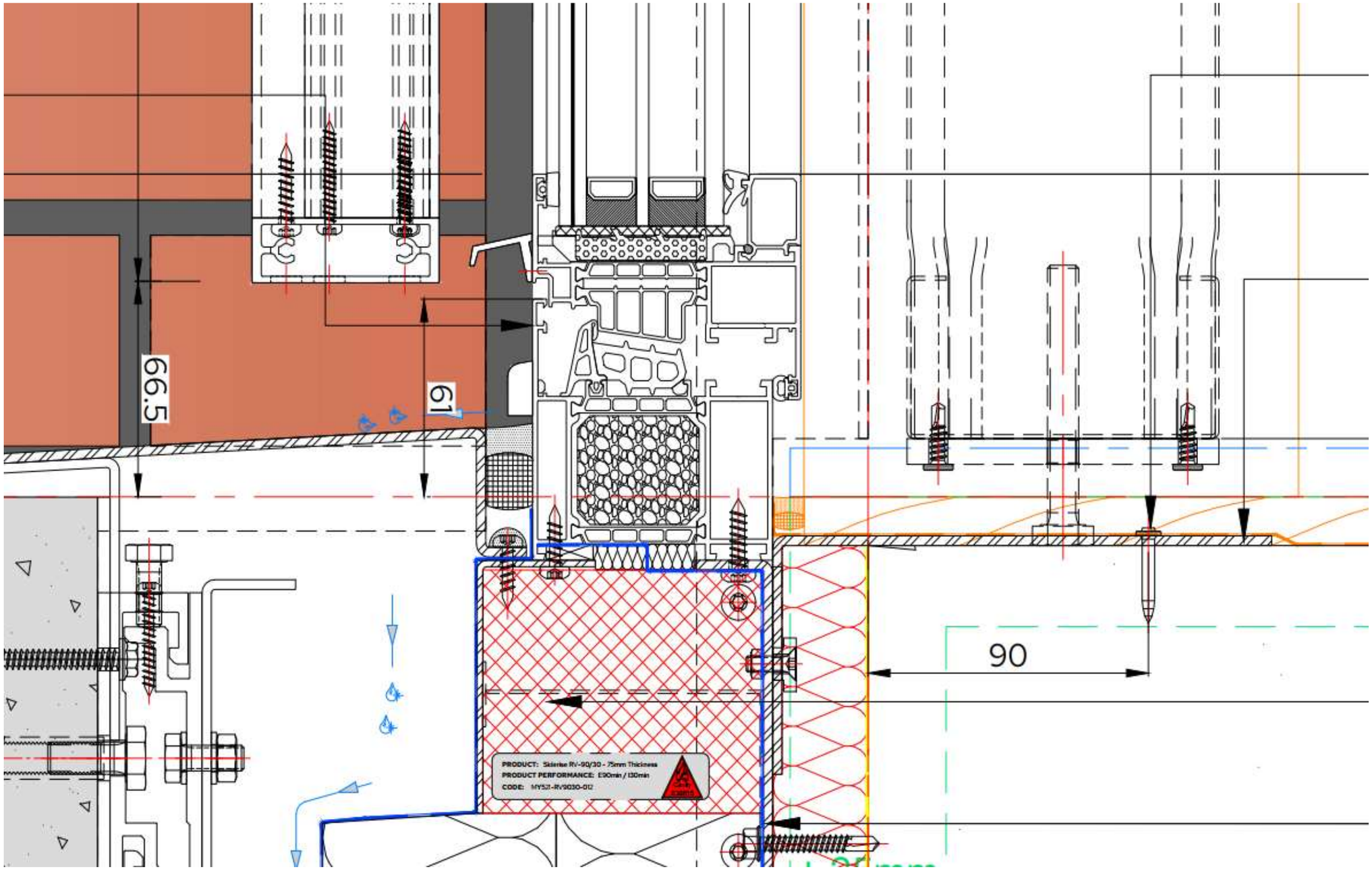
PROJECT ID:	56A00103	Design Criteria		
PROJECT NAME:	Sparkle Street	Width x Height:	Unit: As defined Vent: As defined	**Product:** Side hung windows with concealed hinges
		Infill	TGU - 54.8mm	**Manufacturer:** AluProf MB86N-SI **Material:** Thermally broken aluminium system
		Sash weight	Not defined	**Opening function:** Side hung windows restricted to 100mm for purge ventilation and releasable to 90° by manual action to the restrictor.
Revision	00	Type of Opening	Side hung	
		Opening direction	Din left/right, inward opening	

ASFD engineered design

Specs - EN 14351-1

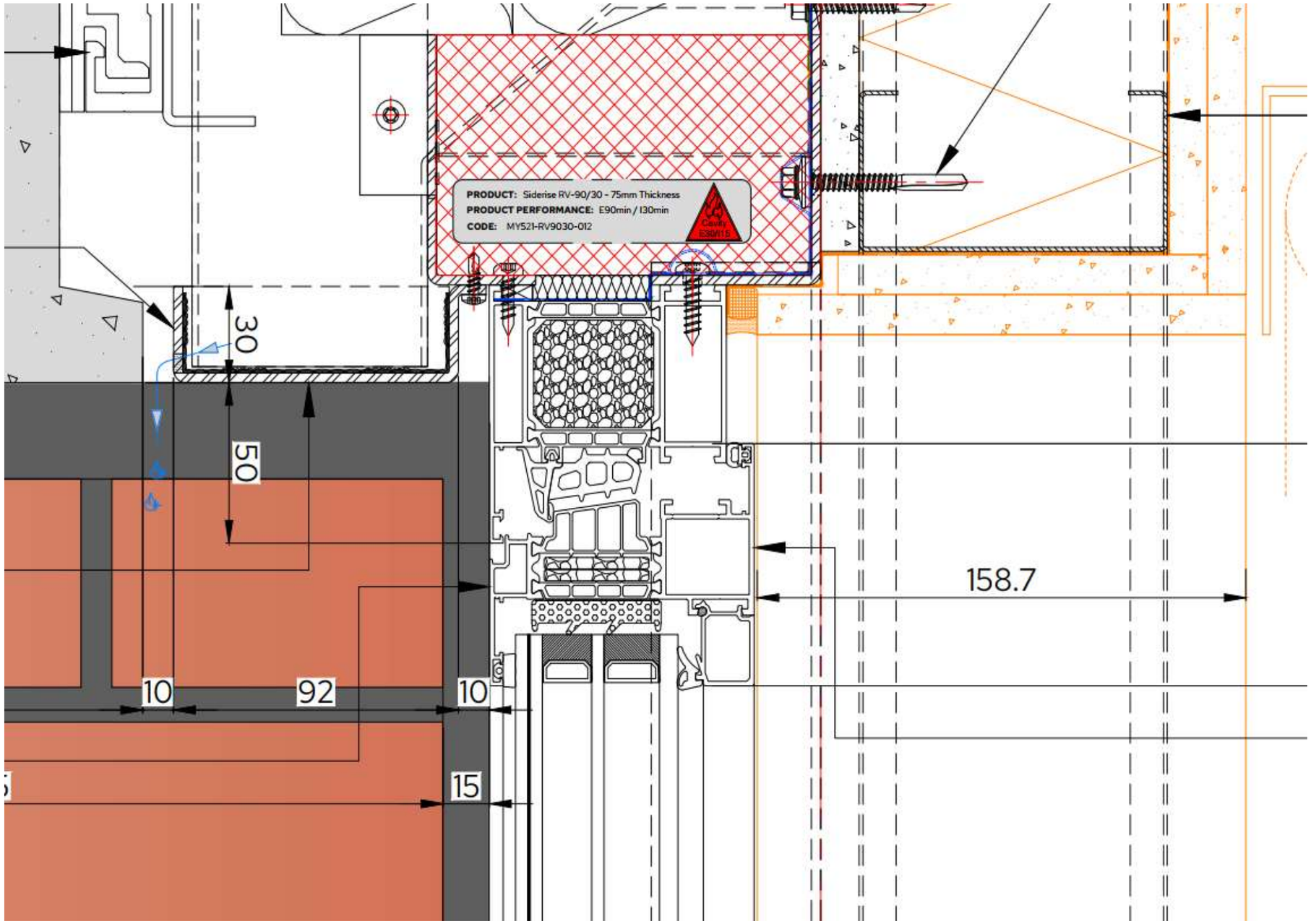
	Project Specification Reference	Regulation Related	ASFD Report	Aluprof Report /Chapter	Classification / value												Class / calculated value	
																	ASFD	Barrier (ALuprof)
1	6.17.5	BS EN 12210	ASFD00 -21-9805 Part 4.2	03-01036_21_ R574NZE_EN	Resistance to wind load testing pressure P(pa)	Npd	1 (400)	2 (800)	3 (1200)	4 (1600)	5 (2000)	Exxx (≥2000)					E2250	E2250 Teste for up to 3000 Pa
2	6.17.5	BS EN 12210	ASFD00 -21-9805 Part 4.2	03-01036_21_ R574NZE_EN	Resistance to wind load Frame deflection	Npd	A (≤1/150)			B (≤1/200)		C (≤1/300)					**B**	**B**
3	-	-	-	-	Resistance to snow load and permanent load	Npd	Information on infill (filling) (e.g. glass type and thickness)										**Npd**	**Npd**
4	-	-	-	010361-22-R693-23 _2024ZP-k-farba _-EN-RB-26-06-2023	Fire behaviour	Npd	F	E	D	C	B	A2	A1				**A2**	A2
					Protection against fire from outside	Npd	Refer to EN 13501-5										**Npd**	**Npd**
5	6.17.4	BS EN 12208	-	03-01036_21_ R574NZE_EN	Tightnes against driving rain Exposed(A) Testing pressure (PA)	Npd	1A (0)	2A (50)	3A (100)	4A (150)	5A (500)	6A (250)	7A (300)	8A (450)	9A (600)	Exxx (>600)	**9A**	
6	-	-	-	-	Tightnes against driving rain Protected(B) Testing pressure (PA)	Npd	1B (0)	2B (50)	3B (100)	4B (200)	6B (250)	7B (300)					**Npd**	**Npd**
7	-	-	-	-	Hazardous Substances	Npd	As stipulated										**None**	**None**
8.1	6.11.2	BS EN 14019	-	wiadectwo 03-01036_21 _R600NZE_EN	Impact resistance Serviceability Height of hall (hmm)	Npd	200	300	450		700		950				**I3 450mm E3: 700mm**	300mm E/I
8.2	6.11.2	BS EN 14019	-	wiadectwo 03-01036_21 _R600NZE_EN	Impact resistance Safety Height of hall (hmm)	Npd	200	300	450		700		950				**I3 450mm E3: 700mm**	300mm E/I
9	6.17.8	BS EN 14609	-	-	Load bearing capacity of safety device	Npd											**Npd**	
10	-	-	-	-	**Noise protection** Assessed sound reduction factor Rw (C;Ctr) (dB)	Npd	Determined values										**Rw+Ctr 33 to 39 dB**	
11	6.19.1	-	-	-	**Thermal transmission** **Coefficient** Uw (W/(m² * K))	Npd	Determined values										**1.2 W/m²K**	
12	-	-	-	-	**Radiation properties** Total energy transmission rate (g)	Npd	Determined values										**Npd**	**Npd**
13	-	-	-	-	**Radiation properties** Light transmittance (TU)	Npd	Determined values										**Npd**	**Npd**
14	6.17.3	BS EN 12207		03-01036_21_ R574NZE_EN	**Air permeability** Maximum testing pressure (Pa) Reference air permeability at 100Pa (m³/(h * m²) or m³/(h * m))	Npd	1 (150) (50 or 12.5)		2 (300) (27 or 6.75)		3 (600) (9 or 2.25)		4 (600) (3 or 0.75)				**4**	**4**
15	6.17.6	BS EN 13115 BS EN 12046-x		wiadectwo 02-01036_21 _R600NZE_EN	**Operational forces**	Npd	0			1			2				1	1
16	6.17.7	BS EN 13115		wiadectwo 02-01036_21 _R600NZE_EN	**Mechanical strength**	Npd	1		2		3		4				3	3
17	-	-	-	-	**Ventilation** Flow coefficient n Air flow factor K Air flow speed	Npd	Determined values										**Npd**	**Npd**
18	-	-	-	-	**Bullet resistance**	Npd	SW1	SW2	SW3	SW4	SW5	SW6	SW7	FSG			**Npd**	**Npd**
19	-	-	-	-	**Explosion resistance** Shock tube	Npd	EPR1		EPR2		EPR3		EPR4				**Npd**	**Npd**
20	-	-	-	-	**Explosion resistance** Field trial	Npd	EXR1		EXR2		EXR3		EXR4		EXR5		**Npd**	**Npd**
21	6.17.9	BS EN 12400	-	-	**Durability** Cycle quantity	Npd	5,000			10,000			20,000				**10,000**	**10,000**
22	-	-	-	-	**Different climate response**	Npd	Refer to EN 13420										**Npd**	**Npd**
23	-	-	-	-	**Burglar inhibition**	Npd	PA24	RC1N	RC2N	RC2	RC3	RC4	RC5	RC6			**Npd**	**Npd**

3. Typical Window - Details



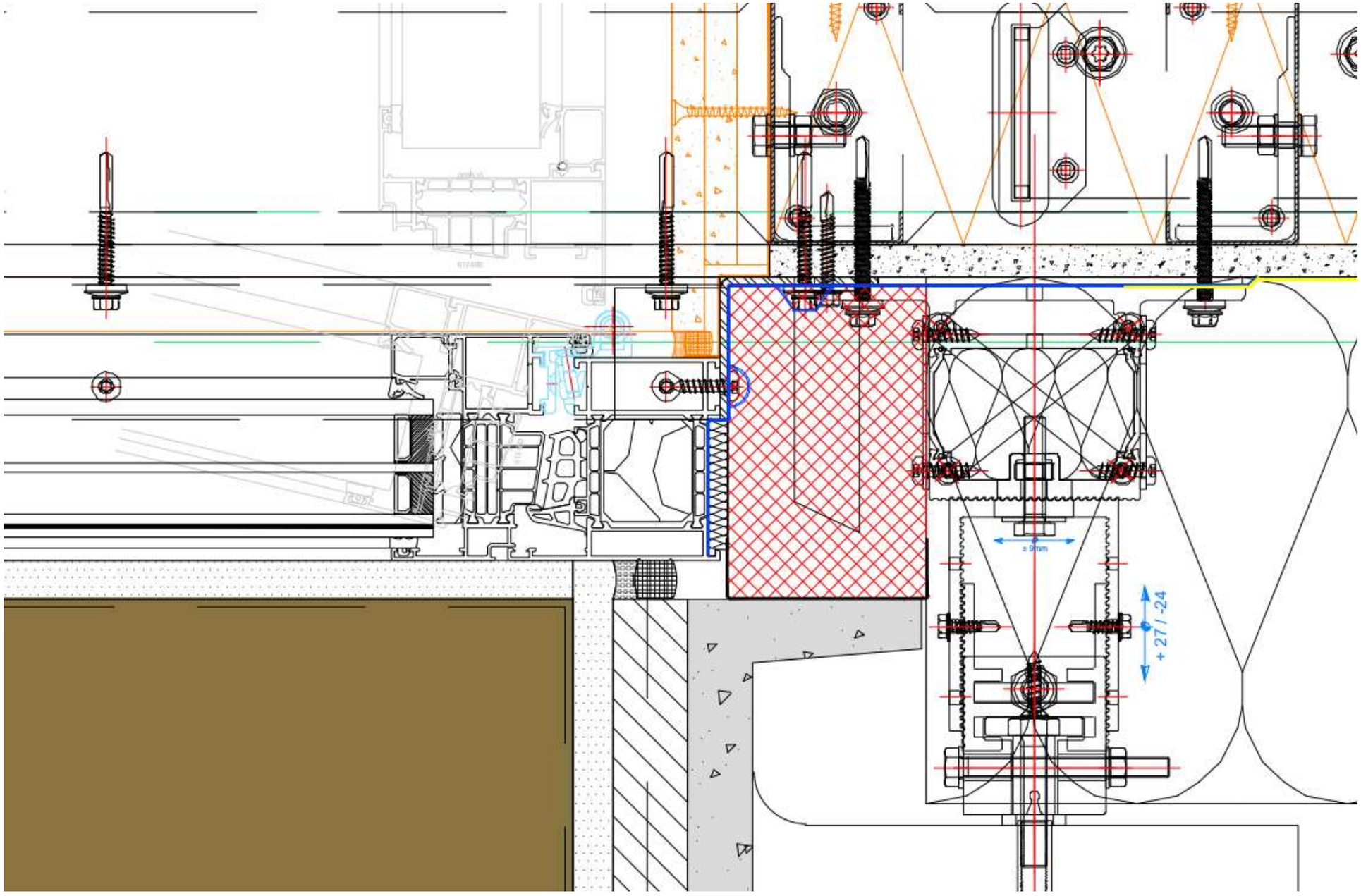
Typical Sash window - Bottom Sill detail

3. Typical Window - Details



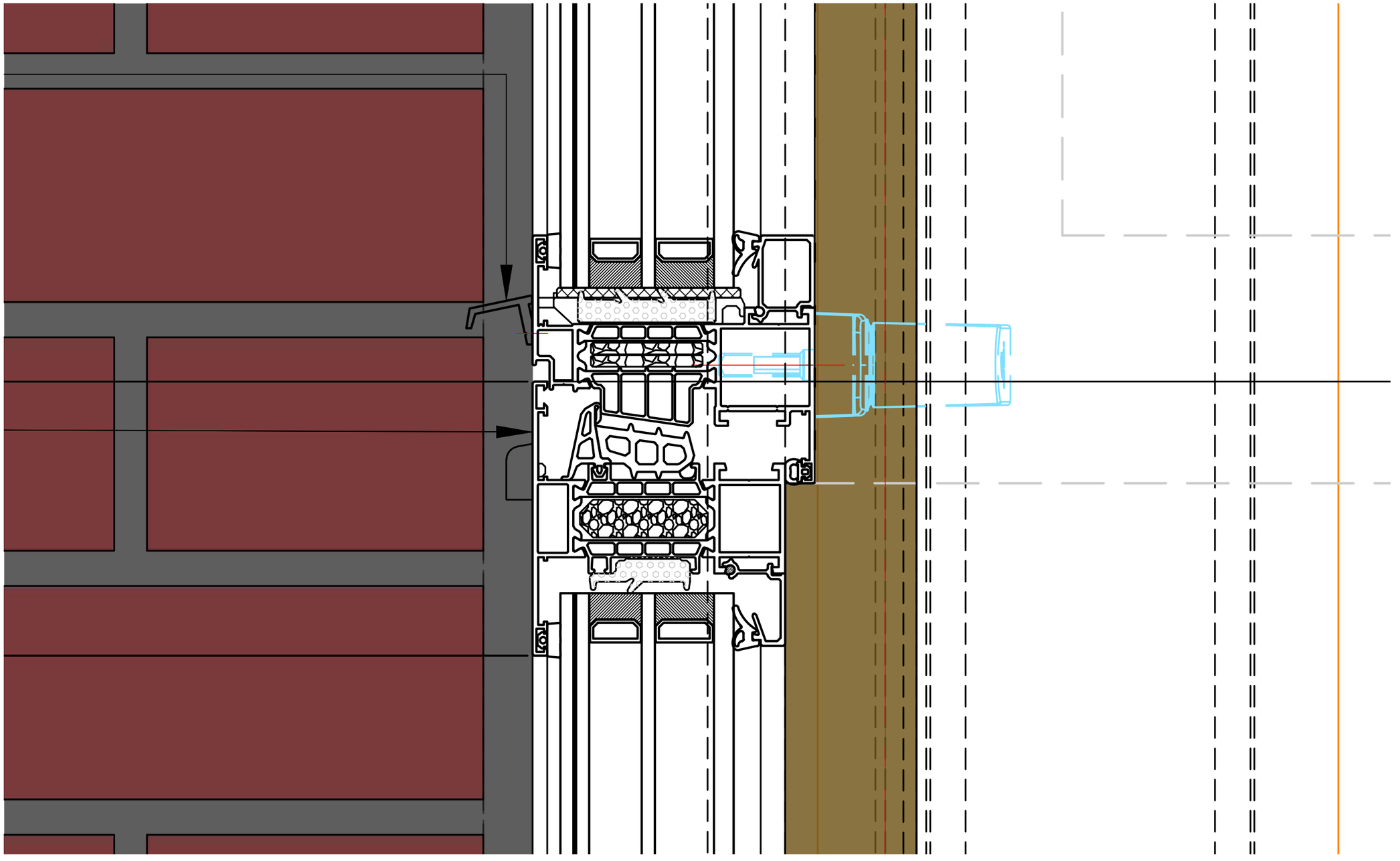
Typical Sash window - Lintel detail

3. Typical Window - Details



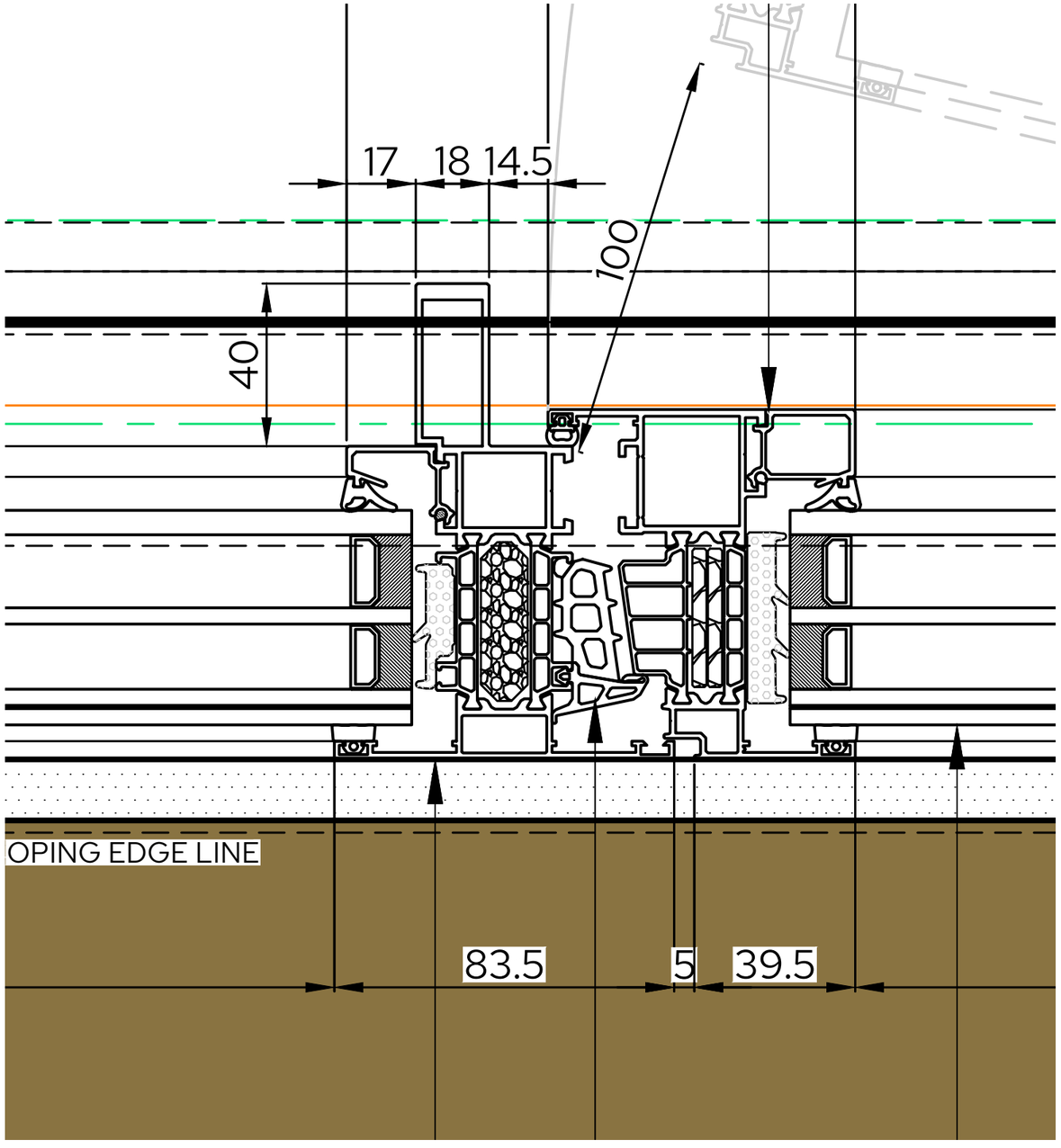
Typical Sash window - Jamb detail

3. Typical Window - Details



Typical Sash Window - Transom Detail

3. Typical Window - Details



Typical Sash Window - Mullion Detail