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LISTING INFORMATION OF

Siderise Insulation Limited - Siderise CW-FS, CW-SI50

SPEC ID: 48629

Siderise Insulation Limited
Forge Industrial Estate
Nantyfyllon
Maesteg, Bridgend CF34 0AH
United Kingdom

LISTING INFORMATION

Product Covered
Siderise Insulation Limited - Siderise CW-FS
Siderise Insulation Limited - Siderise CW-SI50

Product Description
Siderise CW-FS perimeter barriers and fire stop system for curtain walling comprises of a one-piece product, XFS, with a pre-compressed noncombustible stonewool core (density - 75 kg/m^3) using a unique method of manufacture that provides a resilient lateral compression. The product also has integral aluminium foil facing.

Siderise CW-SI50 curtain wall spandrel insulation are manufactured in a density of 128 kg/m^3, and 50 mm thickness, with Aluminum Class O foil facing.

Limitations for (SIR/BPF 120-01, SIR/BPF 120-02, SIR/BPF 180-01)
Minimum supporting concrete floor thickness and density - 200mm and 2000 kg/m^3
Siderise CW-FS Fire stopping boards must be installed with 10% compression
Minimum thickness of Siderise CW-FS boards - 120mm for 120 minutes fire rating and 150mm for 180 minutes fire rating
Siderise CW-FB boards are used for insulating the spandrel area.

Limitations for (SIR/BPF 180-02)
Minimum supporting concrete floor thickness and density - 225mm and 2000 kg/m^3
Siderise CW-FS Fire stopping boards must be installed with 20% compression
Minimum thickness of Siderise CW-FS boards - 120mm
Knauf Aquapanel Indoor boards are used as the internal lining of spandrel area.

Limitations for (SIR/BPF 120-03)
Minimum supporting concrete floor thickness and density - 203mm and 2000 kg/m^3
Siderise CW-FS Fire stopping boards must be installed with 20% compression
Minimum thickness of Siderise CW-FS boards - 120mm
Siderise CW-SI50 boards are used for insulating the spandrel area.

System Ratings - CW-FS

Test Standard	Ratings	Design Number	Maximum gap between floor and curtain walling
EN 1364-4	Integrity: 120 Minutes Insulation: 120 Minutes	SIR/BPF 120-01	250 mm
EN 1364-4	Integrity: 120 Minutes Insulation: 90 Minutes	SIR/BPF 120-02	300 mm
EN 1364-4	Integrity: 180 Minutes Insulation: 180 Minutes	SIR/BPF 180-01	250 mm

ASTM E2307	T Rating: 180 Minutes F Rating: 180 Minutes	SIR/BPF 180-02	100 mm
ASTM E2307	T Rating: 45 Minutes F Rating: 120 Minutes	SIR/BPF 120-03	150 mm

Attribute	Value
Certificate Date of Expiry	December 31, 2025
Certificate Date of Initial Registration	June 09, 2019
Certificate Number	WHI19-32944301
Criteria	EN 1364-4 (2014)
Criteria	ASTM E2307 (2019)
Criteria	ASTM E2307 (2020)
CSI Code	07 84 00 Firestopping
CSI Code	07 84 53 Building Perimeter Firestopping
Listing Section	FIRESTOP SYSTEMS
Rating	3 Hours
Rating	2 Hours
Spec ID	48629

DRAWING INDEX

SIR/BPF 120-01
SIR/BPF 120-02
SIR/BPF 120-03
SIR/BPF 180-01
SIR/BPF 180-02

SIR/BPF 120-01

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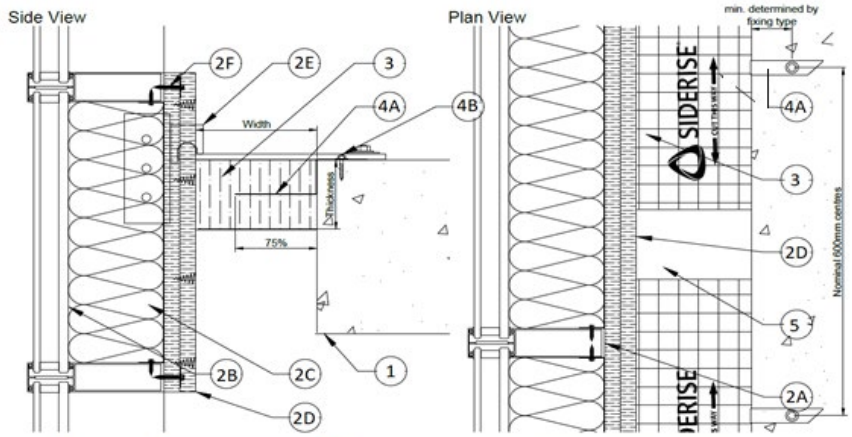
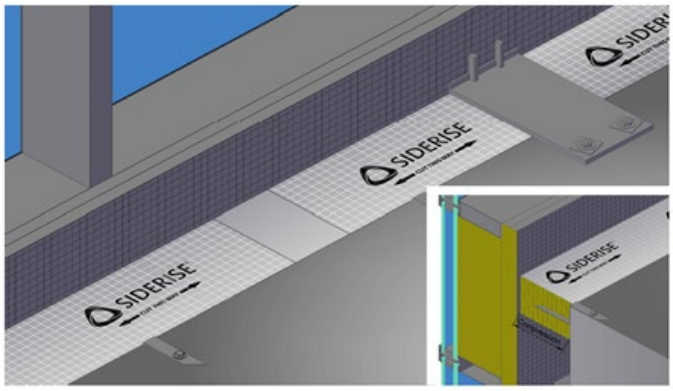
Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

Siderise Insulation Limited
Design No. SIR/BPF 120-01
Perimeter Fire Barrier System
Siderise CW-FS
EN 1364-4 (2014)
Integrity: 2 Hour
Insulation: 2 Hour





1. **FLOOR ASSEMBLY:** 2 hour fire-rated concrete floor assembly made from reinforced concrete of density 2200 kg/m^3 (min.) and thickness of 200mm (min.).

2. **CURTAIN WALL ASSEMBLY:** The curtain wall assembly shall incorporate the following construction features:

Date Revised: December 19, 2019 Page 1 of 3 Project No. G790638

Version: 02 August 2017 SFT-BC-OP-19i

SIR/BPF 120-01 (2 OF 3)

A. TRANSOMS/MULLIONS – Rectangular aluminum tubing mullions and transoms, sized and installed according to the curtain wall system manufacturer's guidelines (e.g. Technal). Min. overall dimensions of framing required is 2mm thick aluminum with 105mm x 50mm (depth x width) mullion section, and 110mm x 50mm (depth x width) transom sections. The spacing between mullions is 1030mm (max.) and spacing between transoms is 375mm to 900mm (max.).

B. PANELS – (1) A sandwich panel made of a mineral wool layer with density 100 kg/m^3, covered on the unexposed side by a 1.2mm thick aluminum sheet and on the fire side by a 0.9mm thick galvanized steel sheet, assembled by glue (ref: SOLFRE 2830). Or (2), A 28mm thick glazing unit made of a 6mm thick toughened glazing, a 16mm thick aluminum spacer, and a 6mm thick toughened glazing.

C. INSULATION (CORE) – Two 100mm thick mineral wool layers (ref: KINGSPAN K15 or RW3 ROCKWOOL) with density 60 kg/m^3. A 0.9mm galvanized steel sheet is fixed on the fire side to the profiles by sealant and steel screws Ø 4,8 x 15mm located at 50mm from the extremities of the opening and then located every 290mm at max. horizontally and every 250mm max. vertically.

D. FIRE SIDE INSULATION – The backside of the framework is covered by two layers of Siderise CW FB 25mm thick aluminum foil-faced mineral wool boards, with a density of 160 kg/m^3. The first layer is fixed to the profiles of the glazed curtain wall with washers Ø 5,5 x 40mm (Item 2F). The second layer is fixed to the first layer with spiral screws Ø 8 x 45mm. The junction between the panels as well as the visible extremities of the panels are covered by an additional self-adhesive 0,04mm thick aluminum foil (TICKITAPE).

E. CURTAIN WALL BRACKET SYSTEM – The mullions are linked to supporting floor with a bracket-system according to curtain wall system manufacturer's guidelines. Example – A bracket system made of 6mm thick brackets of overall dimensions 186 x 60mm, fixed on each mullion by two M10 x 40mm nut and bolt in Ø 12mm holes, 6mm thick brackets of overall dimensions 150 x 50 x 100mm; one fixed close to each steel tube on the supporting floor by one steel bolt M10 x 25mm in 12 x 24mm holes, and a 3mm thick bracket of overall dimensions 1140 x 50 x 50mm fixed on the second bracket by one steel bolt M10 x 40mm placed in a 12 x 60mm hole, and on the third bracket by one steel bolt M10 x 40mm placed in a 12 x 90mm hole. At the bottom, the mullions are fixed to a 6mm thick aluminum plate of overall section 150 x 115mm with four steel bolts M6 x 30mm in Ø 6,5mm holes, the plate being itself fixed to the furnace closure by two steel bolts M10 x 40mm in 12 x 35mm holes.

3. **CERTIFIED MANUFACTURER:** Siderise Insulation Limited

CERTIFIED PRODUCT: Siderise CW-FS

HORIZONTAL LINEAR GAP SEAL (PERIMETER SEAL): The gap between the supporting floor and the façade is up to 250mm. For a 250mm gap, the horizontal seal is made from one layer of 275mm wide aluminum foil-faced mineral wool boards, reference Siderise CW-FS, cut to strips of max. 1200mm length, compressed to 10%, and installed vertically. The thickness of the Siderise CW-FS boards is 120mm (min.).

SIR/BPF 120-01 (3 OF 3)

Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

4. **(A) STEEL BRACKET**: The Siderise CW-FS boards are fixed to the concrete slab with 1mm thick steel brackets 205 x 60 x 100 x 25mm (as per guidelines from Siderise), inserted in the boards (75% of total void size) at 300mm from their extremities (200mm if close to a fixation of the curtain wall), and max. 600mm on center distance between brackets.

   (B) FIXING SCREWS: The steel brackets are fixed on the concrete slab with one fire-rated fixing 6 x 45mm.

5. **ALUMINIUM FOIL TAPE:** The junction between the Siderise CW-FS boards is covered by an additional self-adhesive aluminum foil tape.

SIR/BPF 120-02

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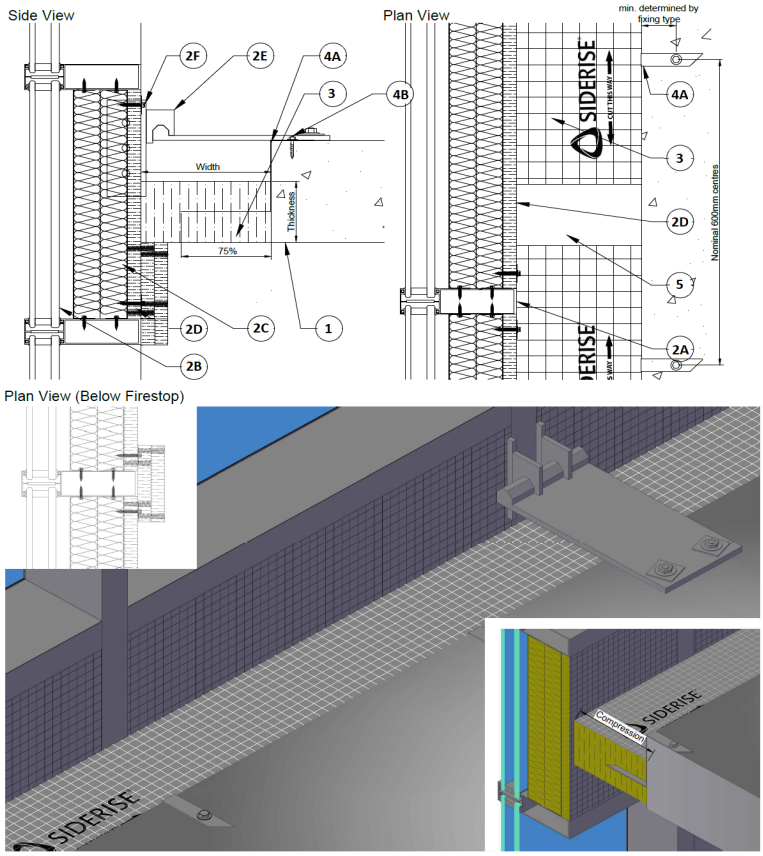
Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

Siderise Insulation Limited
Design No. SIR/BPF 120-02
Perimeter Fire Barrier System
Siderise CW-FS
EN 1364-4 (2014)
Integrity: 2 Hour
Insulation: 1-1/2 Hour



1. **FLOOR ASSEMBLY:** 2 hour fire-rated concrete floor assembly made from reinforced concrete of density 2000 kg/m^3 (min.) and thickness of 200mm (min.).

2. **CURTAIN WALL ASSEMBLY:** The curtain wall assembly shall incorporate the following construction features:

SIR/BPF 120-02 (2 OF 3)

Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

A. TRANSOMS/MULLIONS – Rectangular aluminum tubing mullions and transoms (made of unitized system with male and female connection type), sized and installed according to the curtain wall system manufacturer's guidelines. Min. overall dimensions of framing required is 2.5mm thick aluminum with 100mm x 50mm (depth x width) mullion section, and 100mm x 50mm (depth x width) transom sections. The spacing between mullions is 1030mm (max.) and spacing between transoms is 1400mm (max.).

B. PANELS – (1) A sandwich panel made of a mineral wool layer with density 100 kg/m^3, covered on the unexposed side by a 1.2mm thick aluminum sheet and on the fire side by a 0.9mm thick galvanized steel sheet, assembled by glue (ref: SOLFRE 2830). Or (2), A 30mm thick glazing unit made of a 8mm thick toughened glazing, a 16mm thick aluminum spacer, and a 6mm thick toughened glazing.

C. INSULATION (CORE) – Min. 75mm thick mineral wool layers (ref: ROCKWOOL) with density 60 kg/m^3. A 0.9mm galvanized steel sheet is fixed on the fire side to the profiles by sealant and steel screws Ø 4,8 x 15mm located at 50mm from the extremities of the opening and then located every 290mm at max. horizontally and every 250mm max. vertically.

D. FIRE SIDE INSULATION – The backside of the insulation core (Item 2C) is covered by one layer of Siderise CW-FB 25mm thick aluminum foil-faced mineral wool boards, with a density of 160 kg/m^3. The first layer is fixed to the insulation core (Item 2C) with washers Ø 5,5 x 40mm (Item 2F). The junction between the panels as well as the visible extremities of the panels are covered by an additional self-adhesive 0,04mm thick aluminum foil (TICKITAPE). The backside of the mullions and the bottom transoms are covered by two layers of Siderise CW-FB 25mm thick aluminum foil-faced mineral wool boards, with a density of 160 kg/m^3, a width of 200mm on the mullions, and a height of 165mm covering the bottom transoms.

E. CURTAIN WALL BRACKET SYSTEM – The mullions are linked to supporting floor with a bracket-system according to curtain wall system manufacturer's guidelines. Example – A bracket system made of 6.5mm thick brackets of overall dimensions 186 x 60mm, fixed on each mullion by two M10 x 40mm nut and bolt in Ø 12mm holes, 6mm thick brackets of overall dimensions 150 x 50 x 100mm; one fixed close to each steel tube on the supporting floor by one steel bolt M10 x 25mm in 12 x 24mm holes, and a 3mm thick bracket of overall dimensions 1140 x 50 x 50mm, fixed on the second bracket by one steel bolt M10 x 40mm placed in a 12 x 60mm hole, and on the third bracket by one steel bolt M10 x 40mm placed in a 12 x 90mm hole. At the bottom, the mullions are fixed to a 6mm thick aluminum plate of overall section 150 x 115mm with four steel bolts M6 x 30mm in Ø 6,5mm holes, the plate being itself fixed to the furnace closure by two steel bolts M10 x 40mm in 12 x 35mm holes.

3. **CERTIFIED MANUFACTURER:** Siderise Insulation Limited

CERTIFIED PRODUCT: Siderise CW-FS

SIR/BPF 120-02 (3 OF 3)

Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

HORIZONTAL LINEAR GAP SEAL (PERIMETER SEAL): The gap between the supporting floor and the façade is up to 300mm (max.). For a 300mm gap, the horizontal seal is made from one layer of 330mm wide aluminum foil-faced mineral wool boards, reference Siderise CW-FS, cut to strips of max. 1200mm length, compressed to 10%, and installed vertically. The thickness of the Siderise CW-FS boards is 120mm (min.).

4. **(A) STEEL BRACKET:** The Siderise CW-FS boards are fixed to the concrete slab with 1mm thick steel brackets of section 205 x 60 x 100 x 25mm (as per guidelines from Siderise), inserted in the boards (75% of total void size) at 300mm from their extremities (200mm if close to a fixation of the curtain wall), and max. 600mm on center distance between brackets.

   (B) FIXING SCREWS: The steel brackets are fixed on the concrete slab with one fire-rated fixing 6 x 45mm.

5. **ALUMINIUM FOIL TAPE:** The junction between the Siderise CW-FS boards is covered by an additional self-adhesive aluminum foil tape.

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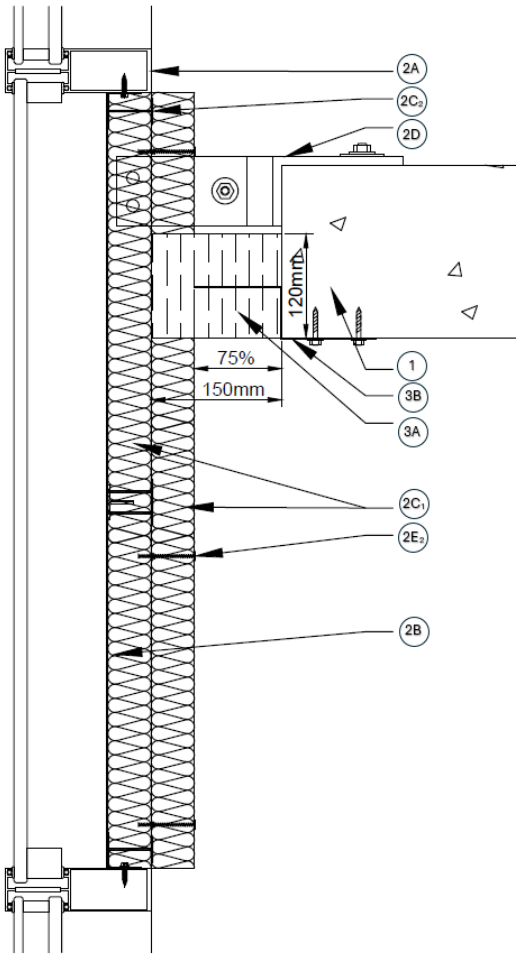
Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

Siderise Insulation Limited
Design No. SIR/BPF 120-03
Perimeter Fire Barrier
Siderise CW-FS Perimeter Barrier & Siderise CW-SI50 Spandrel Insulation
ASTM E2307
"F" Rating: 2 Hour
"T" Rating: 3/4 Hour



KEY	
1	Concrete Floor Slab
2A	Curtain Wall Transom / Mullion
2B	GI Steel Pan
$2C_1$	CW-SI50 Spandrel Insulation
$2C_2$	Weld Pins for CW-SI50
2D	Curtain Wall Bracket System
$2E_1$	Mullion Cover
$2E_2$	Spiral Screws for CW-SI50 Mullion Cover
3A	Siderise CW-FS120 Perimeter Barrier
3B	Siderise B-Series Bracket for CW-FS
3C	Siderise B-Series Bracket fixing Screw
3D	Siderise RFT120 Aluminium Tape

Date Revised: June 28, 2024 Page 1 of 4 Spec ID: 48629

Version: 9 June 2021 SFT-BC-OP-19i

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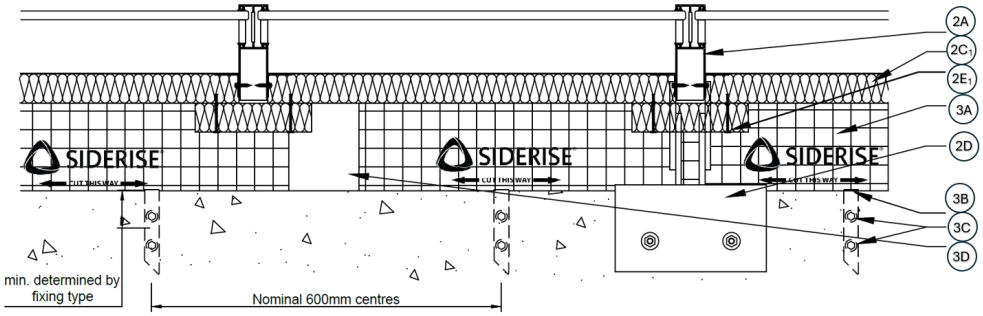
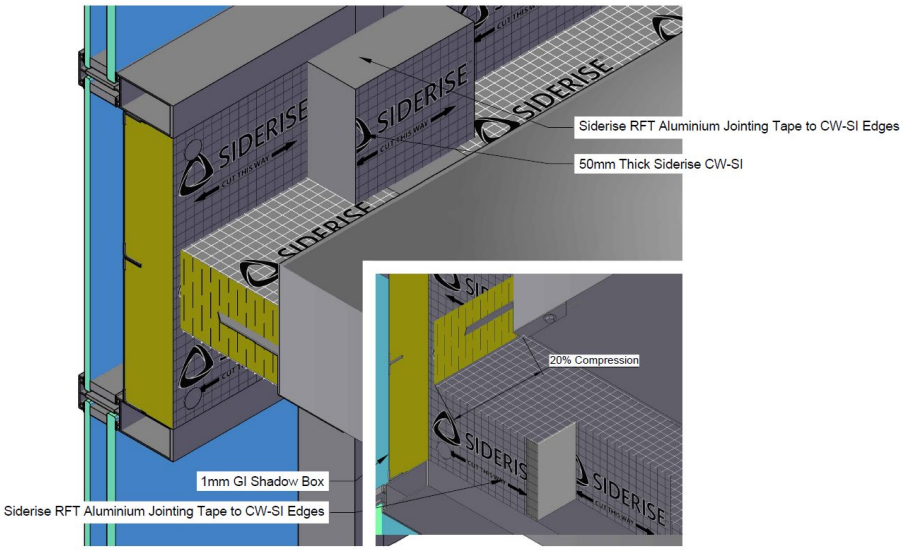
Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping





1. **FLOOR ASSEMBLY:** Min. 2 hour fire-rated concrete floor assembly made from reinforced concrete with a min. density of 2000 kg/m^3 and a min. thickness of 203mm at the joint face.

2. **CURTAIN WALL ASSEMBLY:** The curtain wall assembly shall incorporate the following construction features:

A. TRANSOMS/MULLIONS – Rectangular aluminum tubing mullions and transoms, sized and installed according to the curtain wall system manufacturer's guidelines. Min. overall dimensions of framing required are 2.5mm thick aluminum with 100mm x 52mm (depth x width) mullion section, and 100mm x 52mm (depth x width) transom sections.

SIR/BPF 120-03 (3 OF 4)

Max. spacing between mullions is limited to 1483mm and the min. spacing between transoms is limited to 850mm. Min. 750mm distance shall be maintained between the top edge of the concrete floor assembly and lower transom member. Min. 37mm distance shall be maintained between the top edge of the concrete floor assembly and the upper transom member.

B. GALVANIZED STEEL PAN AND REINFORCING ANGLE – The galvanized steel back panel is a 1mm thick prefabricated bended tray profile and is fixed on to the mullion and transom profiles using Ø4.2 x 16mm stainless steel pan-head screws at nominally 300mm on center (oc). Weld the perimeter L-angle and intermediate L-angles together to form a back pan frame, which is fixed onto the mullion and transom profiles using Ø4.2 x 16mm stainless steel pan-head screws at nominally 300mm oc.

C. **CERTIFIED MANUFACTURER:** Siderise Insulation Ltd.

CERTIFIED PRODUCT: CW-SI50 Spandrel Insulation

Mineral wool with aluminum foil facing, with an overall thickness of 50mm and a density of 128 kg/m^3, is cut to the required dimensions and installed within the GI bended back panel using cupped-head insulation weld pin [2C$_2$] of Ø2.7 x 75mm (thickness x length).

D. CURTAIN WALL BRACKET SYSTEM – The mullions are linked to the supporting floor with a bracket-system according to curtain wall system manufacturer's guidelines. Connect the brackets to the top of the concrete floor assembly in accordance with the manufacturer's instruction.

E. **CERTIFIED MANUFACTURER:** Siderise Insulation Ltd.

CERTIFIED PRODUCT: CW-SI50 Spandrel Insulation

MULLION COVERS – The 50mm thick CW-SI50 mineral wool insulation slabs [2C] are cut to the required size and provided behind the mullion at the spandrel area, and fixed to the spandrel insulations at the interior face of the exterior wall using 90mm spiral screws [2E$_2$] spaced nominally 250mm oc vertically, both above and below the perimeter barrier.

F. SPANDREL PANELS – Use of tempered or heat-strengthened glass panes, or alternative non-combustible decorative panels made of suitable materials like metals, stone, marble, etc., and meeting requirements of ASTM E136 or Class A1 class in accordance with EN 13501-1 are acceptable to be used as the exterior pane.

3. PERIMETER JOINT PROTECTION: The perimeter joint protection system shall incorporate the following construction features:

A. **CERTIFIED MANUFACTURER:** Siderise Insulation Limited

CERTIFIED PRODUCT: Siderise CW-FS

PERIMETER SEAL – The max. gap between the floor assembly and interior face of the exterior wall assembly is 150mm. Cut the perimeter fire barriers of thickness 120mm and a nominal density of 75 kg/m^3 to 180mm (an oversize of 20% greater than the joint width) and install horizontally with compression in a joint width of 150mm between the floor assembly and interior face of the exterior wall assembly.

SIR/BPF 120-03 (4 OF 4)

Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

Install the perimeter fire barrier such that the underside of the perimeter fire barrier is 6mm above the underside of the floor assembly. Apply Siderise RFT120 aluminum joint tape [3D] at the butt joints of the perimeter fire barrier on the top side.

B. STEEL BRACKET – Fix the perimeter fire barriers to the bottom side of the floor assembly with 2 nos. of Siderise B-series fixing brackets per fire barrier, spaced nominally 600mm oc, using Ø6.3 x 45mm concrete fixing steel screws.

C. FIXING SCREWS – The steel brackets are fixed on the bottom side of the concrete slab using Ø6.3 x 45mm concrete fixing steel screws.

D. ALUMINUM JOINT TAPE – Siderise RFT120 self-adhesive aluminum joint tape is to be applied over all splices/abutment joints between the Siderise CW-FS pieces, the exposed stonewool edges, and the interface between the mullion cover and spandrel insulation.

Consult the listing report on the Directory of Building Products (https://bpdirectory.intertek.com) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.

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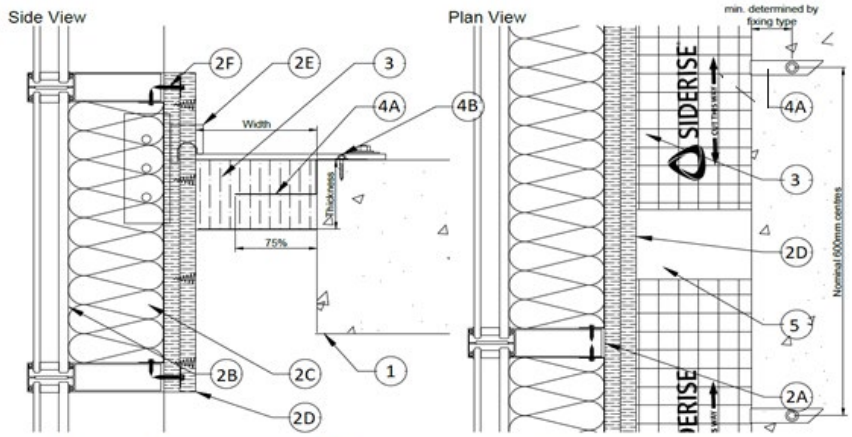
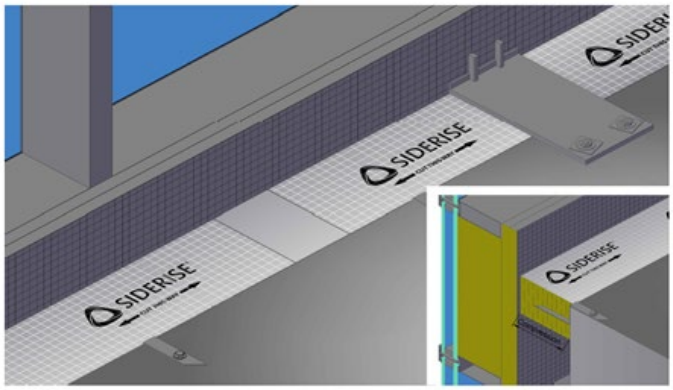
Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

Siderise Insulation Limited
Design No. SIR/BPF 180-01
Perimeter Fire Barrier System
Siderise CW-FS
EN 1364-4 (2014)
Integrity: 3 Hour
Insulation: 3 Hour





1. **FLOOR ASSEMBLY:** 3 hour fire-rated concrete floor assembly made from reinforced concrete of density 2000 kg/m^3 (min.) and thickness of 200mm (min.).

2. **CURTAIN WALL ASSEMBLY:** The curtain wall assembly shall incorporate the following construction features:

SIR/BPF 180-01 (2 OF 3)

A. TRANSOMS/MULLIONS – Rectangular aluminum tubing mullions and transoms, sized and installed according to the curtain wall system manufacturer's guidelines. Min. overall dimensions of framing required is 2.5mm thick aluminum with 100mm x 50mm (depth x width) mullion section, and 100mm x 50mm (depth x width) transom sections. The spacing between mullions is 1000mm (max.) and spacing between transoms is 375mm to 900mm (max.).

B. PANELS – (1) A sandwich panel made of a mineral wool layer with density 100 kg/m^3, covered on the unexposed side by a 1.2mm thick aluminum sheet and on the fire side by a 0.9mm thick galvanized steel sheet, assembled by glue (ref: SOLFRE 2830). Or (2), A 28mm thick glazing unit made of a 6mm thick toughened glazing, a 16mm thick aluminum spacer, and a 6mm thick toughened glazing.

C. INSULATION (CORE) – Two 100mm thick mineral wool layers (ref: RW3 ROCKWOOL) with density 60 kg/m^3. A 0.9mm galvanized steel sheet is fixed on the fire side to the profiles by sealant and steel screws Ø 4,8 x 15mm located at 50mm from the extremities of the opening and then located every 290mm max. horizontally and every 250mm max. vertically.

D. FIRE SIDE INSULATION – The backside of the framework is covered by two layers of Siderise CW-FB 25mm thick aluminum foil-faced mineral wool boards, with a density of 160 kg/m^3. The first layer is fixed to the profiles of the glazed curtain wall with washers Ø 5,5 x 40mm (Item 2F). The second layer is fixed to the first layer with spiral screws Ø 8 x 45mm. The junction between the panels as well as the visible extremities of the panels are covered by an additional self-adhesive 0,04mm thick aluminum foil (TICKITAPE).

E. CURTAIN WALL BRACKET SYSTEM – The mullions are linked to supporting floor with a bracket-system according to curtain wall system manufacturer's guidelines. Example – A bracket system made of 6.5mm thick brackets of overall dimensions 186 x 60mm, fixed on each mullion by two M10 x 40mm nut and bolt in Ø 12mm holes, 6mm thick brackets of overall dimensions 150 x 50 x 100mm; one fixed close to each steel tube on the supporting floor by one steel bolt M10 x 25mm in 12 x 24mm holes, and a 3mm thick bracket of overall dimensions 1140 x 50 x 50mm, fixed on the second bracket by one steel bolt M10 x 40mm placed in a 12 x 60mm hole, and on the third bracket by one steel bolt M10 x 40mm placed in a 12 x 90mm hole. At the bottom, the mullions are fixed to a 6mm thick aluminum plate of overall section 150 x 115mm with four steel bolts M6 x 30mm in Ø 6,5mm holes, the plate being itself fixed to the furnace closure by two steel bolts M10 x 40mm in 12 x 35mm holes.

3. **CERTIFIED MANUFACTURER:** Siderise Insulation Limited

CERTIFIED PRODUCT: Siderise CW-FS

HORIZONTAL LINEAR GAP SEAL (PERIMETER SEAL): The gap between the supporting floor and the façade is up to 250mm. For a 250mm gap, the horizontal seal is made from one layer of 275mm wide aluminum foil-faced mineral wool boards, reference Siderise CW-FS, cut to strips of max. 1200mm length, compressed to 10%, and installed vertically. The thickness of the Siderise CW-FS boards is 150mm (min.).

SIR/BPF 180-01 (3 OF 3)

Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

4. **(A) STEEL BRACKET:** The Siderise CW-FS boards are fixed to the concrete slab with 1mm thick steel brackets of section 205 x 60 x 100 x 25mm (as per guidelines from Siderise), inserted in the boards (75% of total void size) at 300mm from their extremities (200mm if close to a fixation of the curtain wall), and max. 600mm on center distance between brackets.

   (B) FIXING SCREWS: The steel brackets are fixed on the concrete slab with one fire-rated fixing 6 x 45mm.

5. **ALUMINIUM FOIL TAPE:** The junction between the Siderise CW-FS boards is covered by an additional self-adhesive aluminum foil tape.

SIR/BPF 180-02

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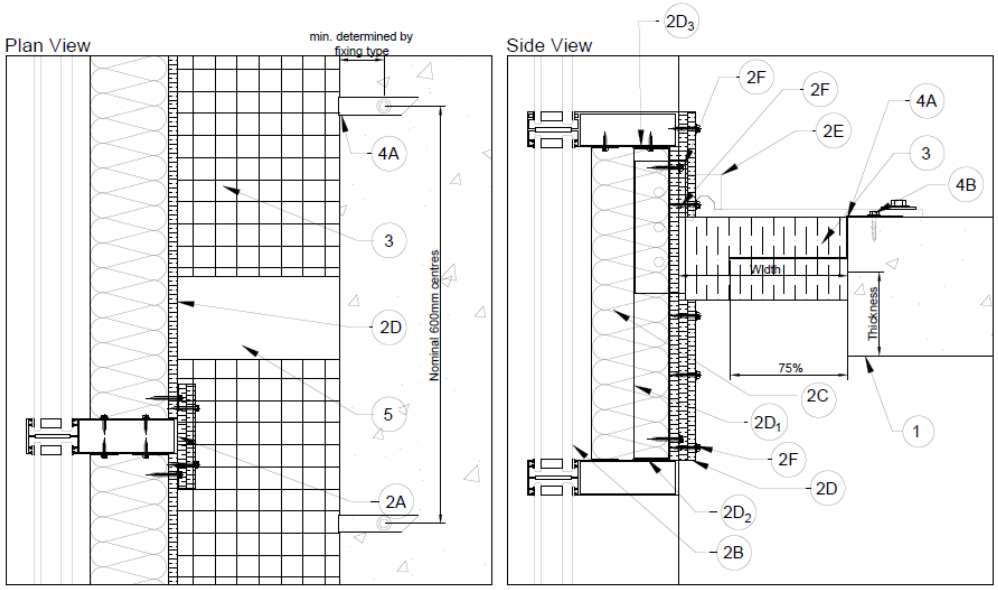
Total Quality. Assured.

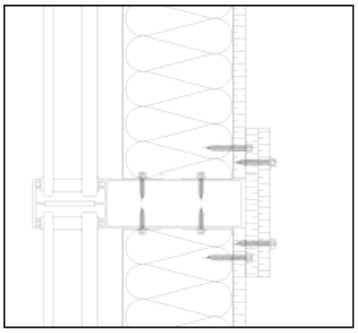
Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping

Siderise Insulation Limited
Design No. SIR/BPF 180-02
Perimeter Fire Barrier System with
Siderise CW-FS
ASTM E2307(2019)
"F" Rating: 3 Hour
"T" Rating: 3 Hour



KEY	
1	Concrete Floor Slab
2A	Curtain Wall Transom/ Mullion
2B	Curtain Wall Panel
2C	Thermal insulation
2D	Knauf Aquapanel Cement Board Indoor 12.5mm
$2D_1$	Knauf 'CW' Stud 50x35x0.6mm
$2D_2$	Knauf 'UW' Track 50x32x0.6mm
$2D_3$	Knauf 'UW' Deep Track 50x60x0.6mm
2E	Curtain Wall Bracket
2F	Knuaf Aquapanel Mullion Cover
3	SIDERISE CW-FS120
4A	SIDERISE CW-FS bracket
4B	SIDERISE bracket fixing screw
5	SIDERISE RFT120 Aluminium tape

Plan View (Below Firestop)



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Version: 9 June 2021 SFT-BC-OP-19i

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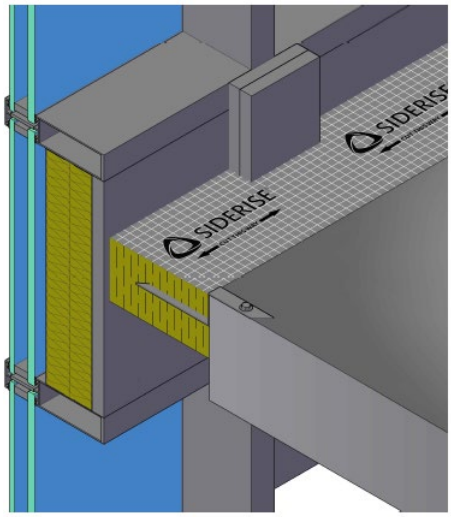
Division 07 – Thermal and Moisture Protection
07 84 00 Firestopping
07 84 53 Building Perimeter Firestopping



1. **FLOOR ASSEMBLY:** 3 hour fire-rated concrete floor assembly made from reinforced concrete of density 2000 kg/m^3 (min.) and thickness of 225mm (min.).

2. **CURTAIN WALL ASSEMBLY:** The curtain wall assembly shall incorporate the following construction features:

   A. TRANSOMS/MULLIONS – Rectangular aluminum tubing mullions and transoms, sized and installed according to the curtain wall system manufacturer's guidelines. Min. overall dimensions of framing required is 2.5mm thick aluminum with 100mm x 52mm (depth x width) mullion section, and 100mm x 52mm (depth x width) transom sections. The spacing between mullions is not limited and the min. spacing between transoms are limited to 900mm. Min. 750mm distance shall be maintained between top edge of the concrete slab and bottom transom member.

   B. GALVANIZED STEEL PAN AND FRAMING SYSTEM (Not Shown) – The steel framing system is pre-welded and used as a reinforcement frame. The frame is pressure fitted onto the spandrel area in such a way that the flanges of the system are slotted along the edges. Once the frame is in place, pan-head tapping screws of size Ø4.8 x 32mm are used to fix the system onto the mullion and transom profiles at 150mm from the edges and equidistantly spaced on center (oc). The 2mm thick GI sheet is fixed onto the steel frame with the support of stainless-steel blind rivets of size Ø3.2 x 10mm along the perimeter at a nominal spacing of 300mm oc.

   Use of tempered or Heat-Strengthened glass panes, or alternative incombustible decorative panels of suitable materials like metals, stone, marble, etc. meeting requirements of ASTM E136 or A1 class as per EN 13501-1 are acceptable as the exterior pane.

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C. MINERAL WOOL INSULATION (Stone/mineral wool insulation slab listed by Intertek and meeting requirements of ASTM E136 or A1 class as per EN 13501-1, with 75mm thickness and 80kg/m³ density) – The self-adhesive pins are adhered onto the unexposed side of the cement boards and are spaced vertically at a nominal distance of 280mm oc. Pieces of mineral wool insulation of density 80kg/m³ ar used to fill the hollow depth of the studs. 75mm thick, 80 kg/m³ mineral wool insulation slabs are impaled against the pins and ultimately fixed in place with the support of the pin caps.

D. **CERTIFIED MANUFACTURER:** Knauf LLC

CERTIFIED PRODUCT: AQUAPANEL® Cement Board Indoor

The head and floor tracks are fixed to the sill and soffit of the transom profiles respectively via KNAUF LN wafer-head screws of size Ø3.5 x 11mm, nominally spaced 50mm from the ends and 300mm oc. The studs are spaced at a nominal distance of 380mm from the ends and 405mm oc, leaving a 5mm gap from the inner face of the head track only, and are fixed onto the floor tracks also using KNAUF LN wafer-head screws of size Ø3.5 x 11mm. The abutment studs were fixed onto the mullion profiles on the vertical edges by also using KNAUF LN wafer-head screws of size Ø3.5 x 11mm, spaced at a nominal distance of 50mm from the ends and 300mm oc. Single layer of 12.5mm thick, 1050 kg/m³ density AQUAPANEL® cement boards fixed to the stud & track framing system using AQUAPANEL® Maxi screws of size Ø4 x 25mm. The screws are spaced horizontally at 400mm oc and vertically at 200mm oc.

The boards are installed horizontally and in a staggered pattern. The horizontal joint shall be placed at a min. distance of 439mm from the top surface of the perimeter fire barrier (Siderise CW-FS). On the interior side of the cement boards, the board joints are embedded with continuous lengths of KNAUF joint tape and then a double pass of Knauf joint compound is applied at a nominal width of 250mm. The joint compound is also applied over each screw head.

E. CURTAIN WALL BRACKET SYSTEM – The mullions are linked to supporting floor with a bracket-system according to curtain wall system manufacturer's guidelines. Connect the brackets to the top of the concrete floor assembly in accordance with the manufacturer's instruction.

F. MULLION COVERS – Two layers of 12.5mm thick AQUAPANEL® cement boards cut into 690 x 200mm are fastened vertically onto the cement board on the interior side of the curtain wall, thereby overlapping the mullion profiles along the spandrel panels, using KNAUF AQUAPANEL screws of size Ø4 x 25mm.

3. CERTIFIED MANUFACTURER: Siderise Insulation Limited

CERTIFIED PRODUCT: Siderise CW-FS

HORIZONTAL LINEAR GAP SEAL (Perimeter Seal) – The gap between the supporting floor and the façade is up to 100mm. For a 100mm gap, the horizontal seal is made from 120mm thick aluminum foil-faced lamella boards, reference Siderise CW-FS, cut to strips of max. 1200mm length, 120mm width compressed 20%, and installed vertically.

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4. FIRESTOP BRACKET AND FIXING:

A. STEEL BRACKET – The Siderise CW-FS boards are fixed to the concrete slab with 1mm thick steel brackets of section 75 x 60 x 85 x 25mm (as per guidelines from Siderise), inserted in the boards (75% of total void size) at 300mm from their extremities (200mm if close to a fixation of the curtain wall), and max. 600mm oc distance between brackets.

B. FIXING SCREWS – The steel brackets are fixed on the concrete slab with one noncombustible fixing Ø4.3 x 16mm.

5. ALUMINUM FOIL TAPE: The splices/butt joints between the Siderise CW-FS boards are covered by Siderise RFT120 self-adhesive aluminum foil tape.

Consult the listing report on the Directory of Building Products (https://bpdirectory.intertek.com) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.