

PROPRIETARY ITEM: FIBERHSIELD – EW120
AUTOMATIC OVERHEAD COILING TYPE FABRIC FIRE CURTAIN

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Fire alarm or smoke detector-activated, overhead coiling fabric fire curtain.
 - 2. Self-closing without auxiliary power.
 - 3. For small and medium protected openings.
- B. Related Requirements:
 - 1. Access Panels.
 - 2. Load Bearing Header Framing
 - 3. Finish: Powder coating of specified components.
 - 4. Detection and Alarm: Provision of fire alarm.
 - 5. Site Electrical: Provision of 240VAC, 10Amp General purpose outlets (GPO's)
 - 6. Product Electrical: System connection including cable glands, junction boxes, conductors, wiring devices, and backup power.

1.02 REFERENCES

- A. National Construction Code and Fire Engineers Report:
 - 1. NCC 2014/2015
 - 2. **FE Report Y; Version XX, Dated;**
- B. Standards:
 - 1. AS1670 – Automatic detection and alarm systems
 - 2. AS1530.4 – Methods for fire tests on building materials, components and structures, Part 4 Fire-resistance test of elements of construction.
 - 3. EN1364 – Fire resistance tests for non-load bearing elements
 - 4. AS1905.2 – Fire Shutters.
 - 5. AS3837– Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter
 - 6. AS6905.1 – Smoke Doors
 - 7. AS1530.7 – Methods for fire tests on building materials, components and structures. Part 7 – Smoke control assemblies – ambient and medium temperature leakage test procedure.
 - 8. CE Mark

1.03 SUSTAINABLE DESIGN REQUIREMENTS

- A. ESD: Comply with sustainable design requirements including, without limitation, submittal and documentation requirements.
- B. Credit/Point Goals Applicable To This Section: In addition to global project credit/point goals:
 - 1. Materials & Resources - construction waste management
 - 2. Materials & Resources - recycled content
 - 3. Materials & Resources - regional materials
 - 4. Indoor Environmental Quality - construction IAQ management plan

1.04 SUBMITTALS

- A. Comply with Submittal Procedures:
 - 1. NCC Clause A2.4 Evidence of Suitability – submit full scale fire test report and Formal Opinion from a Registered Testing Authority clearly identifying maximum Fire Resistance Level and maximum allowable sizes.
 - 2. Manufacturers Product data
 - 3. Shop drawings:
 - i. Curtain location and unique identification number
 - ii. Include opening dimensions
 - iii. Show and identify related work performed under other sections of the specifications including access and electrical requirements
 - 4. Quality Assurance/Control Submittals:
 - i. Site Inspection and Test Plan.
 - ii. Manufacturers ISO 9001 Certificate of Accreditation

1.05 CLOSEOUT SUBMITTALS

- A. Comply with Project Closeout:
 - 1. Certificate of Compliance with reference to Fire Engineers Report and Evidence of Suitability.
 - 2. Operation and maintenance manual.
 - 3. Manufacturer’s warranty.

1.06 QUALITY ASSURANCE

- A. Certifications:
 - 1. AS1530.4 full scale fire test on a complete assembly in a fire rated masonry/concrete slab
 - 2. National Construction Code Clause C1.10 when tested to AS3837
 - 3. AS1530.7 full scale air (smoke) leakage test on a complete assembly
 - 4. Laboratory cycle tested on a 3m x 3m complete assembly
- B. Pre-Installation Meeting:
 - 1. Schedule and convene a pre-installation meeting prior to commencement of field operations with representatives of the following in attendance: Owner, Architect, General Contractor, fire curtain sub-contractor, mechanical sub-contractor, electrical sub-contractor, and ceiling/fitout sub-contractor
 - 2. Review substrate conditions, requirements of related work, installation instructions, storage and handling procedures, and protection measures.
 - 3. Document the responsibilities of various parties and deviations from specifications and installation instructions.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Comply with project delivery, storage, and handling requirements.
- B. Comply with manufacturer’s instructions.

1.08 WARRANTY

- A. Provide manufacturer's standard one year warranty for Defect Liability Period.
- B. Provide manufacturer's standard 5 year product and installation warranty in conjunction with a Smoke Control's standard 5 + 5 year maintenance contract
- C. Maintenance and Testing:
 - 1. Perform minimum quarterly maintenance and testing on each fire curtain as required by the manufacturer's warranty, AS1851 - Maintenance, and as required by the Fire Engineers Report.
 - 2. Provide Commissioning documentation including Project name, project address, location and curtain number, number of cycles tested, observations, comments (eg: curtain out of alignment), notes (eg: curtain alignment repaired), Pass/fail.
 - 3. Re-certification after the defect liability period

PART 2 - PRODUCTS

2.01 MANUFACTURED UNITS

- A. Proprietary item; Model Fibershield – EW120 automatic vertical insulating zone fire curtain.
- B. Manufacturer:
 - 1. Distributed by Smoke Control Systems Pty Ltd, 26 Ferndell St, South Granville, NSW 2142, Australia www.smokecontrol.com.au
- C. Label each fire curtain with following information:
 - 1. Manufacturer's name and contact details.
 - 2. Curtain location and unique identification number
 - 3. Fire Resistance Level
 - 4. Date of installation

2.02 DESIGN CRITERIA

- A. Maximum allowable size: 12,000 mm wide x 2000 mm drop and 5,000 mm wide x 7,000 mm drop.
- B. Head box; Single span, continuous without overlap system of dimensions as follows;
 - i) Less than and equal to 2.0m drop = 250 H x 190 W mm
 - ii) Less than 7m drop = 285 H x 250 W mm
- C. Bearing type: Patented floating bearings with intermediate roller system for fault free operation.
- D. Side guide;

See manufacturer's literature for head box and side guide mounting options.

- i. Less than 6m drop; Type 105 E 105 mm x 74 mm concealed system
 - ii. Less than 7m drop; Type 140 E 140 mm x 74 mm concealed system
- E. Side guide restraint system; Patented double stitched pocket and continuous rod system for pressure resistance and premium performance.

- F. Fabric type; 660g/m² stainless steel woven fabric, incorporating a coated glassfibre material to reduce radiant heat transmission.
- G. Motor type; Gravigen 240V tubular motor with mechanical upper and lower limit settings
- H. Bottom bar; 65mm wide (at the base) heavy duty triangular section, requiring a 80mm min. slot in the ceiling lining.
- I. Accessories;
 - i. Self-levelling bottom bar cover
 - ii. Flush ceiling mounted radial obstruction sensors spaced as required
 - iii. Strobes and sounders
 - iv. Wall/podium mounted rewind button
- J. Finishes; Dulux Duralloy colour range (Standard)
- K. Load requirements at head = 25kg/m of width
- L. Load requirements at sides (only if side guide required) = 20kg/m of height
- M. Mounting orientation
 - 1. Installation Configuration: Housing attached directly to substrate above opening
 - 2. Fire rated bulkhead to be constructed by others in accordance with Smoke Control drawings
 - 2. Fabricate and install mounting brackets, hardware, and fasteners needed to attach fire curtain assembly to building structure.
- N. Signage on curtain (standard stencils)
 - 1. Green running man (350 x 350mm)
 - 2. Arrows (350 x 190mm high)
 - 3. Fire Safety Curtain (150mm high x 1500mm long)
 - 4. Push Button (100mm high)

2.03 PERFORMANCE CRITERIA

- 1. Fire Resistance Level (FRL): -/120/- with radiant heat transmission of less than 4 kW/m² when measured no more than 1,000mm at 120 minutes from the surface of the barrier OR
- 2. Fire Resistance Level (FRL): -/120/- incorporating an insulating zone
- 3. Smoke leakage: ≤25m³/hour (fabric)
- 4. Group Number for fabric: 1 when tested in accordance with AS3837
- 5. Durability; medium – high duty – tested to 2,000 maintenance free cycles
- 6. Maximum pressure when fully deployed;
 - i. Δ50Pa up to 50m² system
- 7. Maximum allowable gap to non-combustible sill 25mm
- 8. Combustible floor coverings permitted at threshold (conditions apply)
- 9. Closing time of 100 - 200mm/sec
- 10. Time delay to required (exhaust/pressurization) fan speed = 60 seconds (min) – 90 seconds (max). Time is dependent on drop height of curtain.
- 11. Time delay for rewind; ensure fan speed is zero + 20 seconds prior to reset of alarm signal from FIP enabling curtain rewind.
- 12. Fail safe close on loss of power and/or signal trip using battery backup.
- 13. Motor rewind automatically on re-set of power and alarm signal, no service call needed.
- 14. Battery backup to reduce nuisance deploys required.
- 15. Commissioning shall be conducted in conjunction with Mechanical services and detection/alarm system. Systems shall be balanced to work together without over pressurizing the fire curtain.
- 16. Maintenance shall be conducted quarterly by the Manufacturer and/or their nominated representative to the Manufacturers recommendations.

2.04 COMPONENTS

- A. Curtain Fabric: Heliotex EW90/120 - Glass fibre material with stainless steel wire reinforcement, coated on a single side with polyurethane and incorporating RED cotton stitching for product identification.
- B. Side Guide Assembly: 2.0mm thick Zinalume mild steel incorporating continuous rod and pocket restraint system.
- C. Housing Type: 2.0mm thick galvanized mild steel head box incorporating motor brackets, and single span drive system.
- D. Drive system: Drive shaft system forming a single continuous drive unit once installed. Powered by 240V motors and 240V motor controllers. All concealed within the head box structure.
- E. Bottom Bar: 2.0mm thick heavy duty galvanized mild steel triangular section with optional self levelling cover
- F. Gravigen™ Rewind Motor
 - 1. Tubular motor with fail safe gravity deploy operation.
 - 2. Mechanical upper and lower limit settings
 - 3. 240 VDC.
- G. Control option 1:
 - RZ-7 Master control with AM-S slave control set
 - 1. Push button user interface and mode indicators
 - 2. Battery backup incorporating low voltage alarm
 - 3. 240 VAC power
 - 4. Normally closed 0 Volt alarm signal
- H. Control Option 2:
 - AM-S-EV Trigger unit
 - 1. 240 VAC power
 - 2. Normally closed 0 Vol
 - 3. Optional rewind button

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates upon which work will be installed.
 - 1. Verify related work performed under other sections is complete and in accordance with shop drawings.
 - 2. Verify wall surfaces are acceptable for installation of fire curtain system components
 - 3. Verify setout point locations.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Coordinate electrical interface and connection with Electrical sub-contractor.
- D. Coordinate fire and alarm interface with fire sub-contractor.
- E. Commencement of work by installer is acceptance of substrate.

3.02 INSTALLATION

- A. Install fire curtain system components in accordance with fire test approvals and manufacturer's installation instructions.
- B. While some Registered Testing Authorities provide Formal Opinions in regards to the expected fire resistance level of fire curtains, they do not discuss nor provide a warranty in regards to their reliability. Experience shows that some manufacturer designs of fire curtains do not operate reliably once installed and attract extraordinarily high maintenance costs. For this reason multiple barrel, overlapped fire curtains are deemed not equivalent to this specification on this project and shall not be substituted for a single barrel continuous span system.
- C. Once installed it shall be demonstrated that the system shall gravity fail safe close on loss of power without the need of battery backup and on the receipt of an alarm signal. On reset of power and the alarm signal the system shall automatically rewind to its standby position

3.03 FIELD QUALITY CONTROL

A. Field Test 1: Calibration

Follow manufacturer's cycle test procedures prior to application of mechanical services.

1. Conduct a minimum of 10 consecutive, error free cycle tests
2. Complete Inspection and Test Plan

B. Field Test 2: Balancing test

Test operation on general alarm in conjunction with mechanical services

1. Adjust fan speed and activation timing to ensure pressure does not exceed $\Delta 25\text{Pa}$ across fire curtain and to minimize gaps at the sill.

C. Field Test 3: Commissioning

Test operation on general alarm (or zone alarm as required by Fire Engineers Report) by activating an adjacent smoke detector

1. Notify Owner's Representative, local Fire Services and alarm sub-contractor minimum one week in advance of scheduled testing.
2. Complete Commissioning submittals.

END OF SECTION

SCS TYP. PRODUCT TEMPLATE FIBERSHIELD EW120



ATTENTION: TECHNICAL REQUIREMENTS FOR THIS PROJECT



No	DESCRIPTION	REQUIREMENT	RESPONSIBILITY
1	WORKS DONE BY OTHERS	ALL DETAILS PERTAINING TO WORK BY OTHERS IS AN ADVISEMENT ONLY AND IT IS THE RESPONSIBILITY OF THE SUPPLIER AND INSTALLER OF THE ITEM/S TO CONFIRM COMPLIANCE TO ITS SUITABILITY FOR THE PURPOSE AND TO CERTIFY ITS COMPLIANCE TO THE REQUIRED FRL TO THE SATISFACTION OF THE FE OR CERTIFIER.	BUILDER, ARCHITECT, OTHER TRADES
2	SHOP DRAWINGS	APPROVAL OF SHOP DRAWINGS (SIGNITURE AND DATE) IS REQUIRED TO BE RETURNED TO SMOKE CONTROL SYSTEM BEFORE MANUFACTURE CAN COMMENCE.	BUILDER, ARCHITECT
3	DELIVERIES TO SITE	IF REQD, FORKLIFT TO BE MADE AVAILABLE.	BUILDER
4	VERTICAL MOVEMENT OF PRODUCT	IF REQD, CRANE SHALL BE AVAILABLE TO SMOKE CONTROL SYSTEMS AT AGREED TIME OF DELIVERY. IF THIS IS NOT AVAILABLE, THIS MAY INCUR EXTRA CHARGES.	BUILDER
5	STORAGE	SUFFICIENT CLEAR FLOOR SPACE TO BE MADE AVAILABLE IMMEDIATELY ADJACENT TO EACH INSTALLATION LOCATION.	BUILDER
6	ACCESS TO WORKFACE (INSTALLATION)	REASONABLY ADEQUATE WORKING AREA REQD., MIN 500mm FROM SYSTEM TO STRUCTURE IS IDEAL. SUBJECT TO SITE CONDITIONS.	BUILDER
7	BALUSTRADES (WHERE PRESENT)	BALLUSTRADES MUST NOT INTERFERE WITH THE OPERATION OF CURTAIN IN ANY WAY. MIN. 100mm FROM SYSTEM TO BALUSTRADE OFFSET IS IDEAL.	BUILDER
8	ACCESS PANELS (INSTALATION WITHIN CEILING CAVITY)	450X450 NOM. ACCESS PANELS TO BE PROVIDED. THREE EQUALLY SPACED PANELS (ONE ON EITHER END AND ONE DEAD CENTRE) WILL BE REQUIRED WHERE ACCESS TO HEAD BOX IS RESTRICTED. MAY NOT BE REQD. WHERE REMOVABLE GRID CEILING ALLOWS FOR CLEAR ACCESS TO CURTAIN CONTROLLERS.	BUILDER, CEILING CONTRACTOR
9	POWER REQUIREMENTS	240 VOLT 10 AMP GPO TO BE LOCATED NO MORE THAN 1m AWAY FROM NOMINATED LOCATION OF CURTAIN CONTROLLERS.	BUILDER, ELECTRICAL
10	ALARM SIGNAL, ACTIVATION	0 VOLT NORMALLY CLOSED CONTACT (OPEN ON ALARM) TO BE PROVIDED WITHIN 1 METRE OF CURTAIN CONTROLLER.	BUILDER, ELECTRICAL, FIRE
11	PRESSURISATION, EXHAUST SYSTEMS	IMPORTANT: BALANCING TO CONSIDER AFFECTS OF CURTAINS 20 PA MAX. PRESSURE DIFFERENTIAL STRONGLY RECOMMENDED.	BULDER, MECHANICAL SERVICES
12	TUNING	ALL SCAFFOLDING & OTHER TRADES TO BE CLEAR 2 DAYS PRIOR TO TUNING & COMMISSIONING.	BUILDER
13	COMMISSIONING STAGE 1	PRACTICAL COMPLETION TESTS: PERMANENT POWER & ALARMS CONNECTED FOR DRY RUN PRIOR TO CSC. CURTAINS MUST BE ISOLATED DURING INDIVIDUAL COMMISSIONING OF OTHER ESSENTIAL SERVICES. (PRODUCT LOCKED IN OPEN POSITION AFTER TESTING)	SMOKE CONTROL SYSTEMS & BUILDER
14	COMMISSIONING STAGE 2	COORDINATED SERVICES COMMISSIONING (CSC)	SMOKE CONTROL SYSTEMS
15	COMMISSIONING STAGE 3	WITNESS TESTING, FINAL COMMISSIONING & HANDOVER	SMOKE CONTROL SYSTEMS

SYSTEM	COMPONENT	MATERIALS	FRL	COLOUR/FINISH
FIBERSHIELD EW120	HEAD BOX & BOTTOM BAR	GALVANISED STEEL	-/120/-	HEAD BOX
	SIDE GUIDES	GALVANISED STEEL		SIDE GUIDES
	FABRIC	1100°C RATED		BOTTOM BAR
STANDARD RAL COLOURS WILL COME IN GALVANISED FINISH IF COLOUR IS NOT PROVIDED BY CLIENT				

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-	IR	FOR APPROVAL	02/06/2017

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PLEASE PROVIDE NAME, COMPANY, DATE, & SIGNATURE FOR YOUR FORMAL APPROVAL OF THESE SHOP DRAWINGS. THIS IS REQD. FOR SCS TO COMMENCE MANUFACTURE OF PARTS.



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PROJECT
SCS-FSEW120
SCS TYP. PRODUCT TEMPLATE
FIBERSHIELD EW120

CLIENT

TITLE
COVER SHEET

SUB SET (CATEGORY)

DRAWING NUMBER
SCS-FSEW120-0001

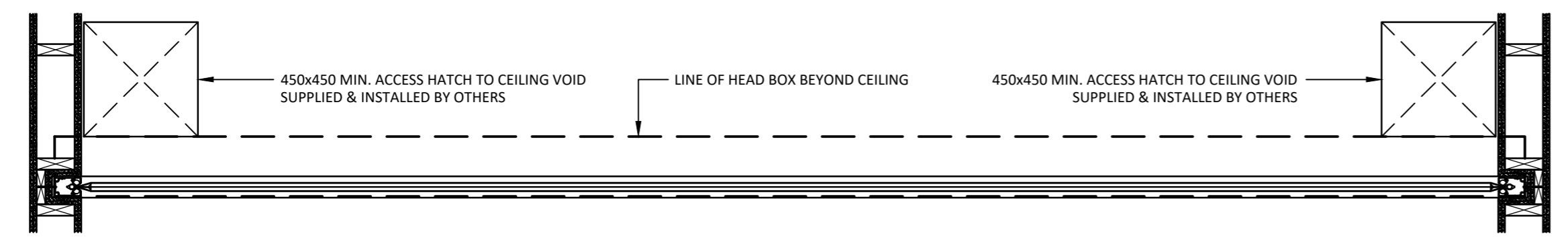
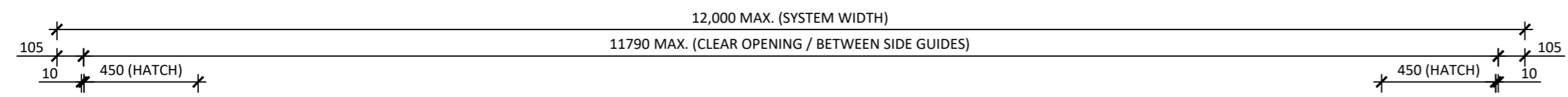
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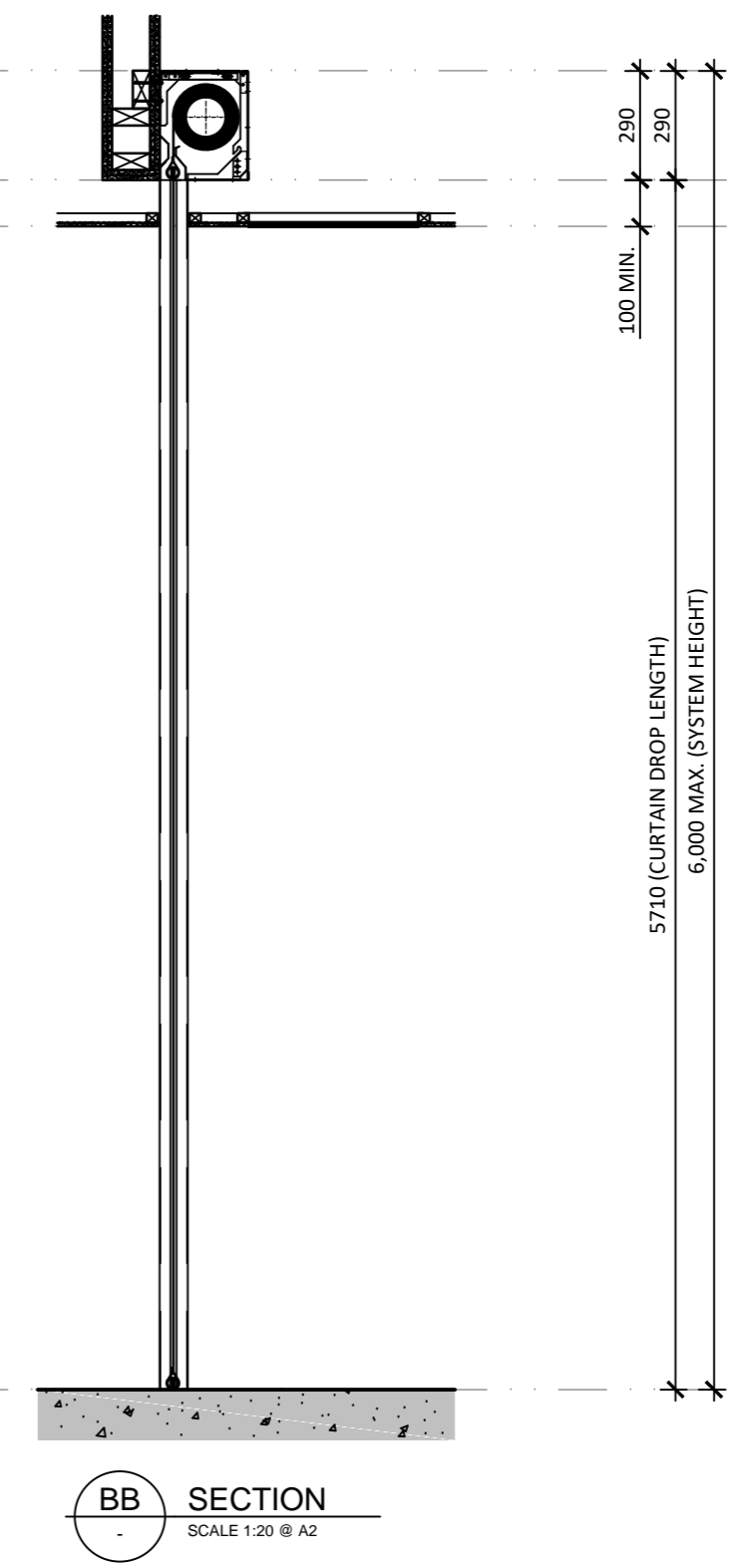
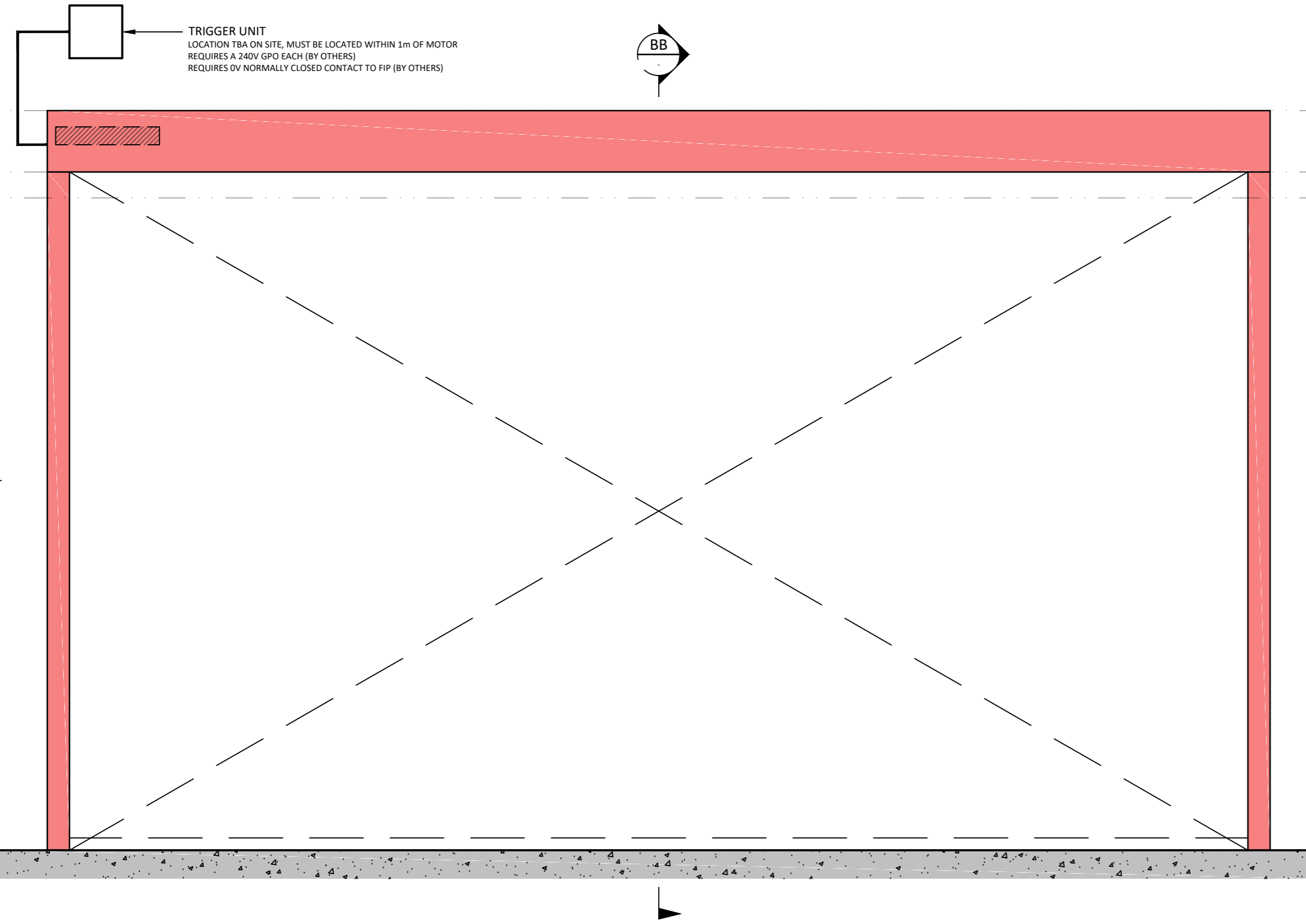
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AA SECTION
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PROJECT
SCS-FSEW120
 SCS TYP. PRODUCT TEMPLATE
 FIBERSHIELD EW120

CLIENT

TITLE
FIBERSHIELD EW120

SUB SET (CATEGORY)

DRAWING NUMBER
SCS-FSEW120-0101

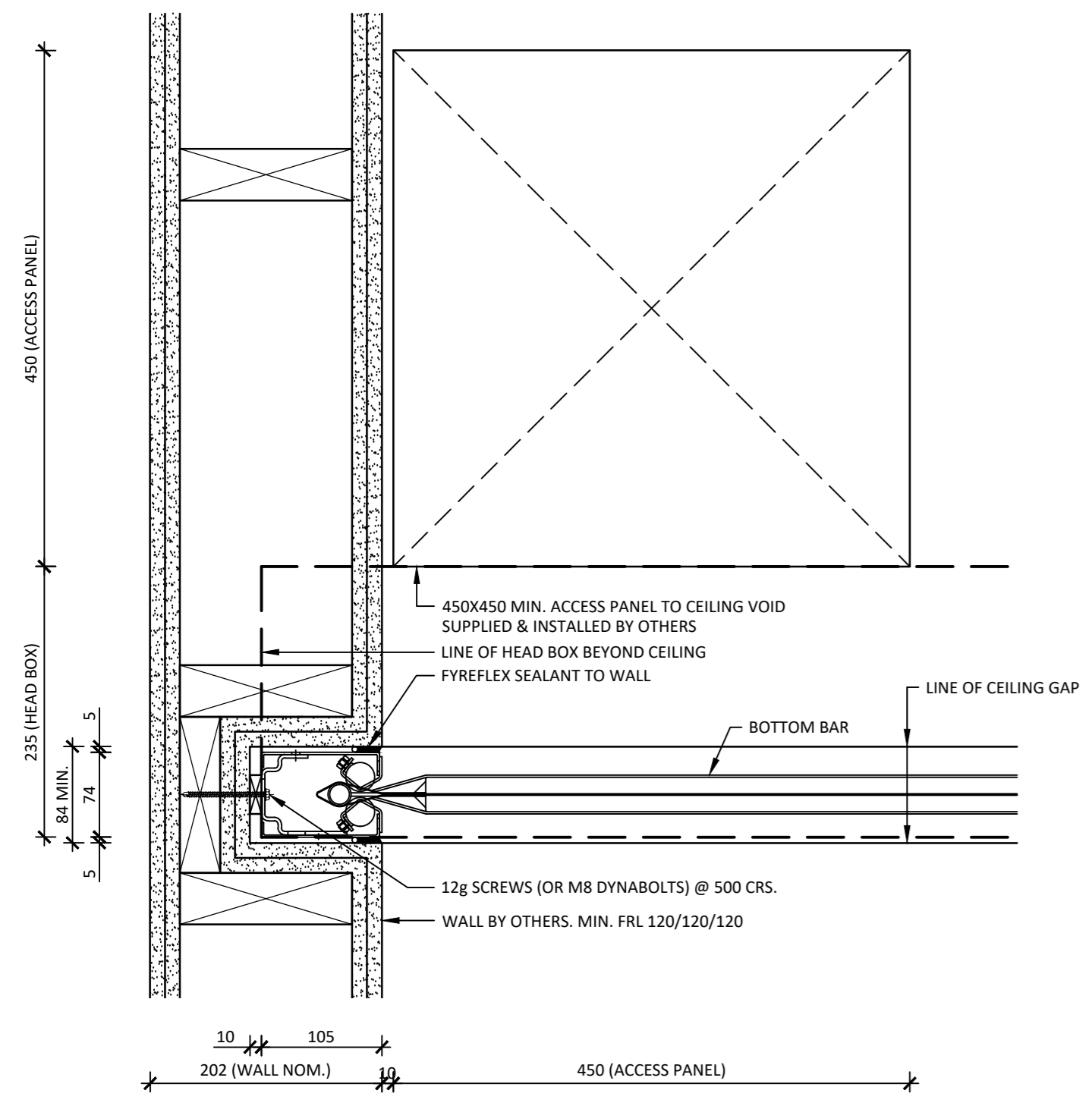
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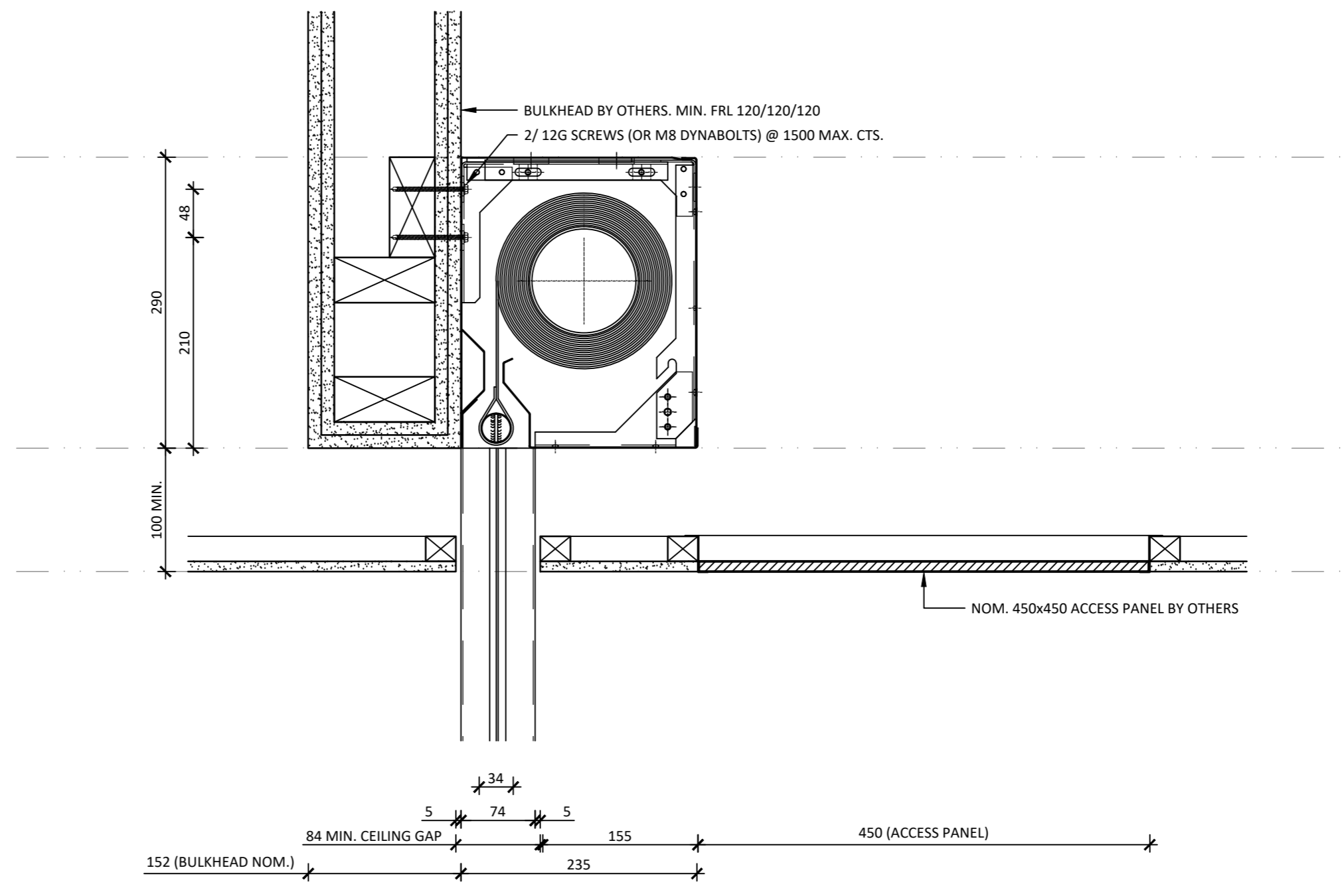
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01 REFLECTED CEILING PLAN
 SIDE GUIDE MOUNTING & WALL DETAIL
 SCALE 1:5 @ A2
 TYP. FOR BOTH SIDES



02 SIDE ELEVATION SECTION
 HEAD BOX MOUNTING & BULKHEAD DETAIL
 SCALE 1:5 @ A2

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PROJECT
SCS-FSEW120
 SCS TYP. PRODUCT TEMPLATE
 FIBERSHIELD EW120

CLIENT

TITLE
DETAILS

SUB SET (CATEGORY)

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