



Specification KDFC-V3612-01. Date April 2020 - Version 1.0

Specification – Vertical Kent Defender Fire Curtain

Australian Fire Control

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How to Specify a Vertical Kent Defender Fire Curtain

“Manufacture, supply, install, commission and certify the following:”

1. MODEL: KD - AFC - FIRE Curtain
2. FIRE ENGINEERS REPORT:
3. PROJECT ID:
4. General Category:
 - a. AUTOMATIC OVERHEAD ROLLING DOOR
5. Proprietary Product:
 - a. VERTICAL KENT DEFENDER AUTOMATIC COILING FABRIC FIRE CURTAIN
 - b. Active fire curtain barrier consisting of a woven glass fabric tested to withstand temperatures up to 1,100 °C for up to 240-minutes. The active roller assembly, incorporating the fabric, is housed within a galvanised steel head box that is anchored to the structure.
6. Key System Performances:
 - a. Fire performance verified to AS1530.4-2014 for up to 240-minutes [FRL-/240/-]
 - b. Smoke leakage performance in accordance with AS1530.7- 2007
 - c. EW60 performance to EN 1634-1.
 - d. UL listed & classified.
 - e. CE Labelled D120
 - f. CE Labelled DH60
 - g. With potential occupant escape speed calculations of:
 - i. 1.0m/s at distance of 1.25m for up to 39-minutes.
 - ii. 1.4m/s at distance of 250mm for up to 46-minutes.
 - h. **Insulating Zone Data:** Air temperature shall not exceed 180 °C at a distance of 120mm from curtain non-fire face for a period up to 60-minutes.
 - i. **Radiant Heat Flux** measurement of 8.8kW/m² from a distance of 250mm from curtain non-fire face for a period up to 39-minutes.
 - j. Curtain closing speed between 170 – 200mm/sec
 - k. Group Fabric No 1 when tested in accordance with AS3837
 - l. Durability: Light Duty – tested to 20,000 maintenance free cycles.
 - m. Maximum pressure differential across curtain 25 Pa.
 - n. Rewind time delay [fan speed zero] +20 seconds prior to reset of alarm.
 - o. Battery back up as a standard feature.



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7. Function:
 - a. The curtain shall descend automatically upon receipt of signal from an AS1670.1-2018 compliant smoke/heat detection system installed in accordance with NCC [1] Part C3.5 and retract when signal is removed. During ascent the motors are controlled by a synchronised speed circuit to ensure uniformity of operation. In the event of mains and battery backup failure the curtain shall gravity descend to the closed position.

8. Air Balancing:
 - a. Maximum pressure differential across the curtain face shall not exceed 25 Pa.

9. System OPTIONS: [Select as required]
 - a. Staged descent
 - b. Obstruction sensor
 - c. Strobes and sounders
 - d. Emergency momentary override push button
 - e. Guide mounted push button
 - f. Test key switch
 - g. BMS Facility
 - h. Fusible link actuation.
 - i. Bottom bar cover plate.

10. Quality Assurance:
 - a. Product manufacture must comply with ISO 9001:2015 INTERTEK Certification & CERTIFIRE Third party Accreditation.

11. Pre-Manufacture & Installation Site Meeting:
 - a. Recommended Attendees
 - i. Architect
 - ii. Head Building Contractor
 - iii. Dry Fire Contractor
 - iv. Wall/Ceiling Contractor
 - v. Mech Air Contractor
 - vi. Fire curtain supplier
 - vii. Fire curtain installer [if different from supplier]
 - viii. Fire Engineer
 - ix. Lift contractor [if lift protection system]
 - x. Owner or owners representative [if existing building]



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12. Items to be addressed:

- a. Suitability of opening re: structural adequacy; fire rating; clearances and fixing points.
- b. Note: Load bearing = 25kg/m of width and 20kg/m of height.
- c. Adjacent wall cladding [particularly if a lift protection system]
- d. Dry fire wiring inc 0v trigger cable and GPO position
- e. Placement of access panels
- f. Egress requirements
- g. Sequencing of trades
- h. Protection of works.

- i. Information gathered from this site meeting is to form the basis for Shop Drawings. Clearly document any significant deviation from specification, drawings or FER and resolve with head contractor to achieve sign off.

13. Installation:

- a. Must be carried out by a fully trained contractor licensed by the manufacturer. Completed installation must be in strict accordance with test prototype and the manufacturer's instructions. An installation certificate must be provided with Certification & Warranty submissions.

14. Post Installation: System Calibration

- a. Prior to operation of mechanical services in the area conduct manufacturers cycle test procedures including:
- b. 10 consecutive, error free cycle tests.
- c. Record results of cycle testing within Inspection & Test Procedures.

15. Post Installation: Air Balancing test

- a. Observe curtain operation when activated on general alarm with mechanical air running.
- b. Ensure the following including adjustment as necessary:
- c. Mechanical air fan speed and activation timing does not produce excess of 25 Pa across fire curtain.
- d. Curtain closes within the timing limits set out within NCC [1].
- e. Record curtain operation parameters with ITP's.

16. Post Installation: System Commissioning

- a. Confirm curtain function meets the requirements of the Project Documentation – FER; Drawings & Specifications.
- b. Note special requirements for Options [if any] selected.



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- c. Prior to running commissioning tests provide 2-weeks' notice to interested parties including:
 - Head contractor
 - Local Fire Services
 - Dry Fire contractor
 - Fire Engineer
 - Mech Air contractor
 - Lift contractor [if applicable]
 - d. Test activate the smoke or heat detector, either adjacent to the fire curtain or from within zoning as indicated within FER, to put curtain into general alarm.
 - e. Record curtain operation performance within ITP's and include video evidence of one complete cycle [up & down]
 - f. Complete Commissioning documentation for inclusion with Certification & Warranty submissions.
17. Document Submittals – Post Commissioning
- a. NCC [1] Clause A2.4 Evidence of Suitability – in the form of full scale Fire Test Report and/or Formal Opinion from a NATA registered authority. Note that Summary Extracts of Test Reports & Assessments are an acceptable means of demonstrating compliance.
 - b. Manufacturer's Product Data including project specific Shop Drawings & marked-up architectural floor plan showing curtain location and unique identification number.
 - c. Describe & identify, on marked up architectural drawings, associated critical work performed by other trades under related sections of the Project Specification including electrical / actuation requirements and access provision.
 - d. QA & QC Submittals in the form of completed ITP's and ISO 9001 Certificate of Accreditation.
18. Closeout Submittal Check List:
- a. Certificate of Compliance with reference to FER and A2.4 Evidence of Suitability
 - b. Operation and Maintenance Manual
 - c. Manufacturer's Warranty
 - d. Other Project Requirements not covered by above.
19. Reference Standards:
- a. BS EN 1634-1:2014 [assessed to AS1530.4:2014] Fire (Single Barrel Arrangement) resistance & smoke control tests for door, shutter and operable window assemblies and elements of building hardware. Fire resistance tests for doors, shutters and operable windows.



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- b. BS EN 1634-1:2014 [assessed to AS1530.4:2014] Fire (Multiple Barrel Arrangement) resistance & smoke control tests for door, shutter and operable window assemblies and elements of building hardware. Fire resistance tests for doors, shutters and operable windows.
- c. BS EN 1634-3:2004 [assessed to AS1530.4:2014] Fire resistance & smoke control tests for door and shutter assemblies, operable windows and elements of building hardware. Smoke control test for door and shutter assemblies.
- d. BS 5234-2:1992 (Method of Test as set out within BS 8524-1:2013) Double Severe Duty Impact Test
- e. BSEN 1363-1:2012 Fire resistance tests. Part 1: General requirements [assessed to AS1530.4:2014]
- f. BSEN 1363-2:1999 Fire resistance tests. Part 2: Alternative & additional procedures. [assessed to AS1530.4:2014]
- g. BS476-6:1989+A1:2009 Fire tests on building materials and structures. Method of test for fire propagation for products. [assessed to AS1530.4:2014]
- h. BS476-7:1997 Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products. [assessed to AS1530.4:2014]
- i. BSEN 14600:2005 Door sets & operable windows with fire resisting and / or smoke control characteristics. Requirements & classification. Cold formed welded structural sections of non-alloy and fine grain steels.
- j. BSEN ISO 9001:2015 Quality management system
- k. UL 10D Fire protective curtains classification (For single and multiple roller arrangements).
- l. UL 10D S Fire protective curtains classification, smoke designation (For single and multiple roller arrangements).
- m. UL1784:2009 Air leakage tests of door assemblies.
- n. GB14102 Integrity Test of a Fire Curtain Assembly
- o. AS1530.4 – Methods for fire tests on building materials, components and structures, Part 4 Fire- resistance test of elements of construction.
- p. AS1905.2 – Fire Shutters.
- q. AS3837– Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter
- r. AS6905.1 – Smoke Doors
- s. AS1530.7 – Methods for fire tests on building materials, components and structures. Part 7 – Smoke control assemblies – ambient and medium temperature leakage testprocedure.
- t. UL10D – Fire tests of fire protective curtain assemblies



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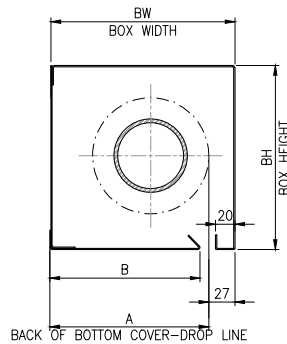
- u. BS476.22 – Fire tests on building materials and structures. Method for determination of the fire resistance of non-loadbearing elements of construction
 - v. UL1784 – Standard for Air Leakage Tests of Door Assemblies
 - w. EN13501.2 – Fire classification of construction products and building elements, Part 2 Classification using data from fire resistance tests, excluding ventilation services AS1670 automatic detection and alarm systems.
20. Delivery, Handling & Storage
- a. Comply with Project delivery, handling & storage requirements
 - b. Provide manufacturer's additional requirements within Shop Drawings; ITP's and SWMS.
21. Maintenance & Testing:
- a. Ensure curtain is recorded as critical fire protection element and receives AS1851-2012 maintenance & testing routines.
 - b. Installing contractor to provide Maintenance Log Book compatible with AS1851-2012
 - c. Log book to contain notation on any additional fire performances as required by the project FER.
 - d. Note that maintenance inspections may not be included within the manufacturer/installer scope of work. Head contractor to ensure that a suitable maintenance plan is in place with an appropriate contractor for the duration of project 12-month defect liability period.
 - e. At the completion of the 12-months defect liability period the installing contractor is to re-commission the system and include this information within the log book.
22. AUSTRALIAN DISTRIBUTOR
- a. AUSTRALIAN FIRE CONTROL PTY LTD
17 Williams Rd, Kelmscott WA 6111
(tel) +61 (08) 9399 6957
(@) sales@australianfirecontrol.com.au
(web) www.australianfirecontrol.com.au
23. MANUFACTURER
- a. KENT FIRE AND SMOKE CURTAIN
Unit 10, 7 Street, Al Qusais Industrial Area 2,
(tel) +971 (04) 288 2575
(@) info@kentsmokeandfirecurtains.com
(web) www.kentsmokeandfirecurtains.com



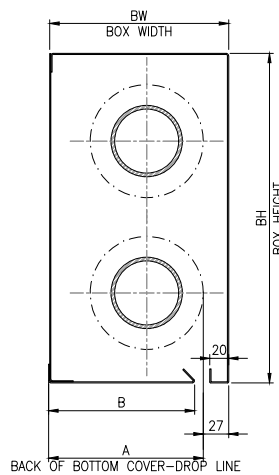
**Individual Air Temperatures Recorded In Front of The
Unexposed Surface of the Curtain for the Purposes of 'Insulating Zone'**

Time Mins	Distance From Specimen mm	T/C Number 3 Deg. C
0	50	9
10	50	125
20	50	185
30	95	169
40	155	178
50	80	176
60	120	174
70	120	185
80	90	186
90	90	191
100	90	189
110	90	195
120	90	199
130	90	205
140	125	210
150	125	205
160	125	228
170	125	221
180	125	226
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210	125	232
220	125	238
230	125	241
240	125	242
250	125	237
252	125	249

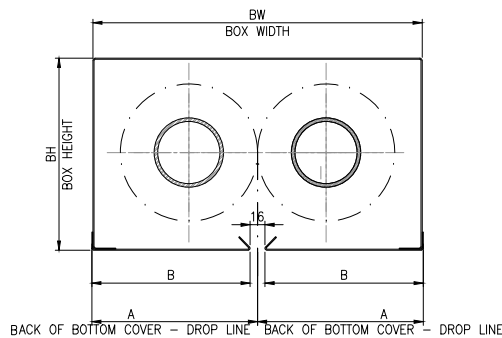
Head Box Sizing



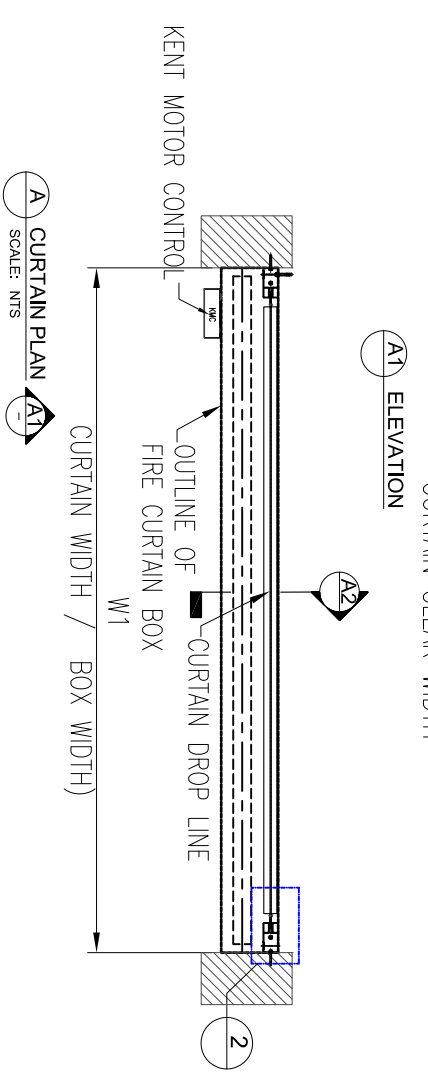
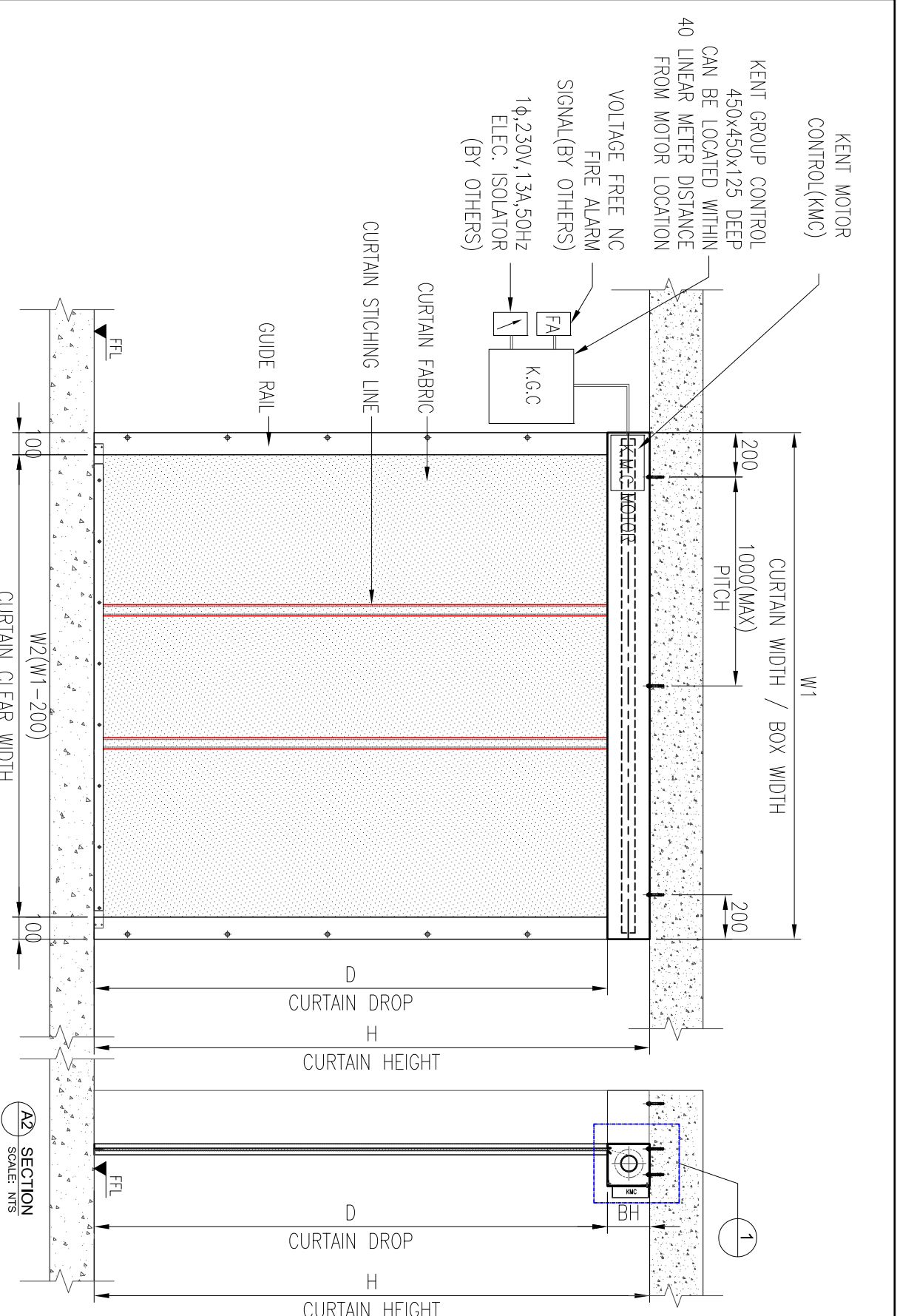
CURTAIN DROP	SINGLE ROLLER BOX - TYPE 1			
	WIDTH(BW)	HEIGHT(BH)	A	B
UPTO 3m	190mm	190mm	163mm	155mm
3m TO 7m	210mm	210mm	183mm	175mm
7m TO 12m	280mm	280mm	253mm	245mm



CURTAIN DROP	MULTIPLE ROLLER BOX - TYPE 2			
	WIDTH(BW)	HEIGHT(BH)	A	B
UPTO 3m	190mm	350mm	163mm	155mm
3m TO 7m	210mm	390mm	183mm	175mm
5m TO 10m	280mm	500mm	253mm	245mm



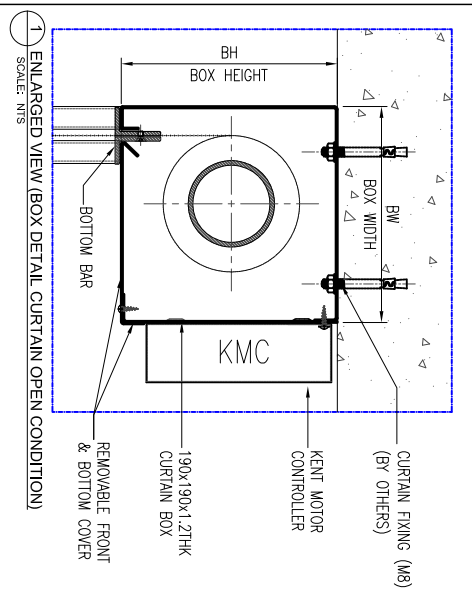
CURTAIN DROP	MULTIPLE ROLLER BOX - TYPE3			
	WIDTH(BW)	HEIGHT(BH)	A	B
UPTO 3m	320mm	190mm	160mm	153mm
3m TO 7m	370mm	210mm	185mm	178mm
7m TO 12m	480mm	280mm	240mm	233mm



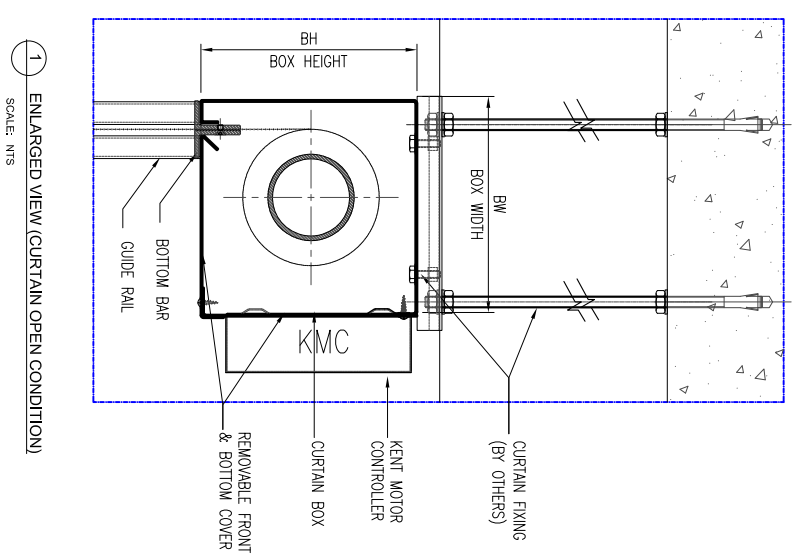
FIRE CURTAIN SPECIFICATION:

CURTAIN	MANUFACTURED FROM STAINLESS STEEL, WIRE REINFORCED, WOVEN GLASS FIBRE, FABRIC COATED ON EACH SIDE WITH POLYURETHANE (VMG-890)
BOTTOM BAR	1.5mm THK GALVANISED STEEL, BOTTOM BAR POWDER COATED FINISH TO BE CONFIRMED
BOX COVER	1.2mm THK GALVANISED STEEL FINISH
END PLATE	3mm THK GALVANISED STEEL END PLATES AND BRACKETS
GUIDE RAIL	2mm THK GALVANISED STEEL POWDER COATED FINISH TO BE CONFIRMED
MOTOR	INTERNAL, ELECTRIC, TUBULAR GEARED CONSTANT SPEED MOTOR
POWER SUPPLY	SINGLE PHASE, 230V / 13A, 50HZ
FIRE ALARM SIGNAL	VOLTAGE FREE NC SIGNAL

DIRECT FIXING



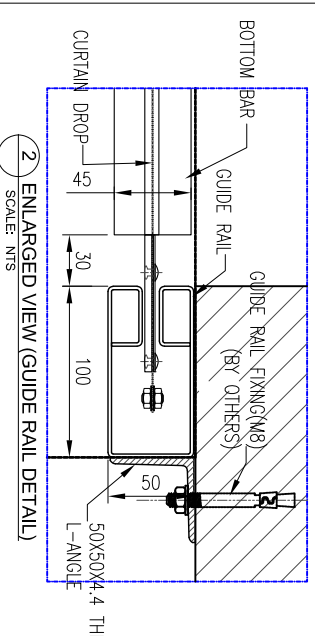
THREAD ROD FIXING



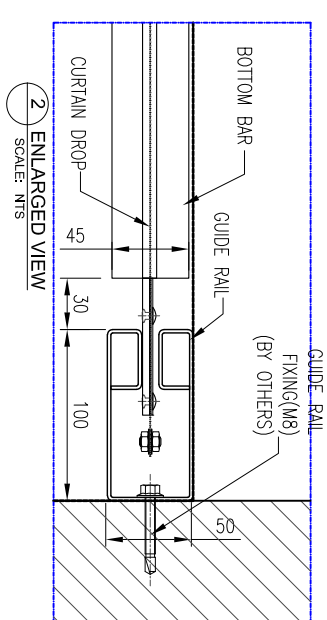
Head Box, Bottom Bar, & Guide Rail Powder Coating to be confirmed.

Guide Fixing Option to be confirmed

FACE FIXING



END FIXING



Kent Kent Smoke and Fire Curtains
Dubai: Tel: +971 4 288 2575

Project Title :
INDICATIVE DRAWING

Drawing Title :
INDICATIVE SHOP DRAWING FOR SINGLE ROLLER FIRE CURTAIN

Designed	V.V	Checked	MRK	Approved	16.04.19
Scale	N.T.S	Drawn	MRK	Date	16.04.19
Rev.	Date	By	Description	Checked	Approved

NOTE:
ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.