



ADEXON[®]

Adexon-FC60EW & FC90EW
Technical Information

**20
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Adexon-FC60EW & FC90EW

Vertical fire curtain certified to 60 & 90 minutes integrity and radiation rating

Description

The Adexon-FC60EW is our multi-purpose fire curtain offering integrity (E) and radiation (W) performance. Designed to limit and control the spread of fire for 60 minutes at over 1000°C, and also reduce the radiation of heat from one side of the curtain to the other for 60 minutes. Smoke sealing is also available to limit and control the spread of smoke created by a fire.

The Adexon-FC90EW has the same specifications as the FC60EW but controls the spread of fire and also reduces the radiation of heat for 90 minutes.

The system is tested and certified to BS EN 16034:2014, with smoke control tested to BS EN 1634-3:2004. Operation is via 24V DC tubular motors controlled by an electronic control board. It has gravity fail-safe to ensure that the system will deploy to its fire-operational position so that you have protection irrespective of whether power is maintained or not.

Our standard lead time is between 6 to 10 weeks from approval of drawings. Optional extras such as Emergency Retract Buttons and Obstruction Warning are available upon request.

Applications

The Adexon-FC60EW & FC90EW products are suited to many different applications; some of the most common are to:

- Compartmentalise open-plan sections in a room or space
- Cover exit routes within wide corridors
- Cover openings in walls e.g. serving hatches
- Cover non-fire-rated doors or glazing
- Cover lifts and lift shafts that can act as fire or smoke chutes
- Protect escape routes
- Provide boundary protection

Certifications and ratings

Certification:

BS EN 16034:2014

BS EN 13241:2003+A2:2016

CE Certification

Certificate of Constancy of Performance No. 0370-CPR-6418 (Notified Body Nr.0370)

Ratings:

EW60

Integrity, e, rating: 90 minutes

Radiation, w, rating: 60 minutes

Insulation, i, rating: N/A

Smoke Performance: recommended option

EW90

Integrity, e, rating: 90 minutes

Radiation, w, rating: 90 minutes

Insulation, i, rating: N/A

Smoke Performance: recommended option

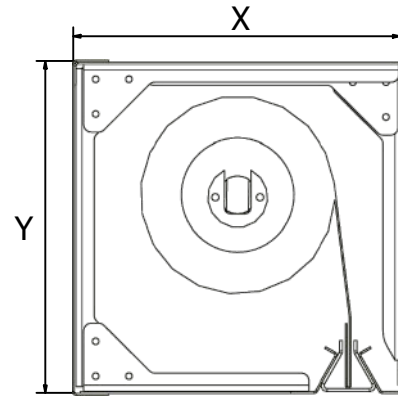
Maximum certified sizes

EW60 12m x 4.5m, or 7m x 8m (non-exposed install) / 10.5m x 4m, or 5m x 6m (within wall install)

EW90 12m x 3m, or 3m x 8m (non-exposed install) / 10.5m x 4m, or 5m x 6m (within wall install)

Headbox sizes

Manufactured from 1.2mm thick galvanised steel, the headbox is designed to have the smallest form factor possible to fit discretely into ceilings. Headbox sizes change based on the fire curtain size requirements. Headboxes are available in all standard and non-standard PPC colours. For any technical drawings, please contact admin@adexon-uk.com.



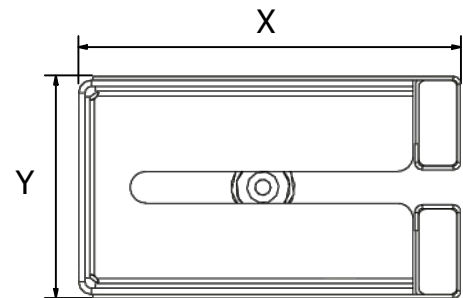
Performance Rating	Fire Curtain Width	Fire Curtain Height	Headbox Dims	
			X	Y
EW 60 & 90	12,000mm	3,500mm	220mm	220mm
	4,500mm	7,000mm	240mm	260mm
	12,000mm	6,500mm	240mm	260mm
	12,000mm	8,000mm	260mm	300mm

Note: please refer to 'Maximum certified sizes' section for dimensions that have been third party certified for each specification and fixing arrangement.

Side guides

Manufactured from the same galvanised steel as the headbox, the side guides are designed to withstand the pressures caused by a fire. The side guides are available in all standard and non-standard RAL colours.

Fire Curtain Width	Fire Curtain Height	Side Guide Dims	
		X	Y
12,000mm	4,500mm	120mm	70mm
12,000mm	>4,500mm	130mm	70mm



Headbox width

Adexon can provide smoke control to significantly larger sizes than competitors, up to 8.9m wide, because of our unique headbox design. Our headbox incorporates a support roller system that makes large single roller curtains possible.



Smoke control sizes

Adexon's proprietary smoke control design utilises fire-tested materials to control the spread of smoke compliant with BS EN 1634-3:2004. Smoke control can be provided for the sizes shown in the table below.

		Width (m)										
		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	
Height (m)	3.0											
	3.5											
	4.0											
	4.5											
	5.0											
	5.5											

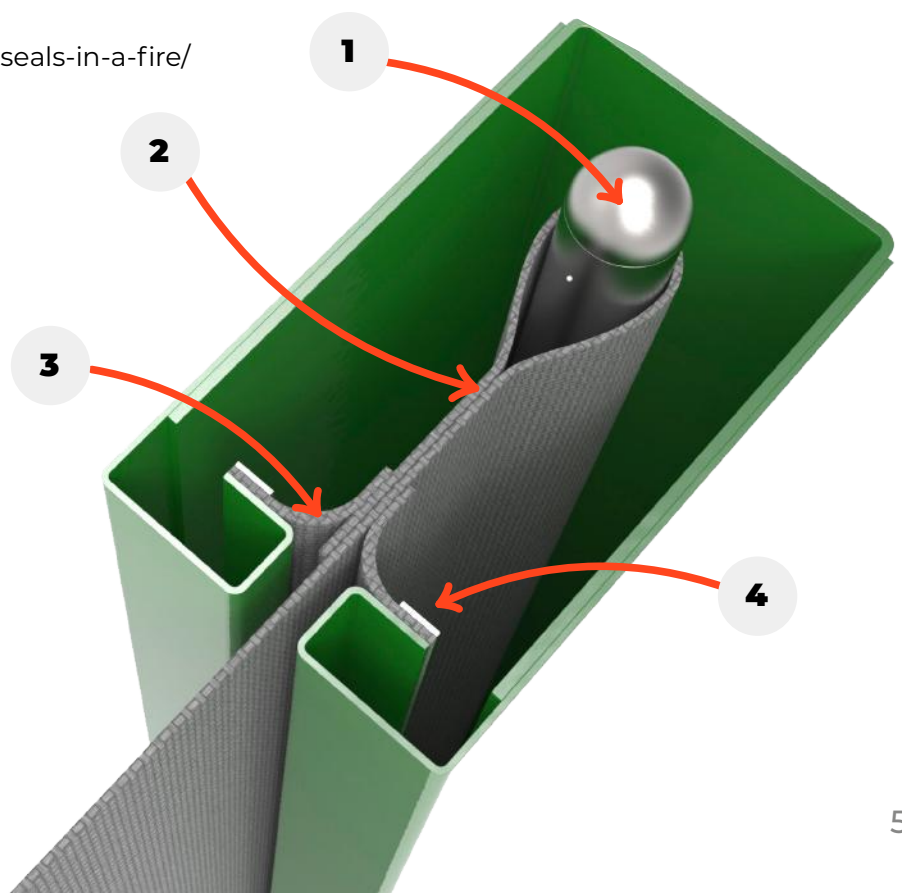
How smoke control works

Fires create extreme negative and positive pressures. Adexon proprietary galvanised steel side guide retention rods stop the curtain fabric from being blown out of the guides under this pressure. We utilise the same fabric as the curtain, and steel components for our smoke sealing rather than plastic brush strips.

1. Steel rod – melting point 1370°C – 1530°C
2. Fire resistant fabric – tested to over 1000°C
3. Fire resistant fabric – tested to over 1000°C
4. Steel retainer & rivets – melting point 1370°C - 1530°C

Read more on our website:

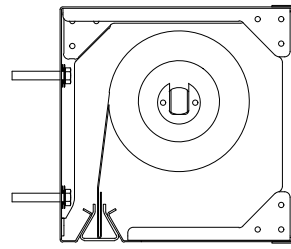
www.adexon-uk.com/cold-smoke-seals-in-a-fire/



Fixing types

Face fixed

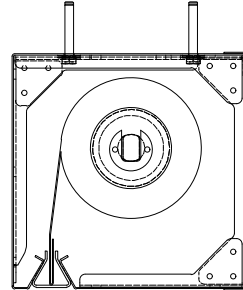
Face fixing is commonly used to install fire curtains around doorways. With this fixing method, you do not lose any of your opening.



FACE FIXED

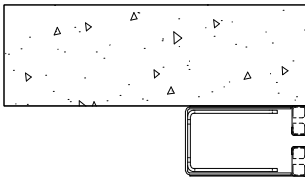
Reveal fixed

Reveal fixing allows for a completely hidden fire curtain, commonly used in offices. With this fixing method, you will lose the width of the guides from your clear opening (max 260mm, 130mm from each side) unless concealed in the wall make-up.

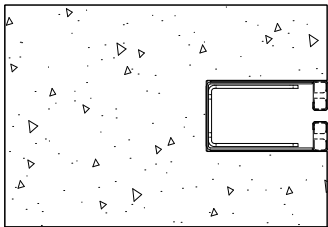


REVEAL FIXED

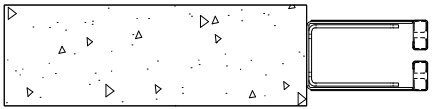
FACE FIXED



EMBEDDED



REVEAL FIXED



Fabric retention

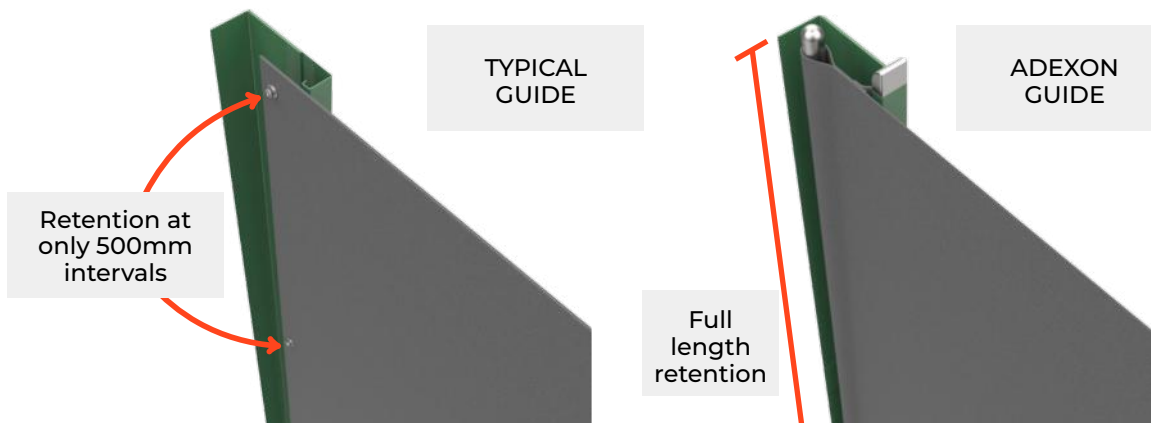
Adexon's guides have a unique fabric retention system that differs from all other UK manufacturers, utilising a full length retention design, instead of poppers/bolts retention every 500mm or so, that is used by others.

The Adexon design ensures the curtain doesn't;

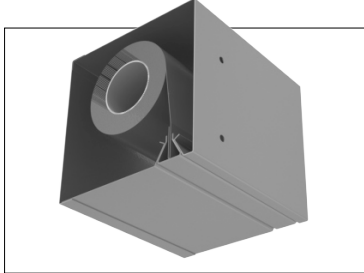
- snag and fail to descend
- blow out of the guides due to high pressure
- tear and rip

Read more on our website:

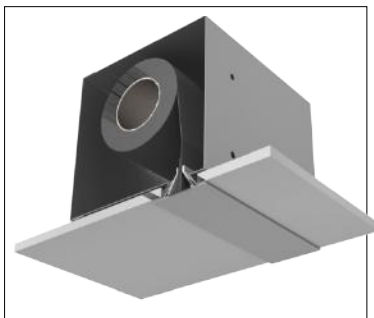
www.adexon-uk.com/why-fabric-retention-design-on-fire-smoke-curtains-matters-a-lot/



Headbox and bottom bar positioning options



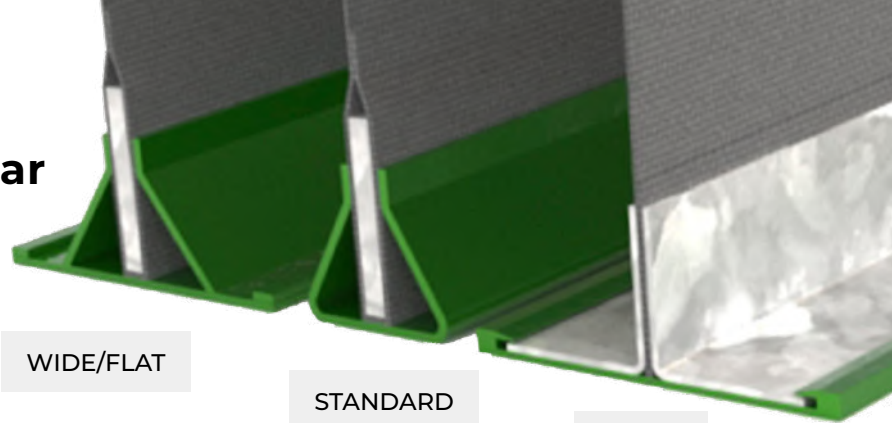
VISIBLE HEADBOX/
STANDARD BAR



UP AGAINST CEILING/
WIDE BAR



WITH DROP CEILING/
T-BAR



WIDE/FLAT

STANDARD

T-BAR

Bottom bar types

Standard bar

Description – The standard bar fits snugly inside the headbox, creating a completely flat surface, and giving a more aesthetically pleasing finish when the headbox is visible.

Notes - Variations of the standard bar are also available that are suitable for installations on angled surfaces like ramps.

Wide/flat bottom bar

Description – The wide bottom bar is best if you wish to plasterboard under the headbox, as it will sit flush with the ceiling.

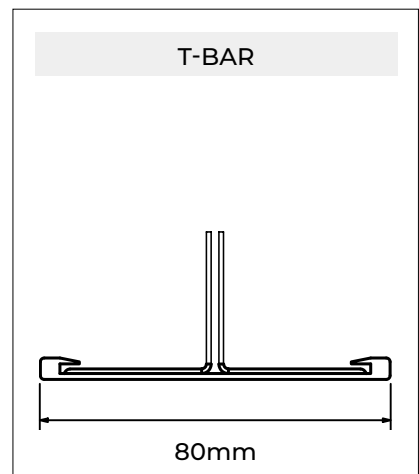
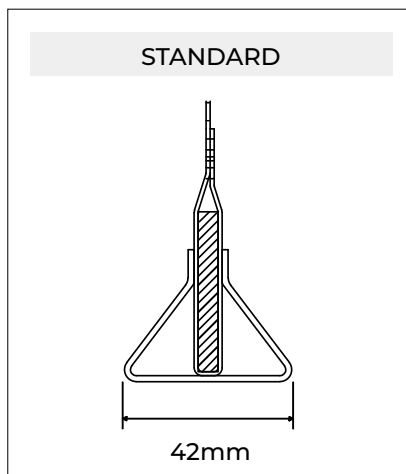
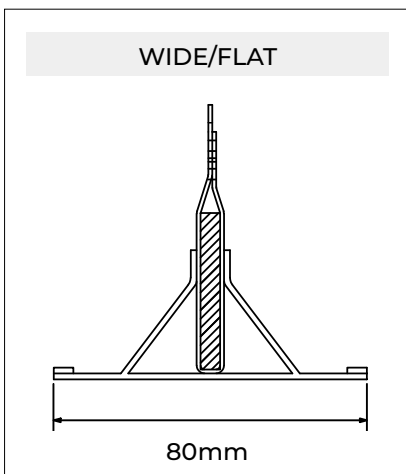
Notes - The plasterboard ceiling is installed after the headbox.

T-Bar

Description – The T-bar is best for drop/false ceilings where the headbox is not immediately above the ceiling.

Notes – Additional support is required for the ceiling, where the bottom bar contacts the ceiling to withstand the force applied by the bottom bar.

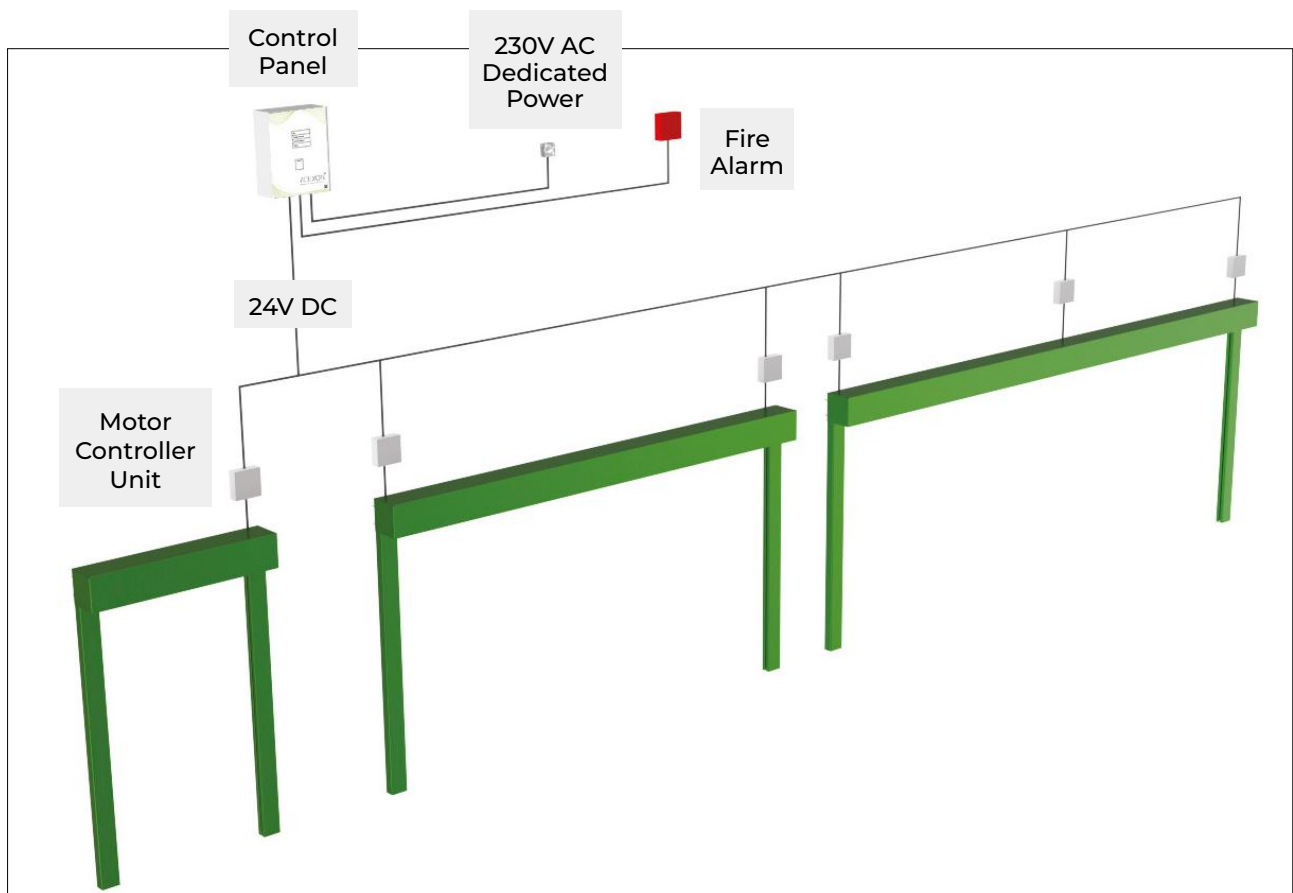
Bottom bar sizes



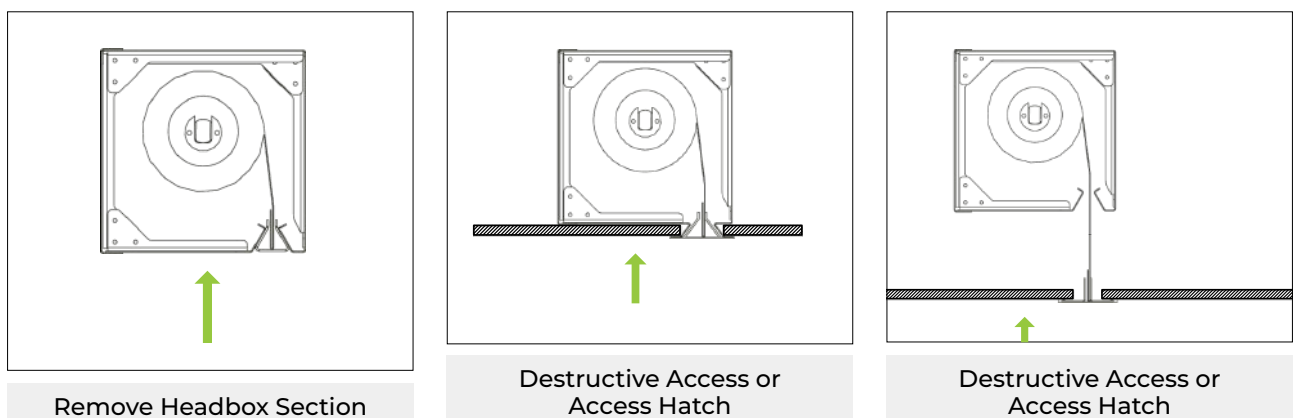
Site wiring

The Adexon control panel and motor controllers can be used to wire multiple curtains together. Standard single curtains require a 230V AC, 6-amp fused spur. If multiple curtains are controlled by one control panel, the power supply required varies. The curtain is activated via a normally closed volt-free signal, which can be supplied by several source types, for example, a smoke alarm, fire alarm, BMS.

When the smoke or fire curtain is fully retracted, our proprietary 24V DC tubular motor holds the curtain in its fire-ready position. The motor unit does not feature a physical brake to hold the curtain in its fire-ready position. This ensures that the curtain will always have gravity fail-safe descent in situations where power is removed e.g. wires or control panels are damaged etc. Adexon's motors and control panels include built-in technology that control the speed of descent at a rate between 0.03 - 0.3 m/s, on both power and gravity fail-safe.



How is the headbox accessed after installation



Product specification

Under BS EN 16034:2014, our Adexon-FC60EW & FC90EW fire curtains obtained a fire rating of up to 90 minutes (1 hours and 30 minutes) integrity (E) and a radiation rating (W) of up to 90 minutes (1 hours, and 30 minutes) when tested to BS EN 1634-1:2014. Therefore the Adexon-FC60EW & FC90EW products are classified as EW60 and EW90 respectively in accordance with the classifications of BS EN 13501 2:2007+A1:2009. The system can have smoke protection in accordance with BS EN 1634-3:2004.

Tenable area

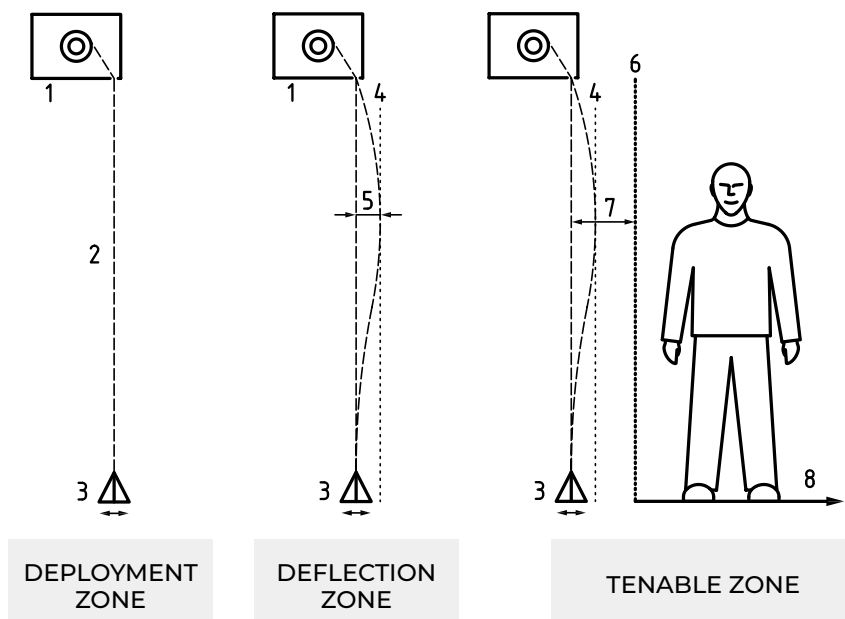
Protected escape routes must be of a minimum width to allow for safe emergency egress of the building occupants and must include space for the deployment zone, deflection zone and tenable zone. The size of your tenable area (deflection zone and tenable zone) will dictate the specification of the fire curtain that you must install to ensure sufficient protection.

Cycle test

The Adexon-FC60EW & FC90EW are cycle tested to class 1 (between 500 and 10,000 cycles) in accordance with BS EN 16034:2014.

Curtain fabric

Our fabric is manufactured from fibreglass strands woven between reinforcing stainless steel wires. The fabric is covered with an aluminium foil membrane that acts on both sides. This provides a high level of fire and thermal resistance tested to above 1000°C and the pressure and temperature associated with a fire.



Case study: 100 Bishopsgate

Built by the 100 Bishopsgate Partnership, a joint venture between Brookfield Office properties and Great Portland Estates, and designed by Allies and Morrison, who had previously worked together on City Place House, 55 Basinghall Street; 100 Bishopsgate sits in the eastern edge of London's financial district, a stone's throw from landmarks such as the Gherkin.

During this project, we installed 105 of our Adexon fire curtains including a number of the Adexon-FC60EW. As the building focuses on panoramic views and high-quality open concept office spaces, it was integral that we ensured that our products did not interfere with the aesthetics of the building but would still provide the necessary fire safety that would be expected.



Uniclass Specification

Adexon-FC60EW Vertical Fire Curtain (Integrity & Radiation)

Pr_25_80_79_94 Vertical active fire curtain barriers (Adexon Vertical FC60EW or FC90EW)

1. Description: A vertically-operating fire curtain barrier with in-built integrity (E) and radiation (W) ratings. This limits and controls the spread of fire (e) while also reducing radiation emission to less than 15 kW/m².K at a distance of 1m from the fabric (W), with a maximum classification of 60 or 90 minutes.
2. Manufacturer:
Adexon Fire & Smoke
Prospect House
Huyton Church Road
Liverpool L36 5SH

t: 0151 422 9111
e: admin@adexon-uk.com
w: www.adexon-uk.com
3. Product Reference: Adexon-FC60EW or FC90EW Vertical Fire Curtain (Integrity & Radiation)
4. Operation: Automatic, using 24V DC tubular motors, controlled by an electronic control board. Standard single curtains require dedicated 230V AC, in a 6-amp fuse spur.
5. Standards:
 - 5.1. Barrier assemblies: CE Marked to BS EN 16034
 - 5.2. Test standards: Safety & performance to BS EN 16034, Fire resistance to BS EN 1634-1, in accordance with BS EN 13501-2, Smoke control to BS EN 1634-3
6. Third-party certification: Applus+ Certificate 0370-CPR-6418
7. Size: Curtain max. dimensions - 12 x 4.5m or 7 x 8m (width x height)

Determine project requirements on a curtain-by-curtain basis through detailed design and scheduling. Refer to drawings for locations
8. Performance:
 - 8.1. Durability class: C1
 - 8.3. Fire resistance: EW60 or EW90
10. Deployment: Determine requirements on a curtain-by-curtain basis
11. Activation: As advised by the Client's Designers, may vary on a location-by-location basis
12. Finish: All headbox and rail components shall be made from galvanised steel as standard. Powder coating available (C1-5) to RAL colour to be advised by the Client's Architect.
13. Accessories: Determine requirements on a curtain-by-curtain basis

ADEXON®

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