ADEXON®

Adexon-FC60EW & FC90EW
Technical Information

2022

ADEXON®

High-Performance Fire and Smoke Curtains

ADEXON-FC60EW & FC90EW, OUR MULTI-PURPOSE FIRE CURTAIN

DESCRIPTION

The Adexon-FC60EW & FC90EW is our multi-purpose fire curtain offering integrity (E) and radiation (W) performance. Designed to limit and control the spread of fire for up to 90 minutes at over 1000°C, and also reduces the radiation of heat from one side of the curtain to the other for up to 90 minutes. Smoke sealing is also available to limit and control the spread of smoke created by a fire.

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.

The uninterrupted power supply is provided by two batteries that last up to 1 hour. This can be increased to 6 hours on request.

Our standard lead time is between 6 to 10 weeks from approval of drawings.

Optional extras such as Emergency Release Buttons and Obstruction Warning are available upon request.

APPLICATIONS

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

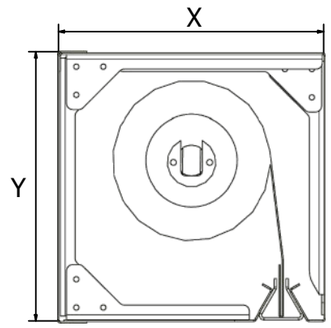
- Compartmentalising spaces
- Providing boundary protection
- Protecting atrium and other openings in ceilings and floors
- Covering doorways
- Covering serving hatches
- Covering non-fire-rated glass doors and glazing
- Covering commercial shop fronts
- Replacing fire-rated non-load bearing walls (e.g. plasterboard)
- Protecting escape routes

HEAD BOX 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.

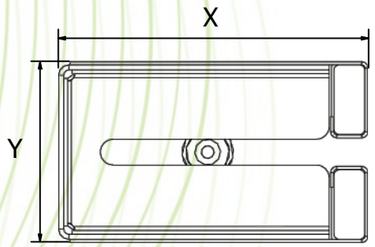


Performance Rating	Fire Curtain Width	Fire Curtain Height	Headbox Dims	
			X	Y
EW 60 & 90	12,000mm	3,500mm	220mm	220mm
EW 60 & 90	4,000mm	7,000mm	240mm	260mm
EW 60 & 90	12,000mm	6,000mm	240mm	260mm
EW 60 & 90	12,000mm	8,000mm	260mm	300mm

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

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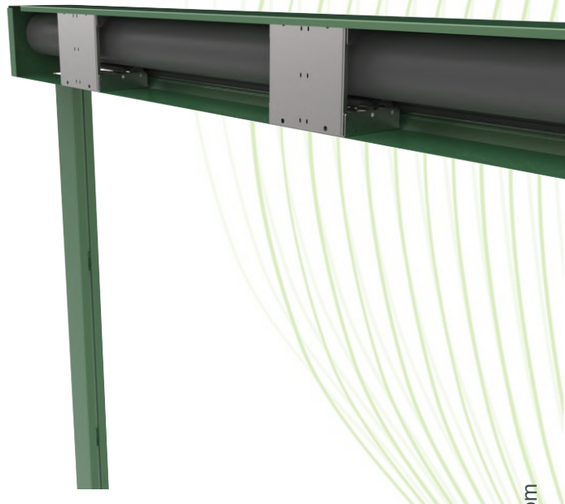
HEAD BOX WIDTH

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 up to a rating of EW90 and for the sizes shown in the table below.

Width

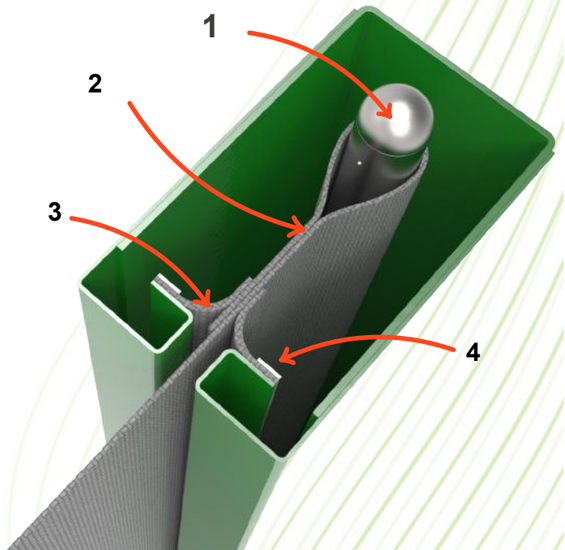
Height \ Width	2.5	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5	6.9	7.3	7.7	8.1	8.5	8.9
2.5	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2.7	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
2.9	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
3.1	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
3.3	■	■	■	■	■	■	■	■	■	■	■	■	■				
3.5	■	■	■	■	■	■	■	■	■	■	■	■					
3.7	■	■	■	■	■	■	■	■	■	■	■						
3.9	■	■	■	■	■	■	■	■	■	■							
4.1	■	■	■	■	■	■	■	■	■								
4.3	■	■	■	■	■	■	■	■									
4.5	■	■	■	■	■	■	■										
4.7	■	■	■	■	■	■											
4.9	■	■	■	■	■												
5.1	■	■	■	■													
5.3	■	■	■														
5.5	■	■															
5.7	■																

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 any circumstances.

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. Fireproof fabric - Tested to over 1000°C
3. Fireproof fabric - Tested to over 1000°C
4. Steel Retainer & Rivets - Melting Point 1370°C - 1530°C



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FIXING TYPES

FACE FIXED

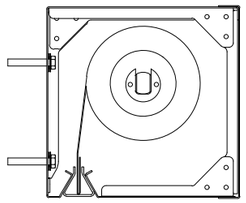
Face fixing is commonly used to install fire curtains around doorways. With this fixing method, you do not lose any of your opening.

This fixing type achieves a rating of EW90.

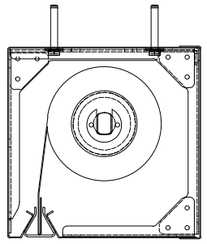
REVEAL FIXED

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.

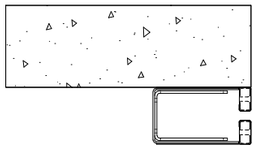
This fixing type achieves a rating of EW60.



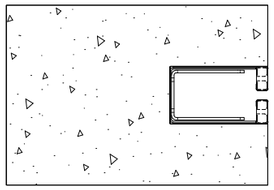
FACE FIXED - EW 90



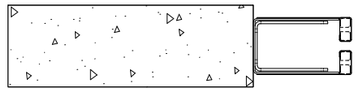
REVEAL FIXED - EW60



FACE FIXED - EW90



EMBEDDED - EW60



REVEAL FIXED - EW60

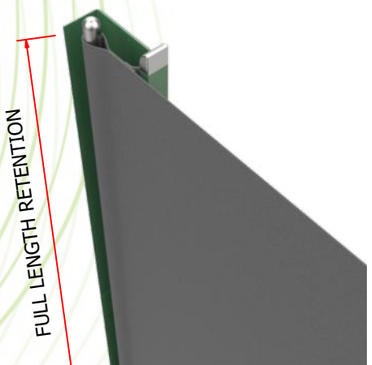
FABRIC RETENTION

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 that is commonly used by others on the market.

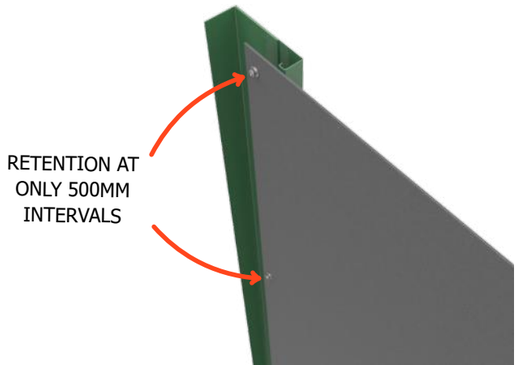
This ensures the curtain will never;

- snag and fail to descend,
- be blown out of the guides because of high pressure.

ADEXON GUIDE



STANDARD GUIDE



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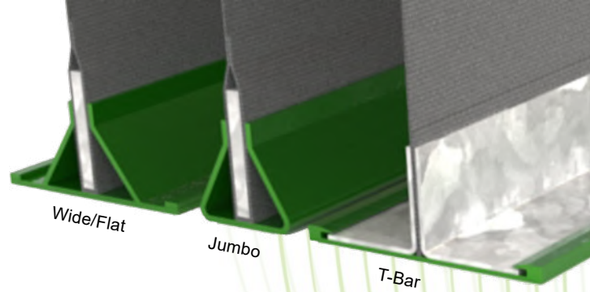
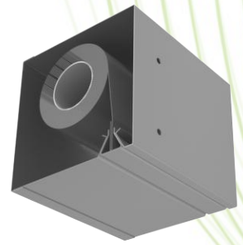
BOTTOM BAR TYPES



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.

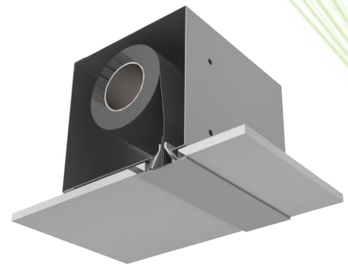
Notes - Variations of the standard bar are also available that are suitable for installations on angled surfaces like ramps.



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.



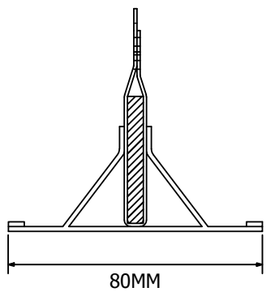
T-BAR

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

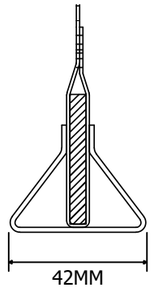
Notes - Additional support is required for the ceiling, where the bottom bar contacts the ceiling to withstand the force applied by the bottom bar.

BOTTOM BAR SIZES

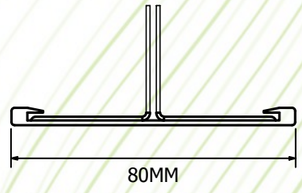
WIDE/FLAT



STANDARD



T-BAR



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SITE WIRING

The Adexon control panel and motor controllers can be used to wire multiple curtains together.

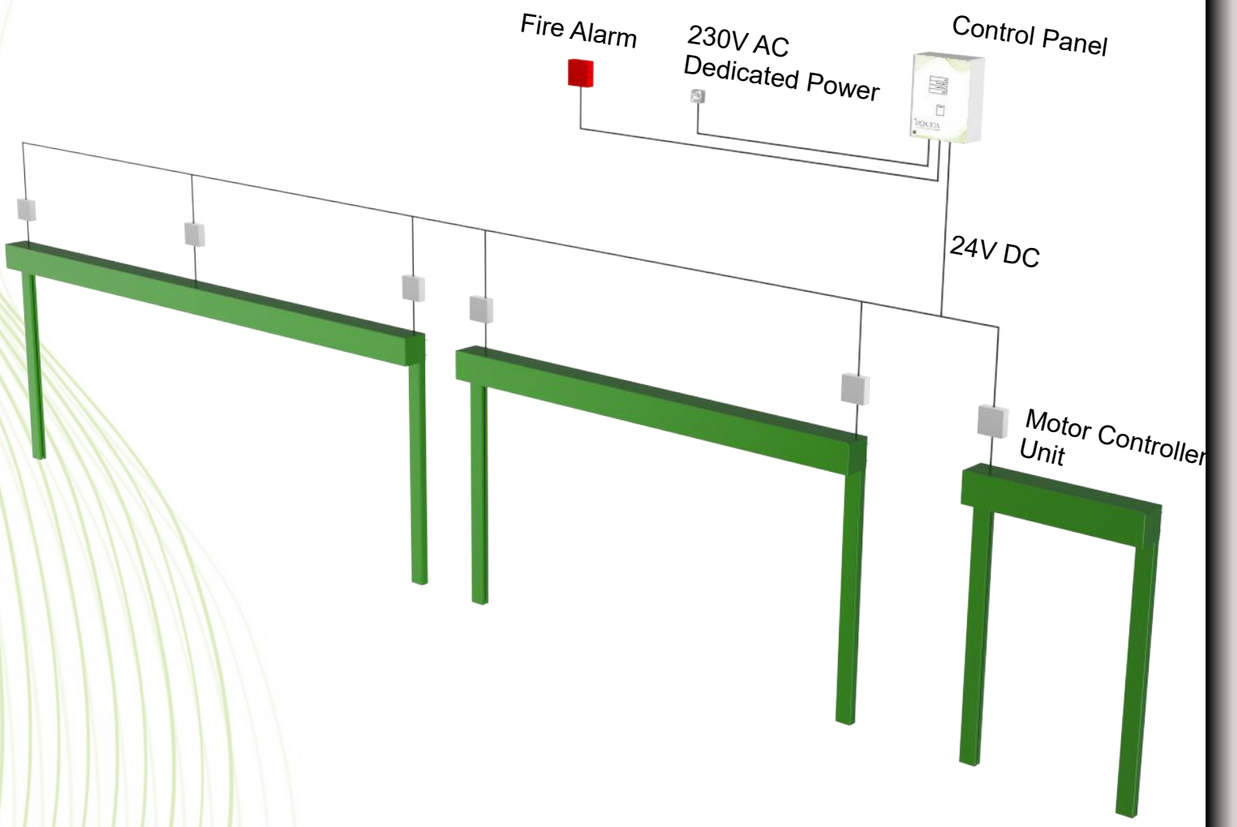
Standard single curtains require 230V AC, in a 6-amp fused spur. If multiple curtains are controlled by one control panel, the power supply required varies.

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.



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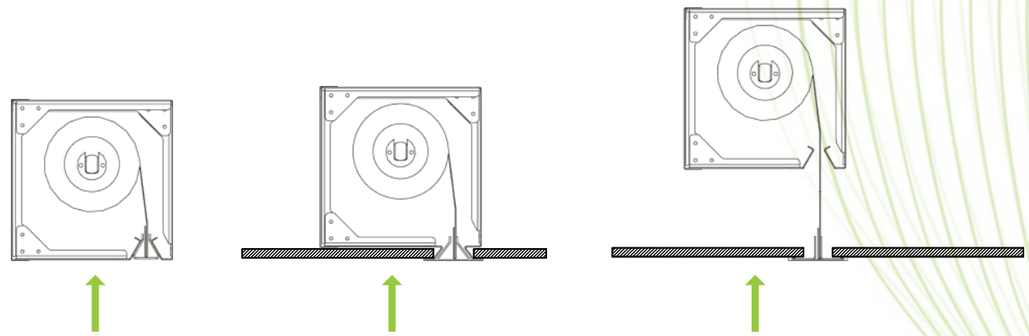
HOW IS THE HEADBOX ACCESSED AFTER INSTALLATION



Remove Headbox Section

Destructive Access or Access Hatch

Destructive Access or Access Hatch

PRODUCT SPECIFICATION

Under 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 is classified as EW60 and EW90 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.

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.

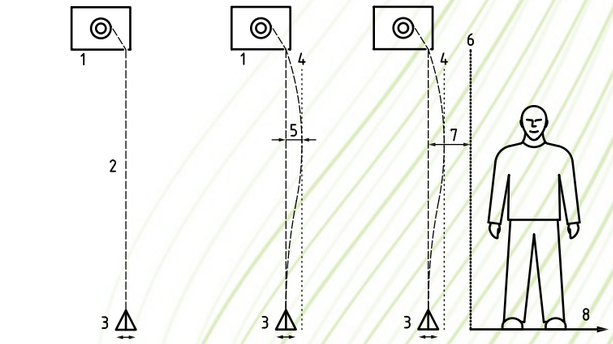
CURTAIN FABRIC

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.

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.



a) Deployment zone b) Deflection zone c) Tenable zone

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