mercor®

smoke curtains

mcr
PROSMOKE

We provide safety

NATURAL SMOKE EXHAUST SYSTEM

In case of fire in a building, the most important thing is to carry out immediate evacuation and fire-fighting action. Its purpose is to eliminate smoke and fire gases that are extremely hazardous to human health, to lower the temperature in the building and to limit fire spreading. This is possible only with an efficient natural smoke extraction system.

The separated smoke zones stop the spread of smoke in passageways, staircases and stairs as well as contain the smoke in a room adjacent to the evacuation route. Proper placement of smoke curtains in a building makes it possible to direct the smoke towards other elements of the system, i.e. smoke vents.

One of the key elements of this system are **mcr PROSMOKE** smoke curtains, using which smoke zones are separated in the facility. Depending on the place of installation and type of object, you can choose one of the products of the company Mercor Light&Vent sp. z o.o.:

» automatic rolling curtains
  mcr PROSMOKE CE & FS

» fixed fabric curtains
  mcr PROSMOKE S

» or fixed steel sheet curtains
  mcr PROSMOKE ST

» automatic rolling
  continuous casing curtains
 **mcr PROSMOKE ONE**

Mercor Light&Vent's mission is to deliver safety to building users by providing them with comprehensive fire protection. For over 35 years, we have been offering our business partners, at every stage of the investment process, products and services they can always trust. As a leader of modern technologies in the fire protection industry, we introduce new solutions that are ahead of the norm, and are additionally characterized by high quality and aesthetic workmanship.
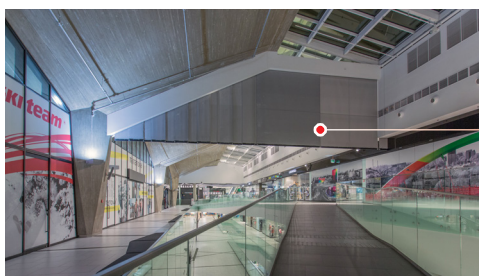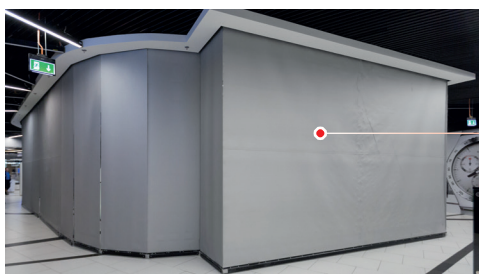
smoke curtains

mcr PROSMOKE

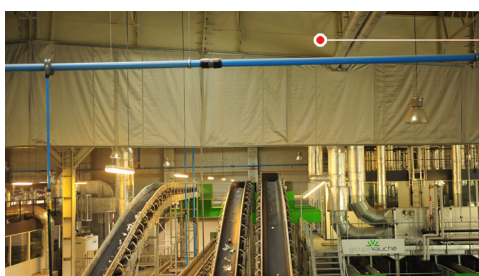## mcr PROSMOKE SMOKE CURTAINS IN VARIOUS TYPES OF ROOMS

passageways:
single curtain
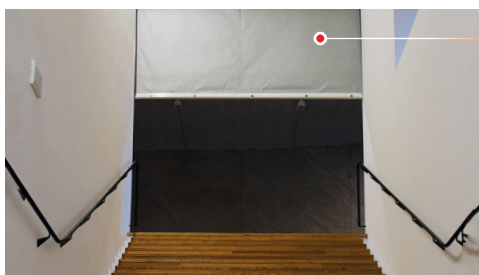
stairs in passageways:
single curtain

passageways:
modular curtain
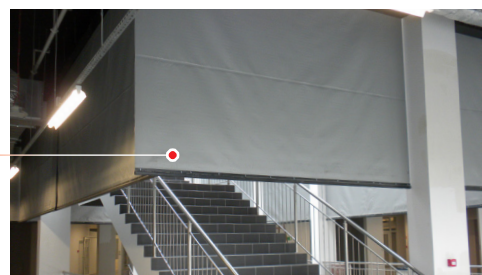
multiply curtains
in a long continuous casing

separated area:
non-standard shape of the curtain
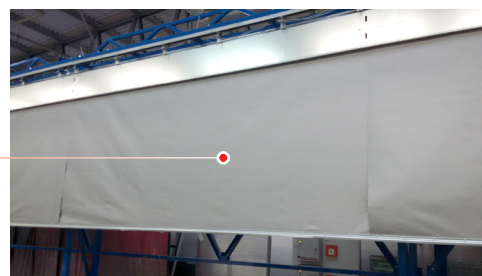with corner connections

fixed curtains
with installation passages

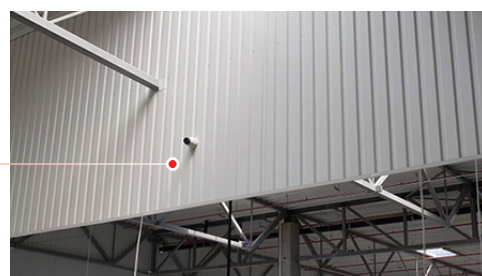warehouse, production
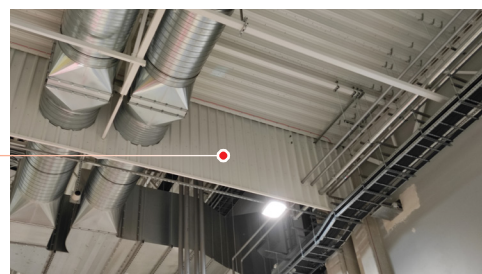and commercial areas:
fixed fabric curtains

warehouse, production and
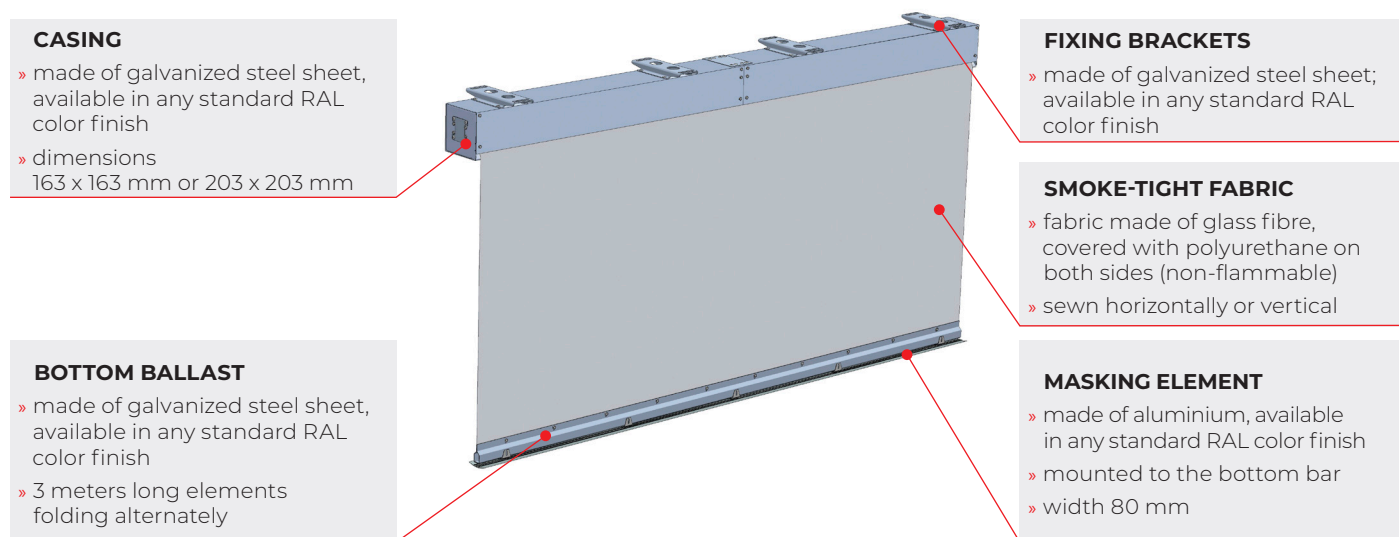commercial areas: fixed steel
curtains with installation passages

AUTOMATIC SMOKE CURTAINS mcr PROSMOKE CE/FS

mcr PROSMOKE CE or mcr PROSMOKE FS automatic smoke curtains serve the following purposes:

» separating smoke zones under-roofs and ceilings

» stopping smoke from spreading in passageways or staircases

» preventing smoke escaping from small shops at the evacuation route level

» limiting smoke from spreading in vertical evacuation routes, such as stairs or escalators

Automatic curtains are used mainly in buildings where aesthetic qualities are of importance, e.g. shopping malls, exhibition and trade halls. The desired effect is achieved by making the curtain blend with the ceiling in the standby position.

STRUCTURE OF mcr PROSMOKE CE/FS CURTAIN

CASING

» made of galvanized steel sheet, available in any standard RAL color finish

» dimensions 163 x 163 mm or 203 x 203 mm

FIXING BRACKETS

» made of galvanized steel sheet; available in any standard RAL color finish

SMOKE-TIGHT FABRIC

» fabric made of glass fibre, covered with polyurethane on both sides (non-flammable)

» sewn horizontally or vertical

BOTTOM BALLAST

» made of galvanized steel sheet, available in any standard RAL color finish

» 3 meters long elements folding alternately

MASKING ELEMENT

» made of aluminium, available in any standard RAL color finish

» mounted to the bottom bar

» width 80 mm

mcr PROSMOKE CE/FS CURTAIN PARAMETERS

Parameter	mcr PROSMOKE CE	mcr PROSMOKE FS
curtain descent	motor	gravity fail-safe
maximum number of modules	5 (**) / 10 (***) pcs.	12 pcs.
minimum module width	0.8 m	2.0 m
curtain height range	0.5 m ÷ 6.5 m	0.5 m ÷ 6.5 m
maximum 24 V-power consumption	6.3 A	0.25 A
fire classification	D30, D60, DH30, DH60	D30, D60, D180
angle connections	yes	yes
mass	~ 21 kg/mb	~ 21 kg/mb

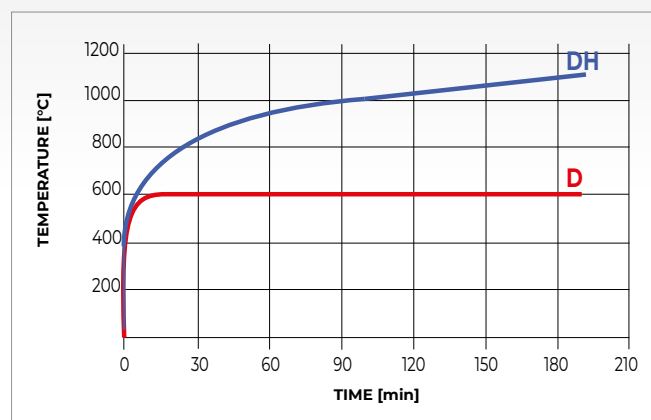(**) with extension module mcr R0424   (***) with extension module mcr R0448

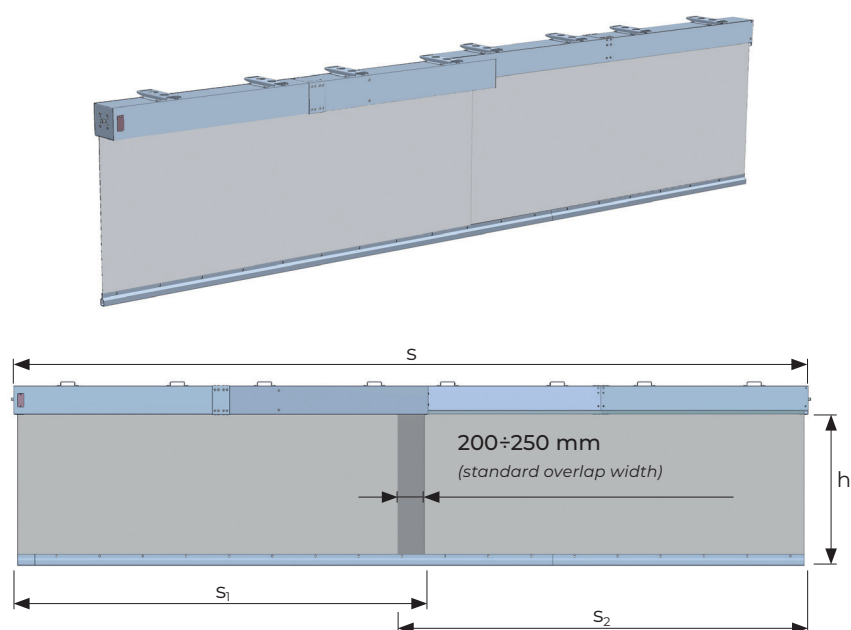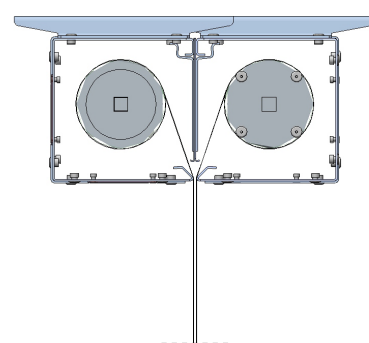Diagram of temperature curve (D) and standard heating curve (DH)

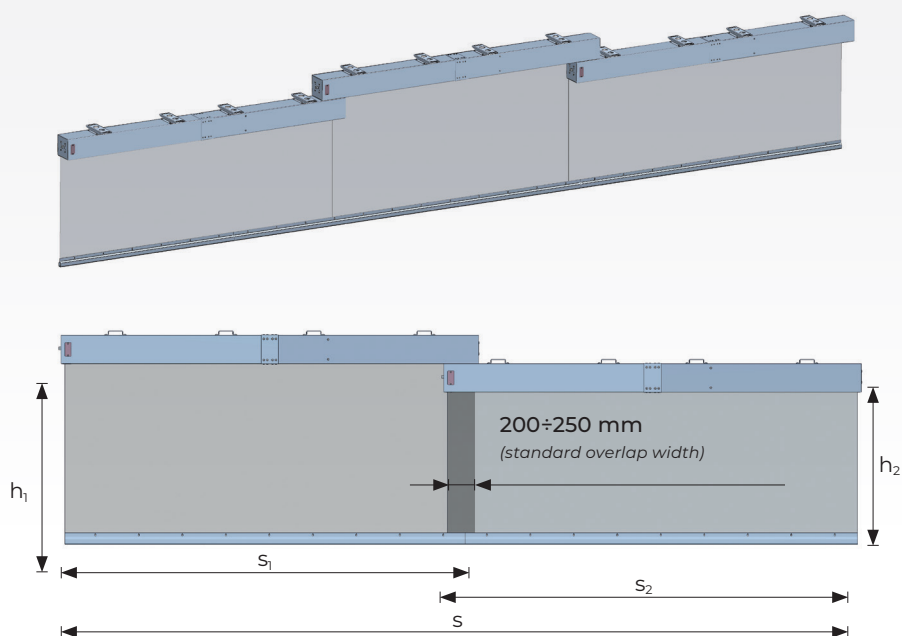## CONSTRUCTION OF THE mcr PROSMOKE CE/FS CURTAIN OVERLAPPING ASSEMBLY
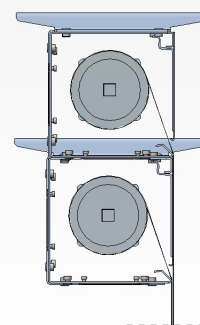
s

200÷250 mm
(standard overlap width)

h

S₁

S₂

Fig. 1 Modular smoke curtain with horizontal head boxes position

Fig. 2 Position of modular curtain head boxes in horizontal position

200÷250 mm
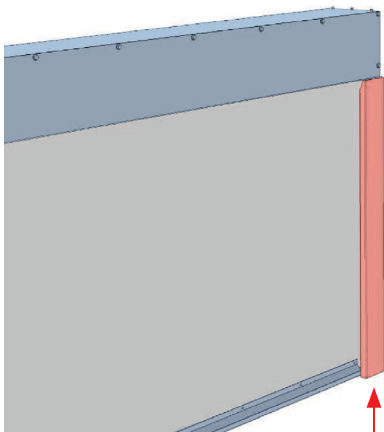*(standard overlap width)*

h₁

h₂

S₁

S₂

s

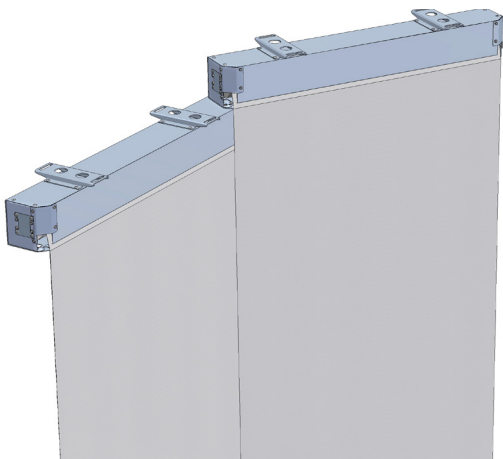**Fig. 3** Modular smoke curtain with vertical head boxes position

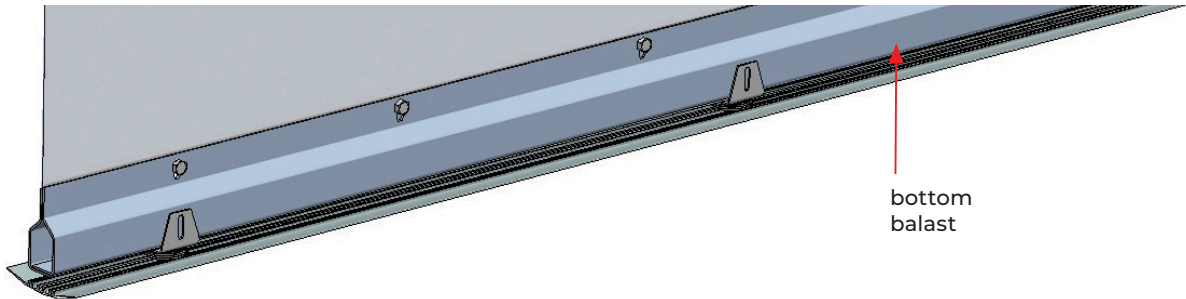**Fig. 4** Position of modular curtain head boxes in vertical position
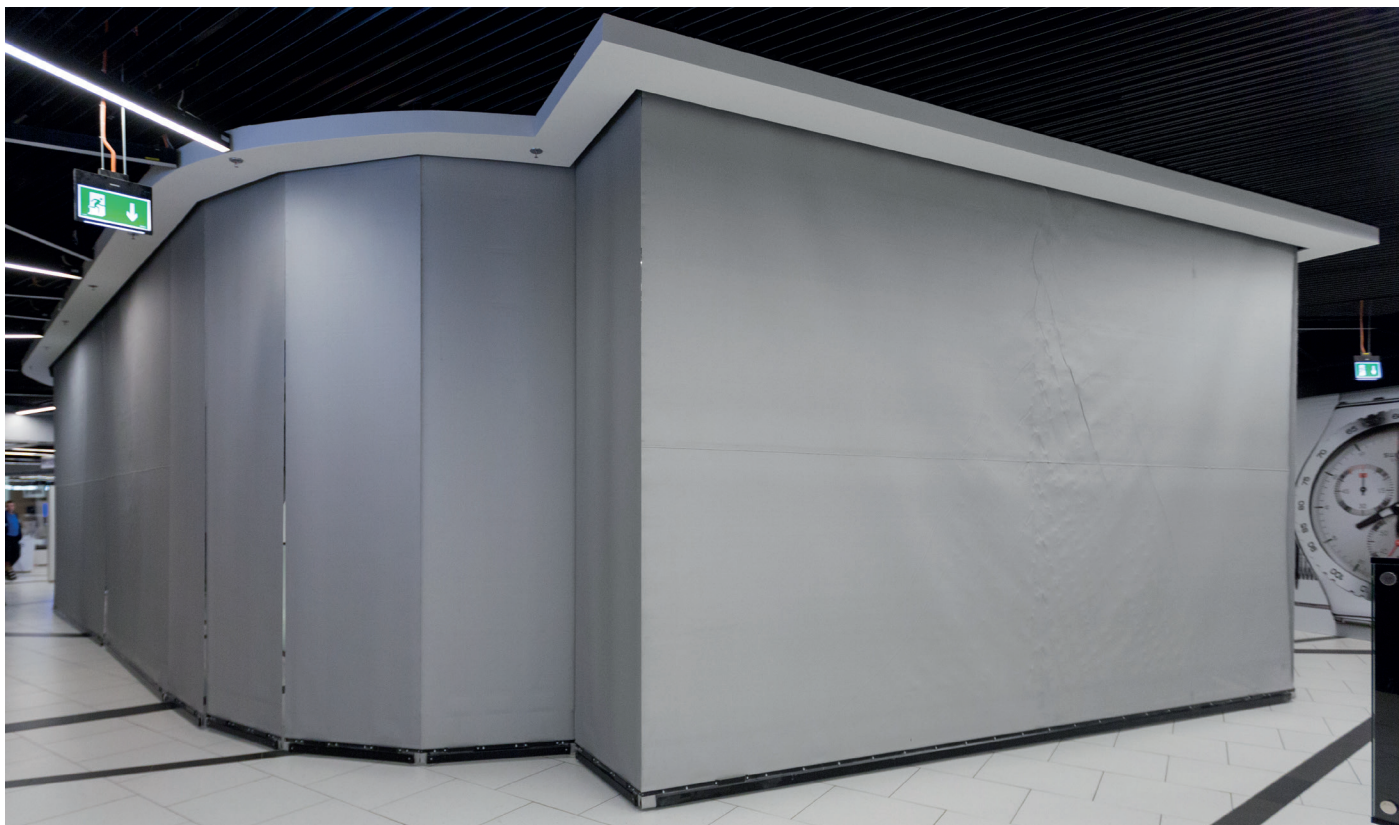
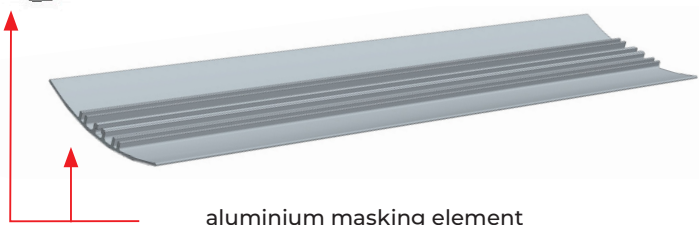## AVAILABLE OPTIONS FOR AUTOMATIC ROLLING SMOKE CURTAINS mcr PROSMOKE CE/FS

guide

curtains with corner connection

bottom balast

aluminium masking element

INSTALLATION OF AUTOMATIC SMOKE CURTAINS mcr PROSMOKE CE AND FS

mcr PROSMOKE CE and **FS** automatic smoke curtains are mounted using brackets and additional mounting rods directly to elements made of reinforced concrete (ceilings, beams, lintels) or to steel elements of the load-bearing structure of the building. While designing the structure, remember to consider the weight of the smoke curtains together with additional equipment and fixing parts.

High temperature resistance classification

| Casing dimensions	Curtain type – classification
163 x 163 mm	mcr PROSMOKE FS – **D30÷D180**
	mcr PROSMOKE CE – **D30, DH30**
203 x 203 mm	mcr PROSMOKE CE – **D60, DH60**
	modules with emergency exit

Installation of automatic smoke curtains should be carried out in accordance with the construction design. It is important not to exceed the permissible gaps specified in EN 12101-1 standard during the installation.

IMPORTANT: In case of suspended ceilings, inspection openings for maintenance purposes should be provided at the design stage.
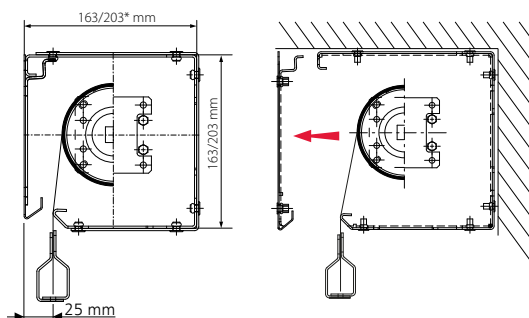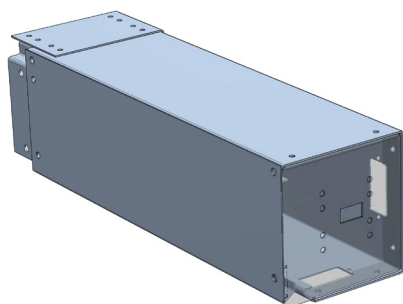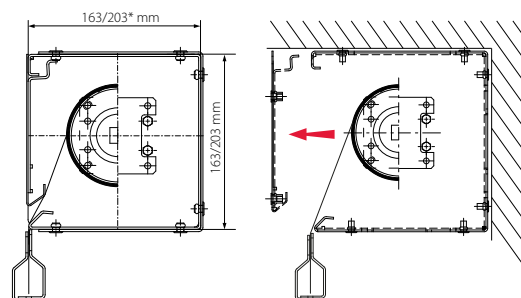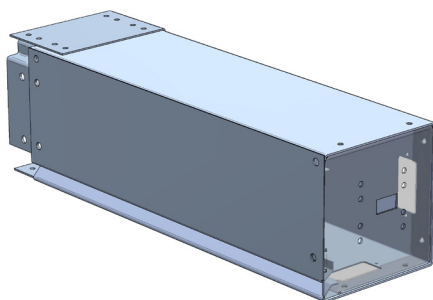

C CASING

the curtain unfolds 2.5 cm from the head box edge
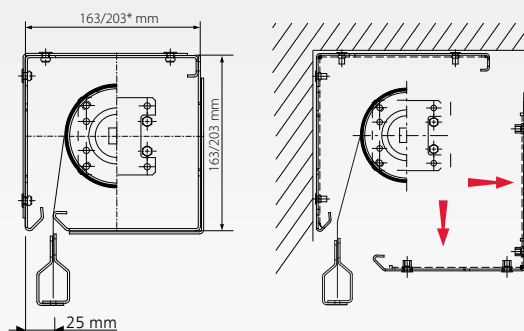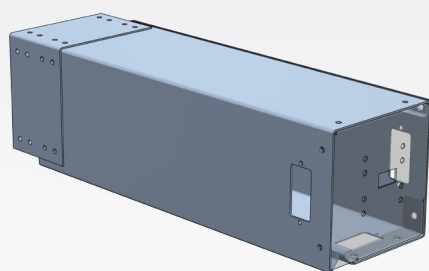
L CASING

the curtain unfolds 2.5 cm from the head box edge, which makes it possible to install the curtain directly on the wall

K CASING**

the curtain unfolds directly at the head box edges
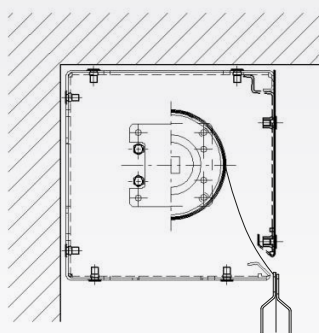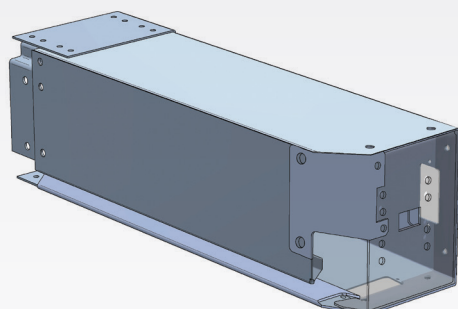
K-T CASING**

the curtain unfolds directly at the head box edges, while having corner connection

(*) 203 x 203 mm, casing dimensions in case of: FS type when D60 / CE type when D60, DH60
(**) K-casing is also available in K-T option and is designed for curtains with corner connections

INSTALLATION OF mcr PROSMOKE CE/FS AUTOMATIC SMOKE CURTAINS

Automatic curtains can be installed under ceilings using various types of mounting brackets. By choosing the proper set of casings and brackets, you can ins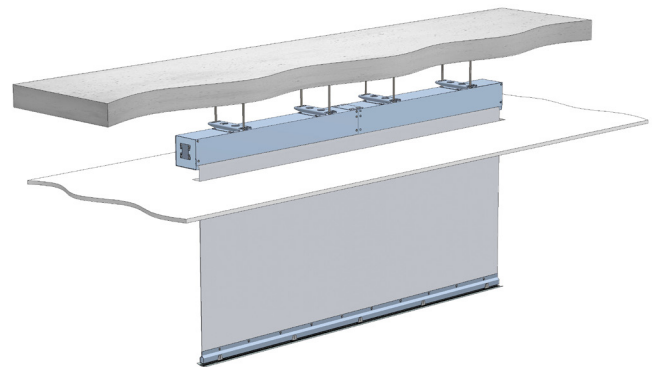tall our curtains almost anywhere. Thanks to their design and the possibility to use a levelling bottom trim, curtains in standby mode can perfectly blend with the ceiling, improving the visual aspect of the installation.

METHODS OF INSTALLATION OF AUTOMATIC SMOKE CURTAINS mcr PROSMOKE CE/FS

Automatic curtains are mounted to the ceiling or other load-bearing structure using brackets available in the following variants:
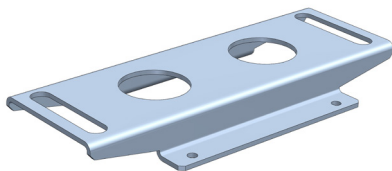
wide bracket	narrow bracket	flat bracket
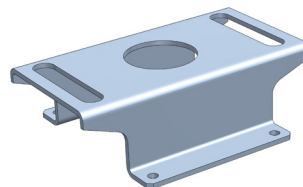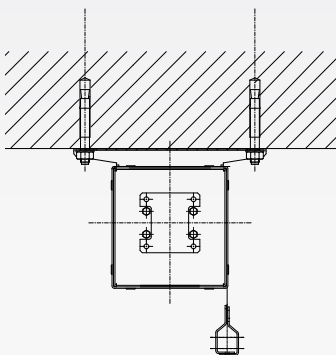
The brackets are attached to the structure through slings in the form of a threaded steel rod with a set of nuts or mounting anchors.

Thanks to the solutions used by Mercor Light&Vent sp. z o.o., automatic mcr PROSMOKE curtains can be mounted to:

lintel	lintel and ceiling	ceiling	steel structure
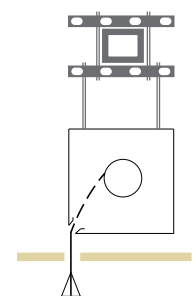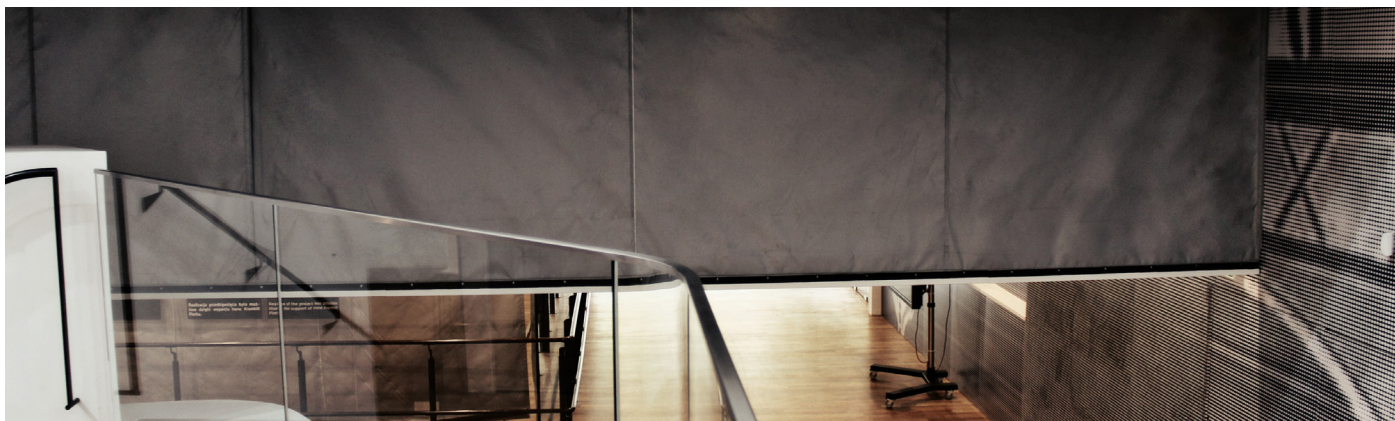
mcr PROSMOKE S FIXED SMOKE CURTAINS

mcr PROSMOKE FIXED FABRIC CURTAINS

mcr PROSMOKE S fixed fabric curtains are an indispensable part of a natural smoke exhaust system, responsible for the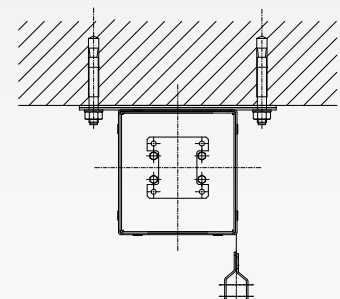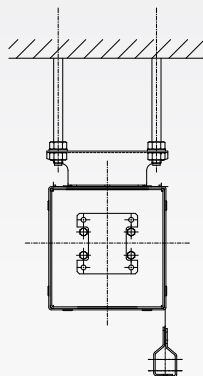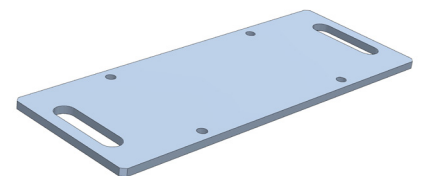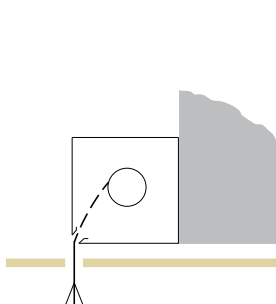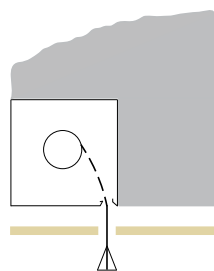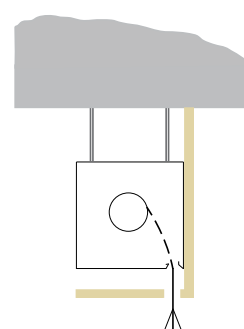 separation of smoke zones under the ceiling. They are mainly used in large-area facilities, such as warehouses, production halls or sports and supermarkets. In such buildings, it is im-portant to install light weight curtains with large dimensions and guaranteed resistance to high temperatures.

With system mounting solutions, fixed fabric curtains are easy to install and their finishing ensures an aesthetic look.

STRUCTURE OF mcr PROSMOKE S FIXED CURTAIN

LOAD-BEARING PROFILE
» with L-shaped or flat bars made of galvanized or a painted steel sheet

PRESS STRIP
» made of a galvanized or painted steel sheet

BOTTOM BALLAST
» a steel profile up to 6 m long

SMOKE-TIGHT FABRIC
» material made of high grade fibre glass, coated with polyurethane on both sides (non-flammable)
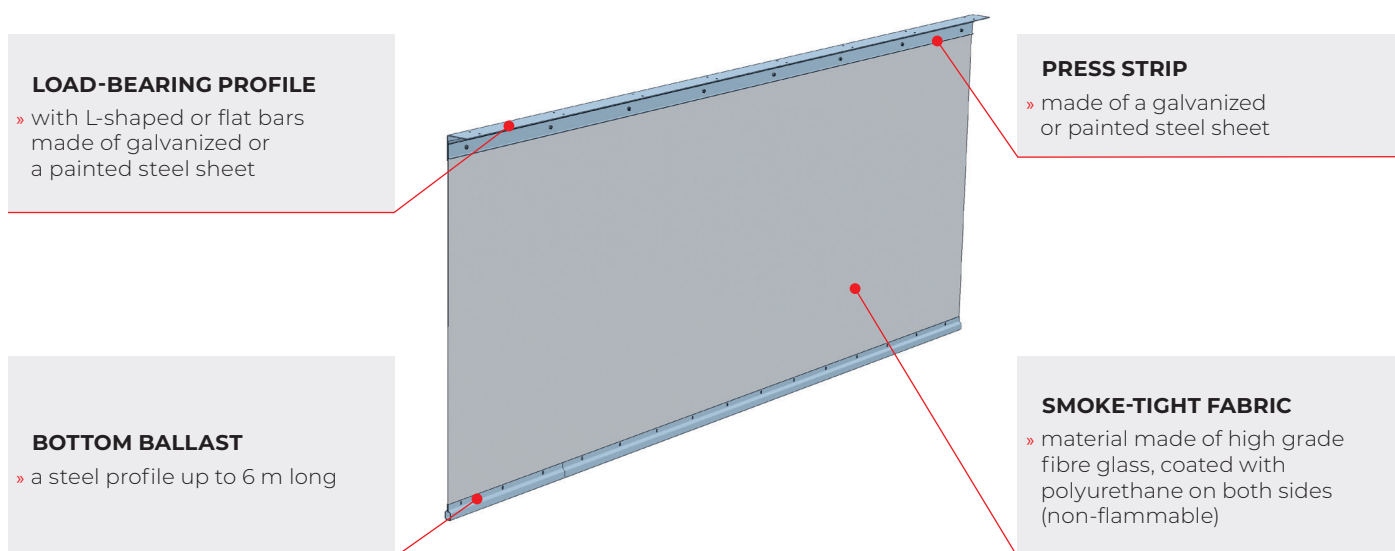
PARAMETERS OF mcr PROSMOKE S CURTAIN

length	no limits
height	min. 0.5 m max. 6.5 m
curtain type	SSB
resistance to high temperatures	**D180, DH60**
max. material permeability	≤ 9,4 m³/h*m²
curtain's mass	~10 kg/m²

INSTALLATION OF mcr PROSMOKE S FIXED SMOKE CURTAINS

mcr PROSMOKE S fixed fabric curtain is mounted to the structure of the building (lintel, ceiling, wall, steel beam) using metal connectors (anchors, rods, screws) placed on the load-bearing part of the curtain at a maximum of **1 m** intervals.
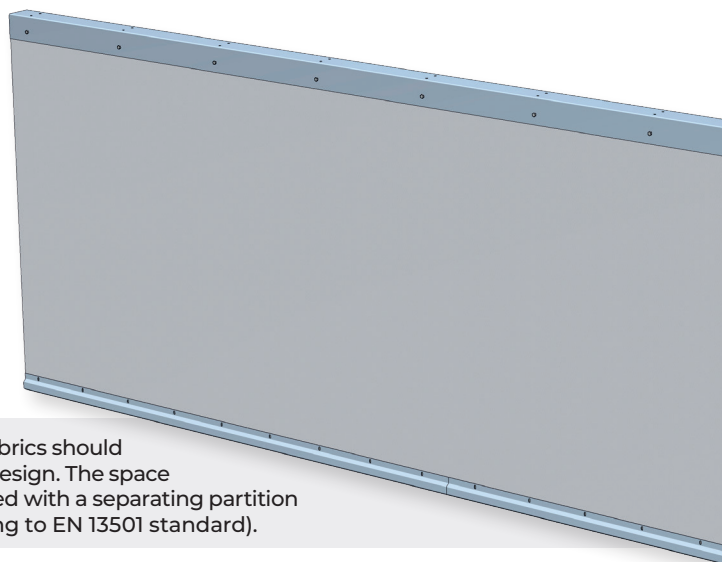
Installation of fixed curtains made of smoke-proof fabrics should be carried out in accordance with the construction design. The space between the ceiling and the curtain should be blinded with a separating partition made of A1-class non-flammable material (according to EN 13501 standard).

METHOD OF MOUNTING A FIXED FABRIC CURTAIN

LOAD-BEARING PROFILE OF THE CURTAIN

PRESS STRIP

mounting on a lintel

mounting under a lintel

mounting on a beam using a vice

fixing the bottom part of the curtain with a tensioning rope
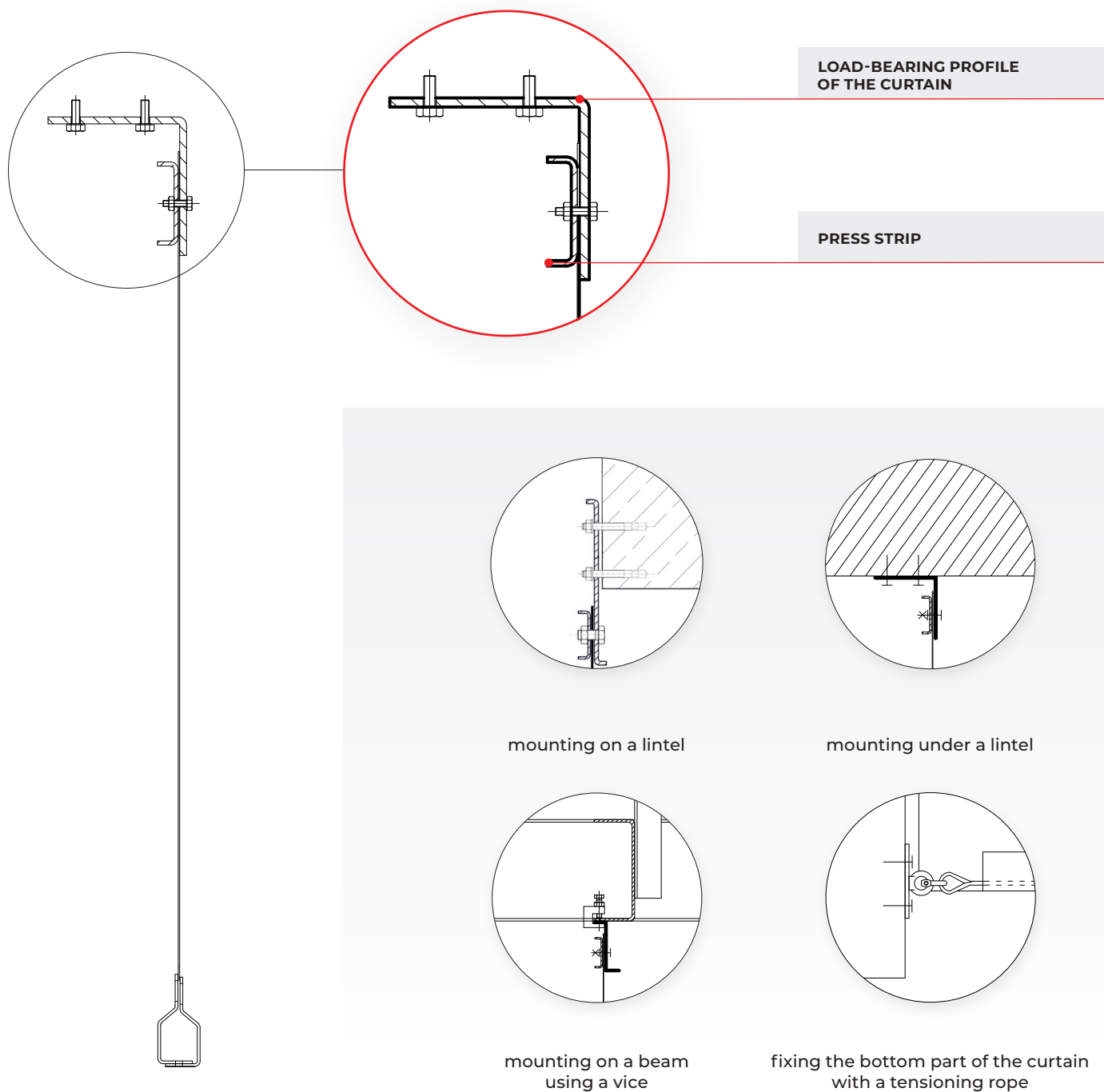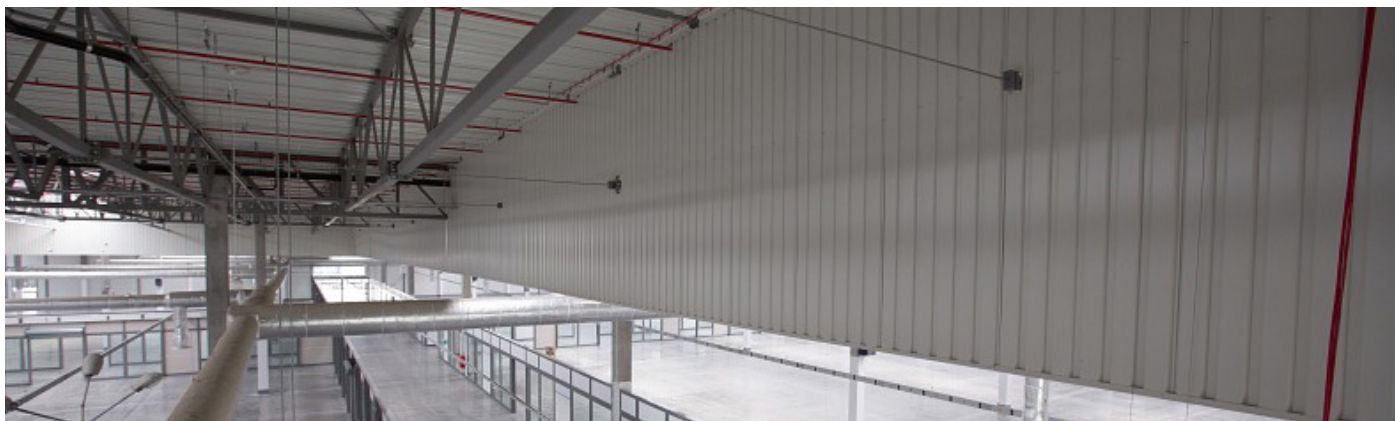
mcr PROSMOKE ST FIXED SMOKE CURTAINS

mcr PROSMOKE ST FIXED STEEL CURTAINS

mcr PROSMOKE ST fixed smoke curtains made of steel sheet are used in natural smoke extraction systems to separate smoke zones in large rooms, such as production or ware-house halls. They are perfect solutions for places where there are no limitations with regard to the permissible load on the load-bearing structure of the building.

The curtains are made of trapezoidal steel sheets that can be painted in any RAL color, making it blend perfectly with the housing of the hall, usually made of steel sheet as well.

Steel sheet curtains have to be a certified compliant with EN 12101-1 standard in order to be used as smoke curtains.

STRUCTURE OF mcr PROSMOKE ST CURTAIN

LOAD-BEARING ELEMENT
» with L-shaped or flat bars made of galvanized or painted steel sheets

TRAPEZOID STEEL SHEET
» 0.5 mm thick TR35 metal sheet, galvanized or Al-Zn coated or polyester paint coated

REINFORCING PARTS
» made of painted or galvanized square steel pipes

LEVELLING BOTTOM TRIM
» made of galvanized or painted steel sheet

REINFORCEMENT PROFILE
» L-shaped, made of galvanized or painted steel sheet

PARAMETERS OF mcr PROSMOKE ST CURTAIN

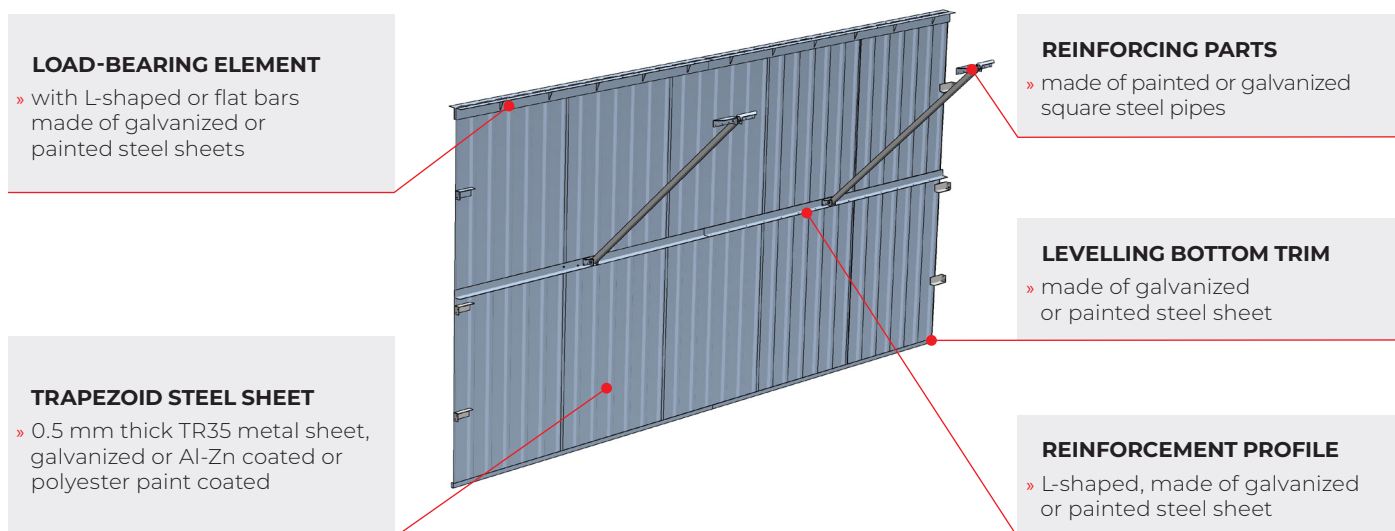|	
length	no limits
height	min. 0.5 m max. 4.5 m
curtain type	SSB
resistance to high temperatures	**DH120**
max. material permeability	impermeable
curtain's mass	~ 7 kg/m²

INSTALLATION OF mcr PROSMOKE ST FIXED SMOKE CURTAINS

mcr PROSMOKE ST fixed steel curtains are mounted under-roofs (ceilings) using mounting parts placed along the upper edge of the curtain.

Steel curtains should be mounted to elements of the building structure (lintels, beams, girders) using proper steel connectors.
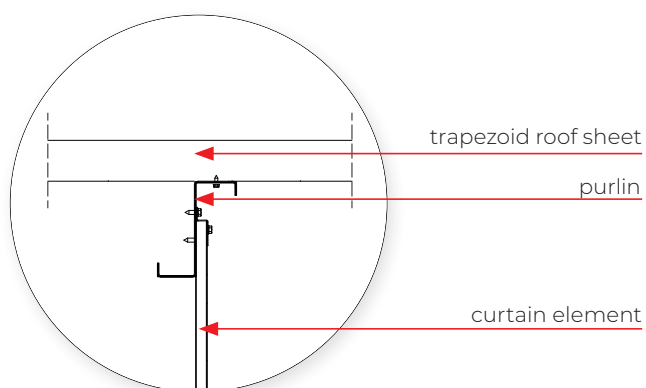
Fixed smoke curtains **mcr PROSMOKE ST** can be equipped with installation passages.
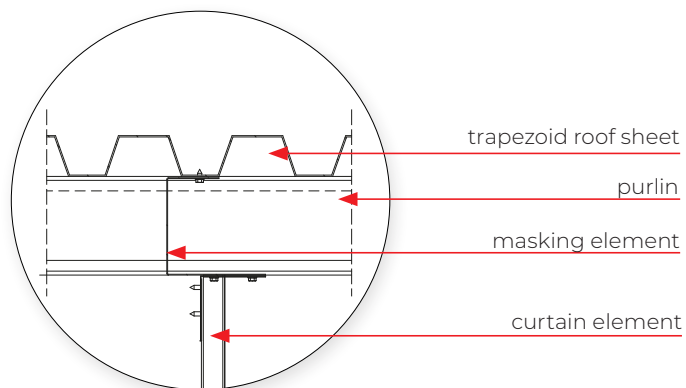
Installation of fixed smoke curtains made of steel sheet should be carried out in accordance with the construction project and the provisions of EN 12101-1 standard.

METHOD OF MOUNTING A FIXED STEEL CURTAIN

ST CURTAIN – MOUNTING ALONG THE PURLINS

trapezoid roof sheet

purlin

curtain element

ST CURTAIN – MOUNTING ACROSS TO THE PURLINS

trapezoid roof sheet

purlin

masking element

curtain element

STRUCTURE OF mcr PROSMOKE ST CURTAIN

While mounting steel curtains with the height of **h>2,5 m**, it is necessary to use additional reinforcing elements mounted to the building structure:

» a steel angle along the curtain at half of its height
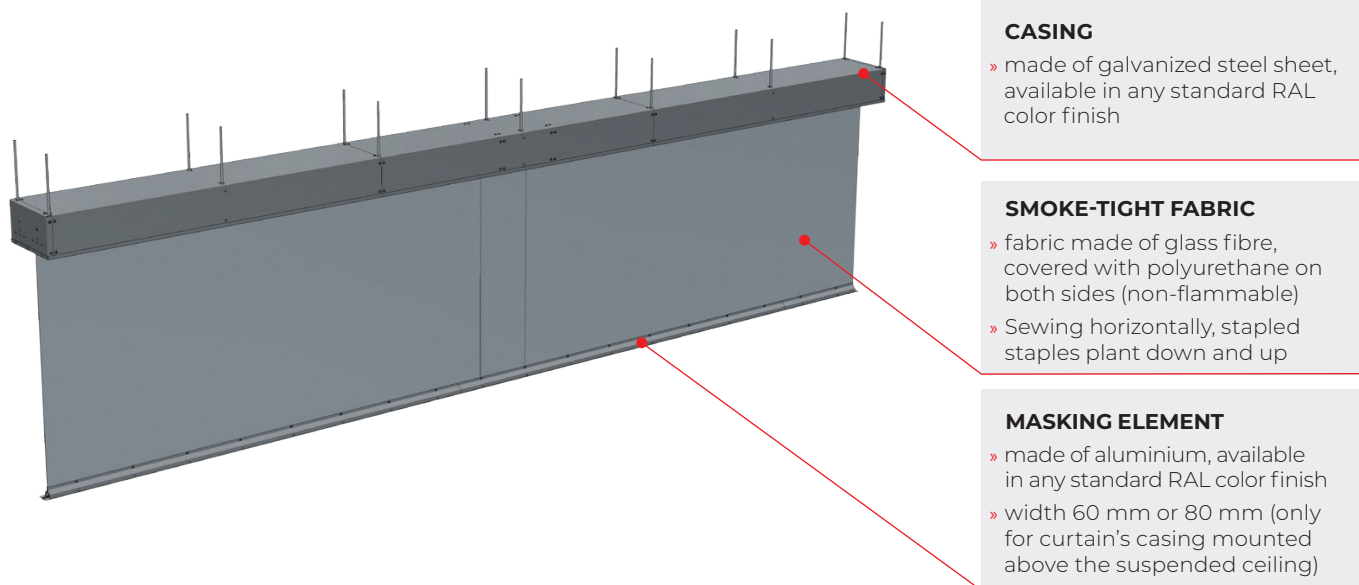» angle profiles made of square steel pipe placed at **3 m** intervals
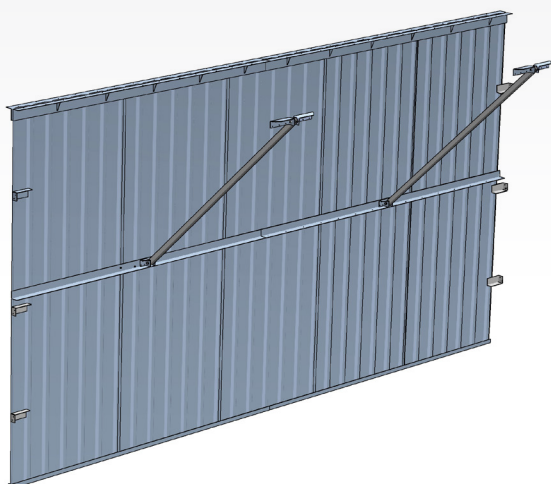
AUTOMATIC SMOKE CURTAINS mcr PROSMOKE ONE C/FS

mcr PROSMOKE ONE CONTINUOUS CASING CURTAINS

mcr PROSMOKE ONE automatic fabric curtains are an effective solution for smoke control systems, designed to limit the spread of smoke and create smoke compartments within a building. They are primarily used in facilities where both safety and architectural aesthetics are important, such as shopping malls, office buildings, or public facilities.

The system uses a single, continuous casing that allows multiple curtain segments to operate as one seamless unit. Unlike standard setups, where installing several adjacent curtains may create visible gaps, mcr PROSMOKE ONE ensures a smooth, gap-free line of protection.

STRUCTURE OF mcr PROSMOKE ONE CURTAIN

CASING
» made of galvanized steel sheet, available in any standard RAL color finish

SMOKE-TIGHT FABRIC
» fabric made of glass fibre, covered with polyurethane on both sides (non-flammable)
» Sewing horizontally, stapled staples plant down and up

MASKING ELEMENT
» made of aluminium, available in any standard RAL color finish
» width 60 mm or 80 mm (only for curtain's casing mounted above the suspended ceiling)

PARAMETERS OF mcr PROSMOKE ONE CURTAIN

|	
length	min. 0.8 m (C type) / 2 m (FS type) max. 5.4 m
height	min. 0.5 m max. 6.5 m
curtain type	ASB2, ASB4 (C type) / ASB1, ASB3 (FS type)
resistance to high temperatures	**D30, DH30 (C type) / D30, D180, DH30 (FS type)**
max. barrier permeability tested at ambient temperature	9.4 m³/h*m²

INSTALLATION OF mcr PROSMOKE ONE AUTOMATIC SMOKE CURTAINS

mcr PROSMOKE ONE atuomatic fabric curtain is mounted to the structure of the building (lintel, ceiling, steel beam) using treaded rods for ceiling mounting or with various types of mounting brackets.
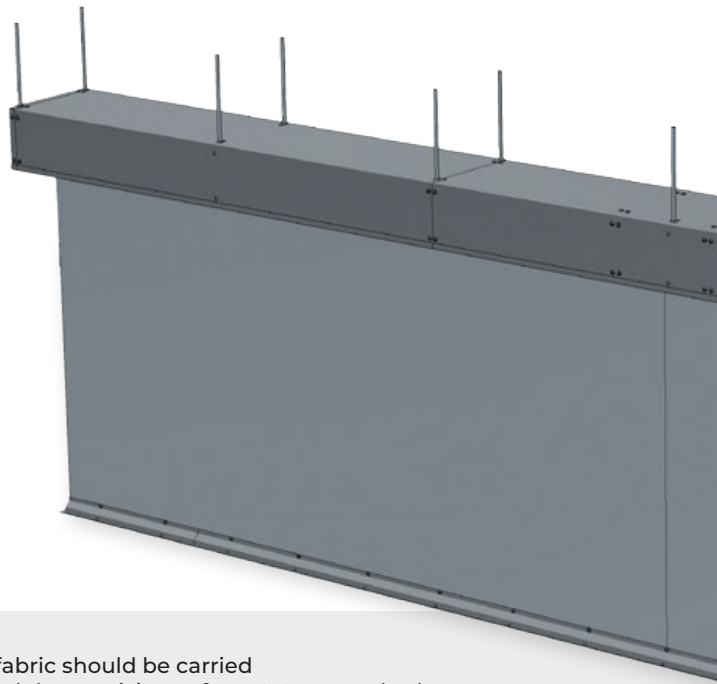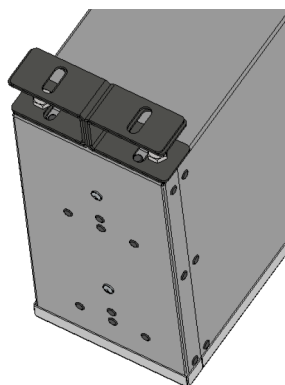
Installation of automatic smoke curtains made of fabric should be carried out in accordance with the construction project and the provisions of EN 12101-1 standard.

METHOD OF MOUNTING AN AUTOMATIC SMOKE CURTAIN
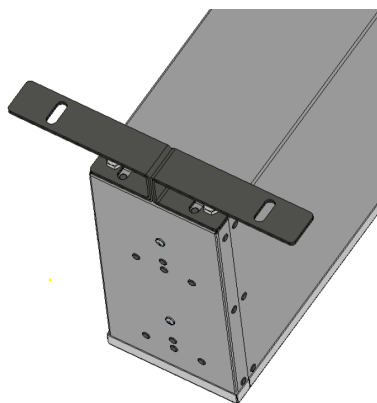
TYPE A
wide mounting brackets

TYPE B
short mounting brackets

TREADED RODS
(no mounting brackets)

TYPES OF mcr PROSMOKE ONE CURTAINS

ONE FS smoke curtain automatic – gravitational drop

» The drive system mounted inside the roller consists of a 230 V~ motor, a 24 V- brake that holds the fabric in the rolled-up position, and an additional brake that limits the descent speed.

ONE C smoke curtain automatic – extended by motor

» The drive system mounted inside the roller consists of a 24 V- motor with an electrically released brake.
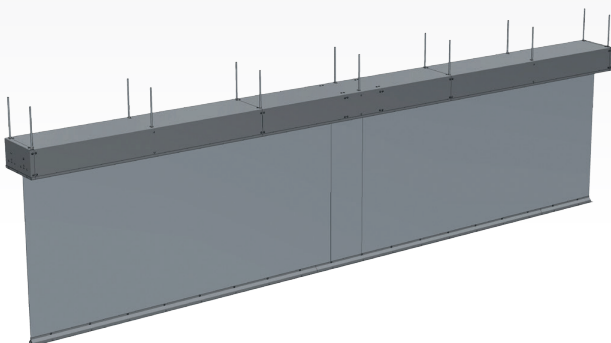
mercor®

Mercor Light&Vent sp. z o.o.
ul. Grzegorza z Sanoka 2
80-408 Gdańsk, Poland
tel. +48 58 341 42 45
export@mercor.com.pl

MERCOR UKRAINE SP. Z O.O.
Ukraine
www.mercor.com.ua
- Scheptyckich 26
- 79-016 Lviv
- +380 32 240 34 47
- +380 32 240 34 07
- info@mercor.com.ua

MERCOR FIRE PROTECTION SYSTEMS S.C. S.R.L.
Romania
www.mercor.ro
- Drum Centura Chitila:
- Mogosoaia, no 3, floor 4
- Oras Chitila, Ilfov RO-077045
- +40 371 324 182
- +40 372 877 070
- romania@mercor.com.pl

MERCOR TECRESA
Spain
Parque Tecnológico Legatec.
www.mercortecresa.com
- C/ Margarita Salas n° 6
- 28919 Leganés (Madrid)
- +34 91 428 22 60
- +34 91 428 22 62
- info@mercortecresa.com

MERCOR SLOVAKIA S.R.O.
Slovakia
www.mercor-slovakia.sk
- Galvaniho 7/D
- 821 04 Bratislava
- +421 2 2062 0040
- +421 2 2062 0049
- mercor@mercor-slovakia.sk

MERCOR CZECH REPUBLIC S.R.O.
Czech Republic
www.mercor-czech.cz
- Letní 1122/1
- 721 00 Ostrava-Svinov
- +420 597 317 665
- mercor@mercor-czech.cz

MERCOR - DUNAMENTI TŰZVÉDELEM ZRT.
Hungary
www.dunamenti.hu
- Nemeskéri Kiss Miklós utca 39
- 2131 Göd
- +36 30 919-0542
- godcenter@dunamenti.hu

MERCOR FIRE PROTECTION UK LTD
England
mercor-uk.co.uk
- Unit P(10), Heywood Distribution Park,
- Pilsworth Road, Heywood, OL10 2TT
- +44 (0) 0161 3598309
- enquiries@mercor-fp.co.uk

European Funds — Smart Growth

European Union — European Regional Development Fund

The product was developed within the framework of an innovative project entitled:
"Comprehensive solutions in the scope of passive fire protection of buildings including the development of display line"
subsidized with European funds.

Read more about our mcr PROSMOKE smoke curtains

www.**mercor**.com.pl/en

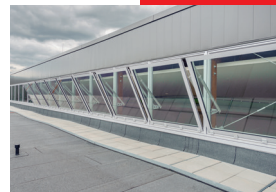**CONTINUOUS ROOFLIGHT WITH SMOKE VENTS**

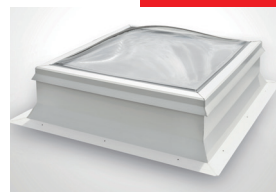**SMOKE AND VENTILATION VENTS**

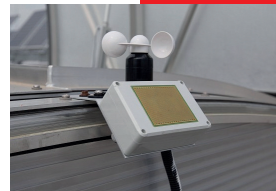**LOUVERED VENTS**

SMOKE CURTAINS

SMOKE EXHAUST WINDOWS

ROOF HATCHES

FIXED SKYLIGHTS

CONTROL SYSTEMS

STAIRCASE SMOKE EXHAUST SYSTEMS