

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

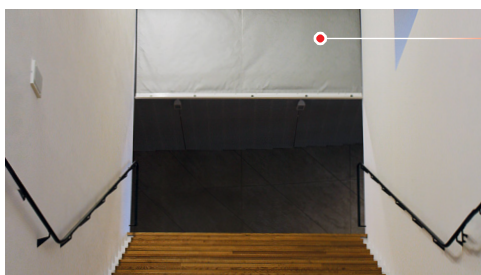


Mercor Light&Vent's mission is to deliver safety to building users by providing them with comprehensive fire protection. For over 35 years, we have been offering our business partners, at every stage of the investment process, products and services they can always trust. As a leader of modern technologies 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.

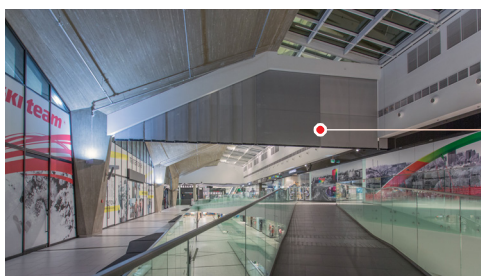
smoke curtains

**mcr
PROSMOKE**

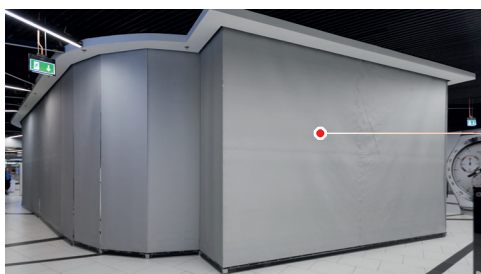
mcr PROSMOKE SMOKE CURTAINS IN VARIOUS TYPES OF ROOMS



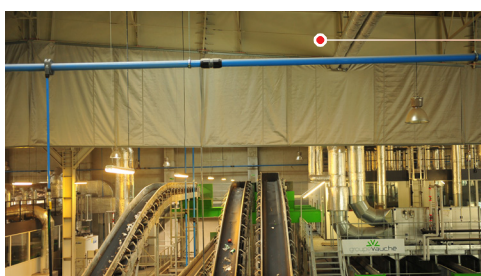
passageways:
single curtain



passageways:
modular curtain

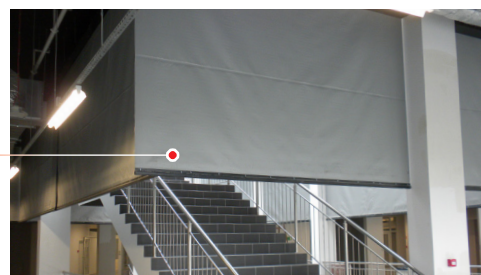


separated area:
non-standard shape of the curtain
with corner connections

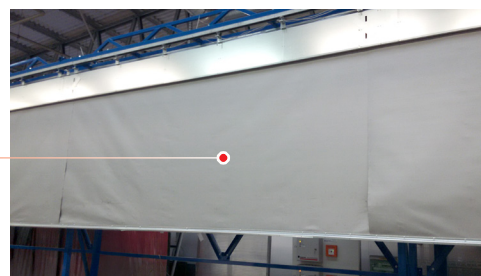


warehouse, production
and commercial areas:
fixed fabric curtains

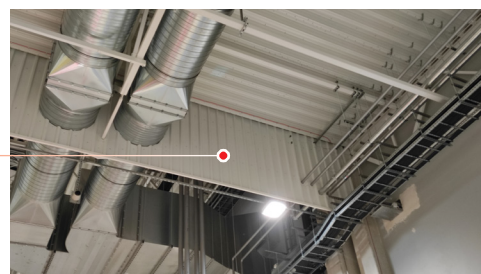
warehouse, production and commercial areas:
fixed steel curtains
with installation passages



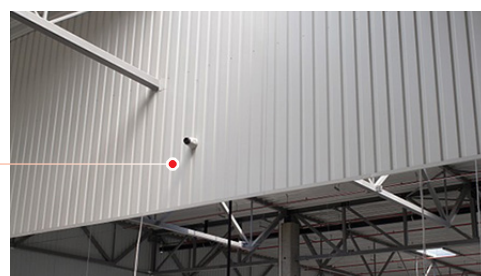
stairs in passageways:
single curtain



multiply curtains
in a long continuous casing



fixed curtains
with installation passages





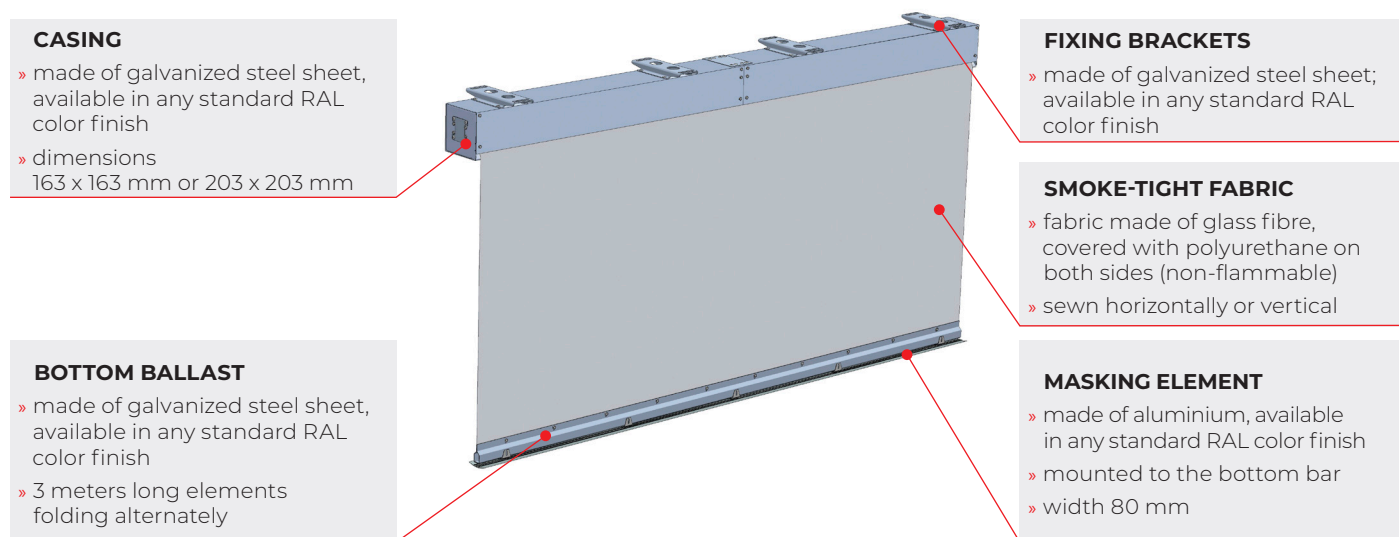
AUTOMATIC SMOKE CURTAINS mcr PROSMOKE CE/FS

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



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

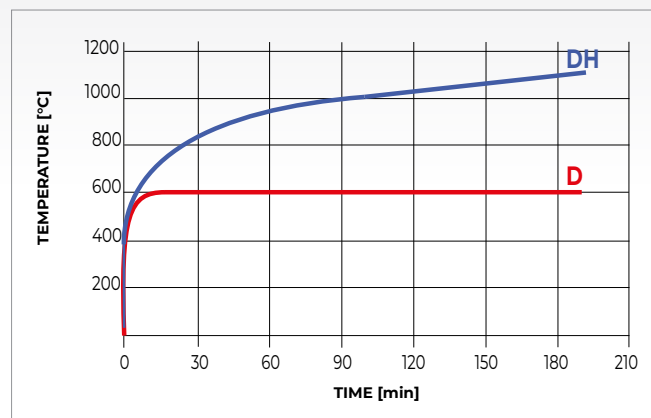


Diagram of temperature curve (D) and standard heating curve (DH)



CONSTRUCTION OF THE mcr PROSMOKE CE/FS CURTAIN OVERLAPPING ASSEMBLY

LEGEND:

$s_1/s_2/s_3$ – curtain module width
 s – curtain width
 h_1/h_2 – curtain module height
 h – curtain height

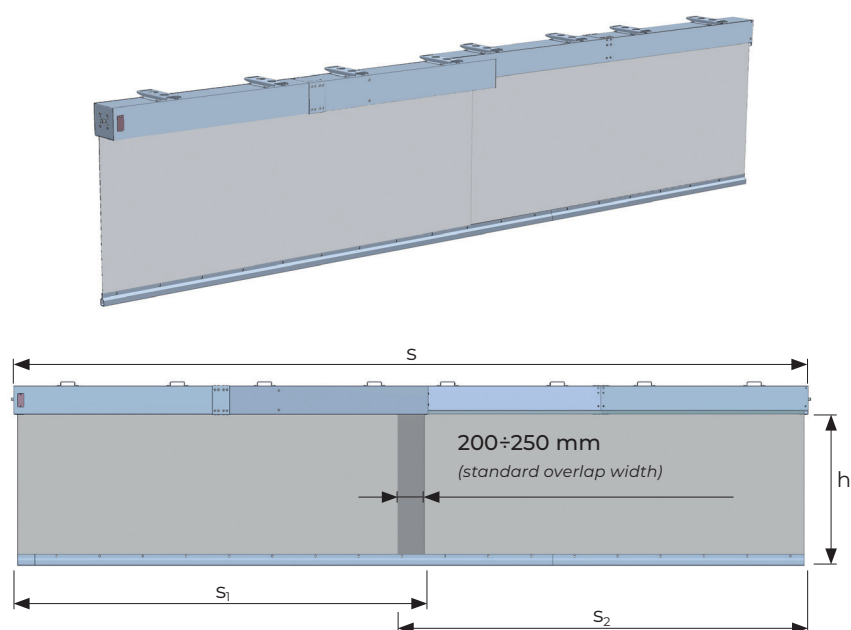


Fig. 1 Modular smoke curtain with horizontal head boxes position

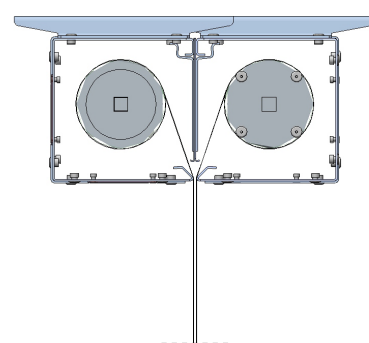


Fig. 2 Position of modular curtain head boxes in horizontal position

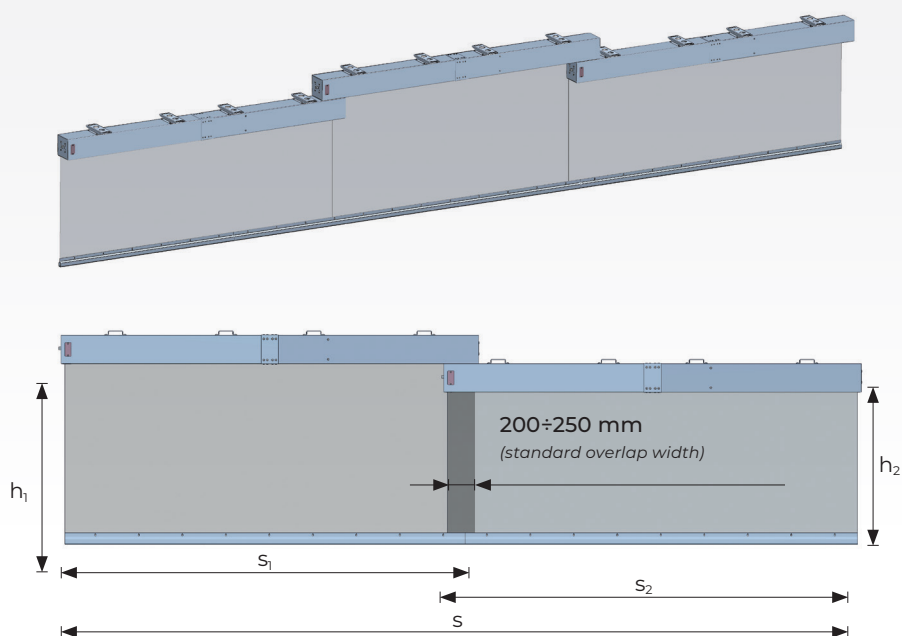


Fig. 3 Modular smoke curtain with vertical head boxes position

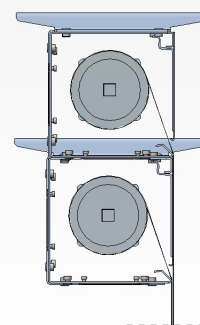
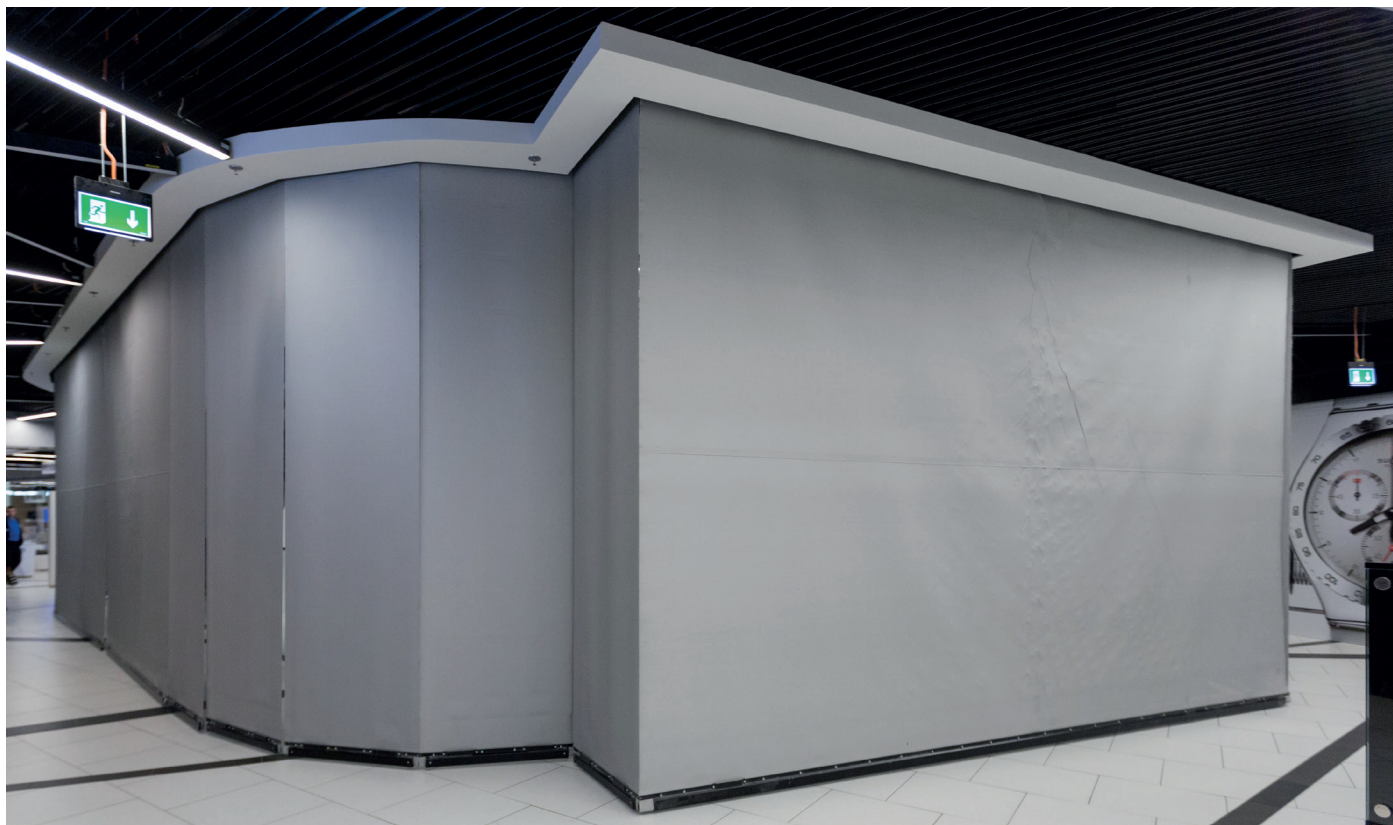
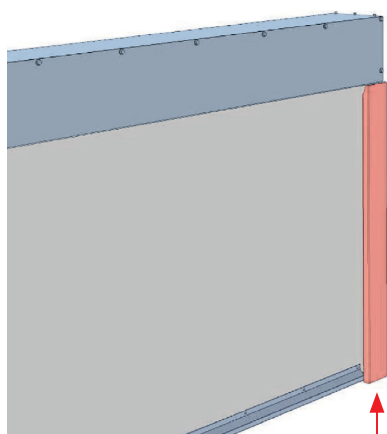


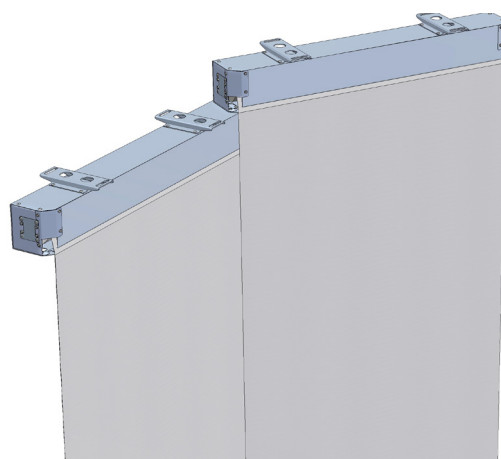
Fig. 4 Position of modular curtain head boxes in vertical position



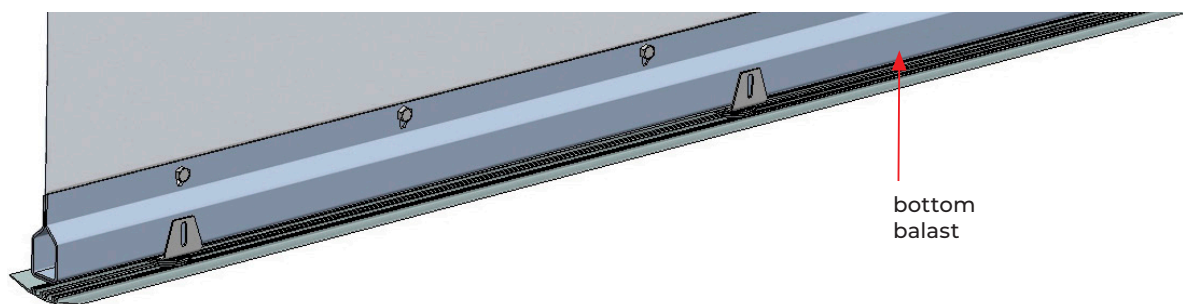
AVAILABLE OPTIONS FOR AUTOMATIC ROLLING SMOKE CURTAINS mcr PROSMOKE CE/FS



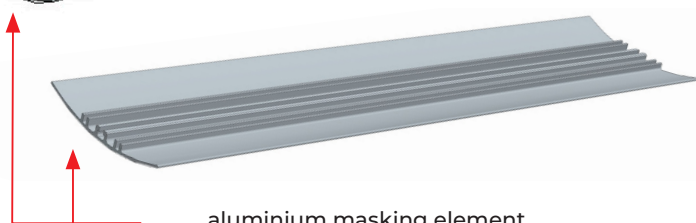
guide



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

163 x 163 mm

203 x 203 mm

Curtain type – classification

mcr PROSMOKE FS – **D30÷D180**

mcr PROSMOKE CE – **D30, DH30**

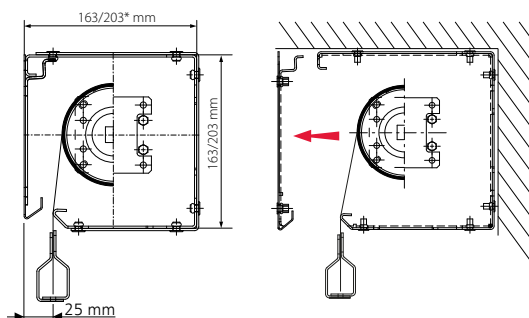
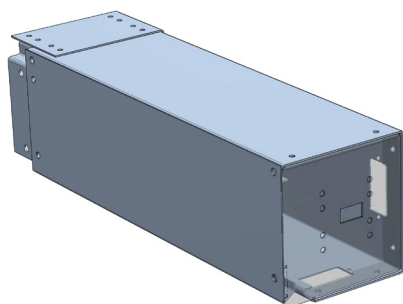
mcr PROSMOKE CE – **D60, DH60**

modules with emergency exit



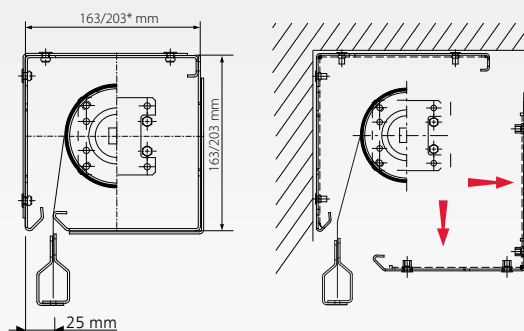
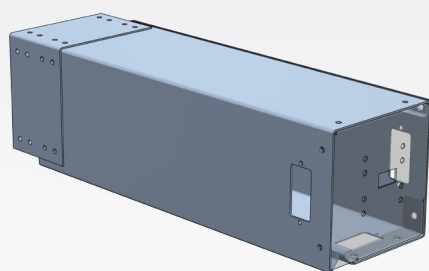
Installation of automatic smoke curtains should be carried out in accordance with the construction design. It is important not to exceed the permissible gaps specified in EN 12101-1 standard during the installation.

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



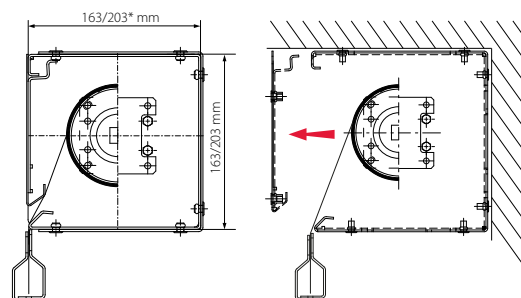
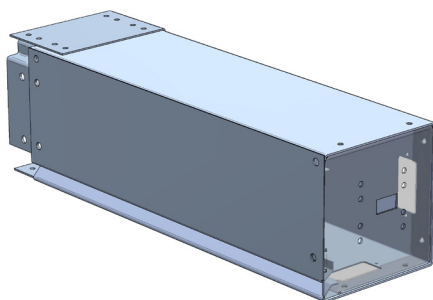
C CASING

the curtain unfolds 2.5 cm from the head box edge



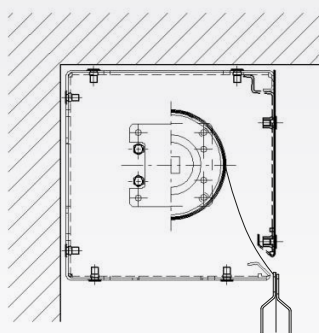
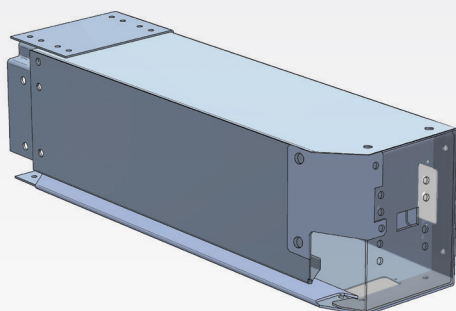
L CASING

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



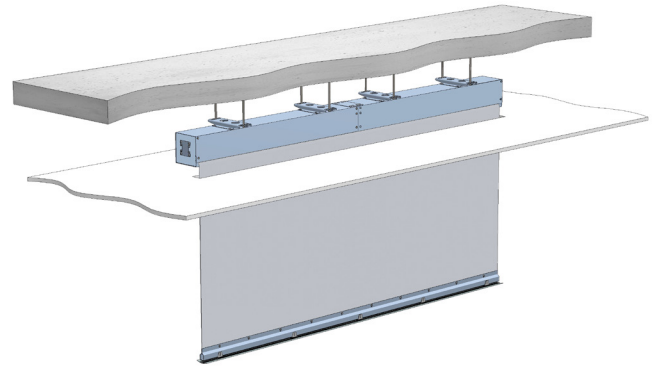
K-T CASING**

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

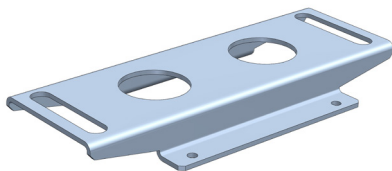
Automatic curtains can be installed under ceilings using various types of mounting brackets. By choosing the proper set of casings and brackets, you can install our curtains almost anywhere. Thanks to their design and the possibility to use a levelling bottom trim, curtains in standby mode can perfectly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



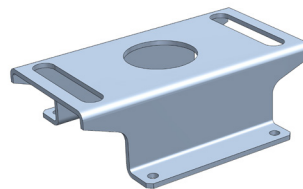
METHODS OF INSTALLATION OF AUTOMATIC SMOKE CURTAINS mcr PROSMOKE CE/FS

Automatic curtains are mounted to the ceiling or other load-bearing structure using brackets available in the following variants:

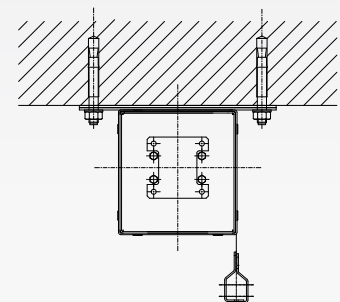
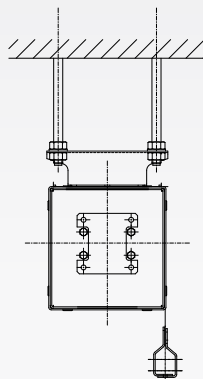
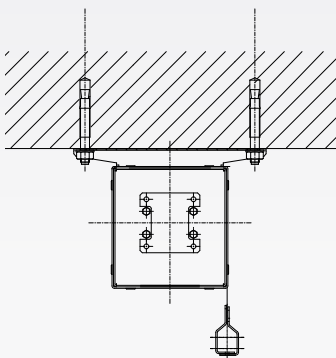
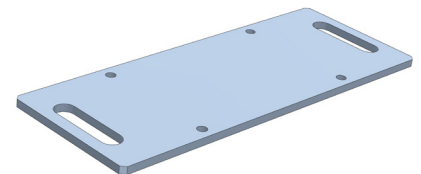
wide bracket



narrow bracket

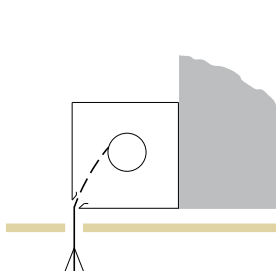


flat bracket

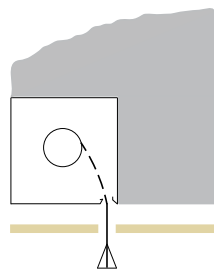


The brackets are attached to the structure through slings in the form of a threaded steel rod with a set of nuts or mounting anchors.

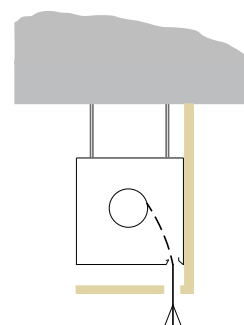
Thanks to the solutions used by Mercor Light&Vent sp. z o.o., automatic mcr PROSMOKE curtains can be mounted to:



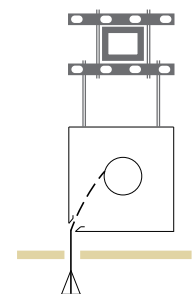
lintel



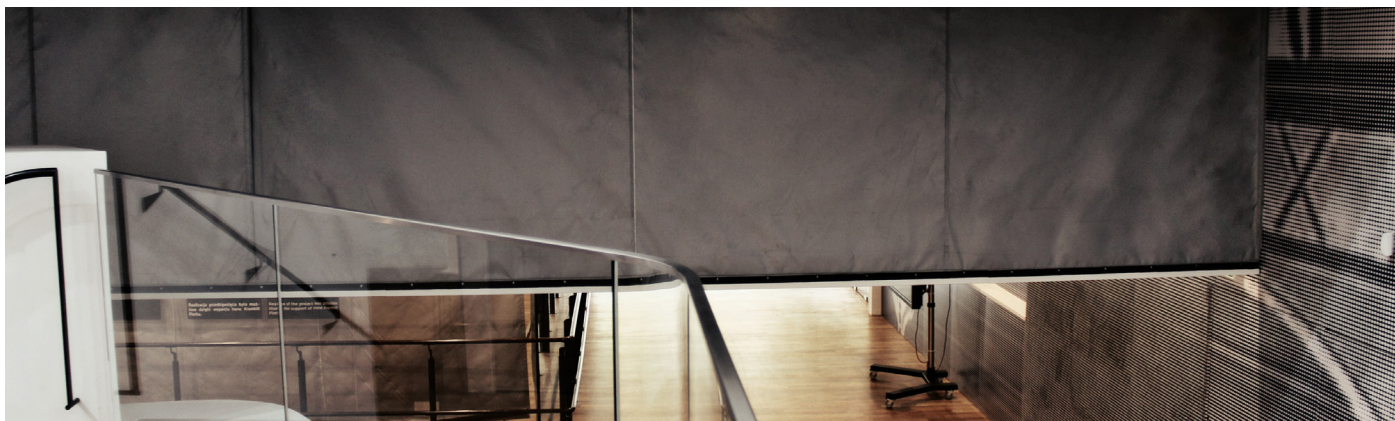
lintel and ceiling



ceiling



steel structure



mcr PROSMOKE S FIXED SMOKE CURTAINS

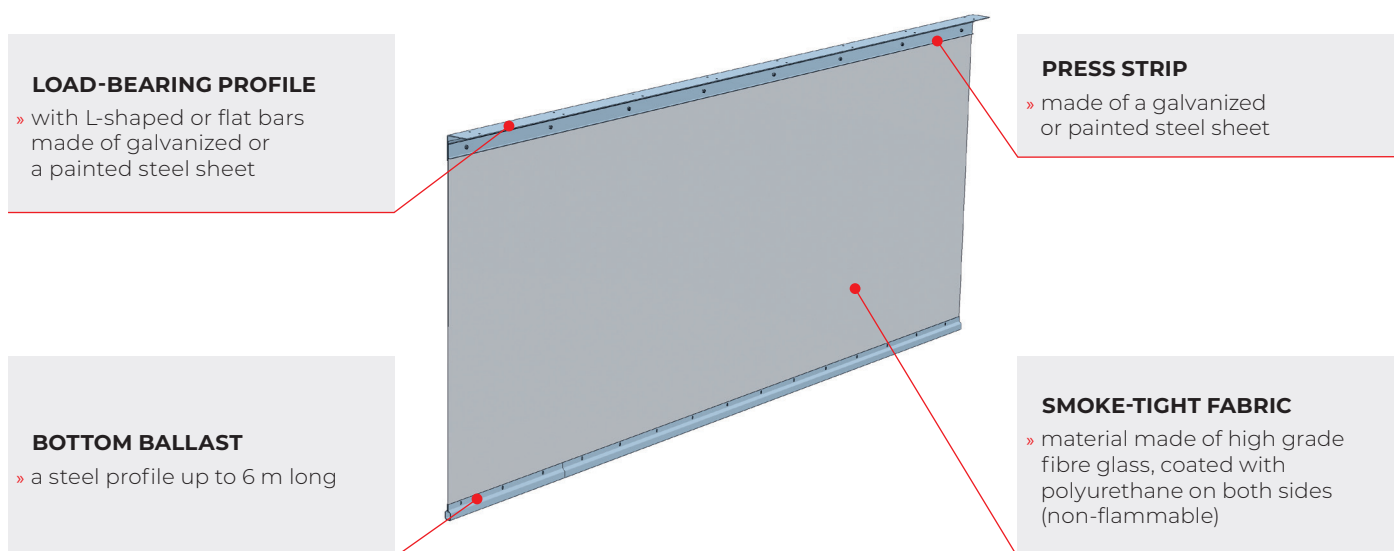
mcr PROSMOKE FIXED FABRIC CURTAINS

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

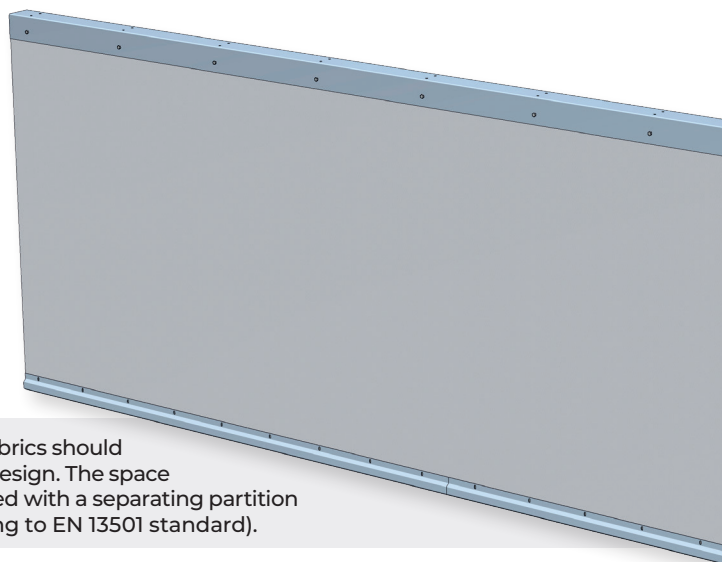


PARAMETERS OF mcr PROSMOKE S CURTAIN

length	no limits
height	min. 0.5 m max. 6.5 m
curtain type	SSB
resistance to high temperatures	D180, DH60
max. material permeability	$\leq 9,4 \text{ m}^3/\text{h}\cdot\text{m}^2$
curtain's mass	$\sim 10 \text{ kg}/\text{m}^2$

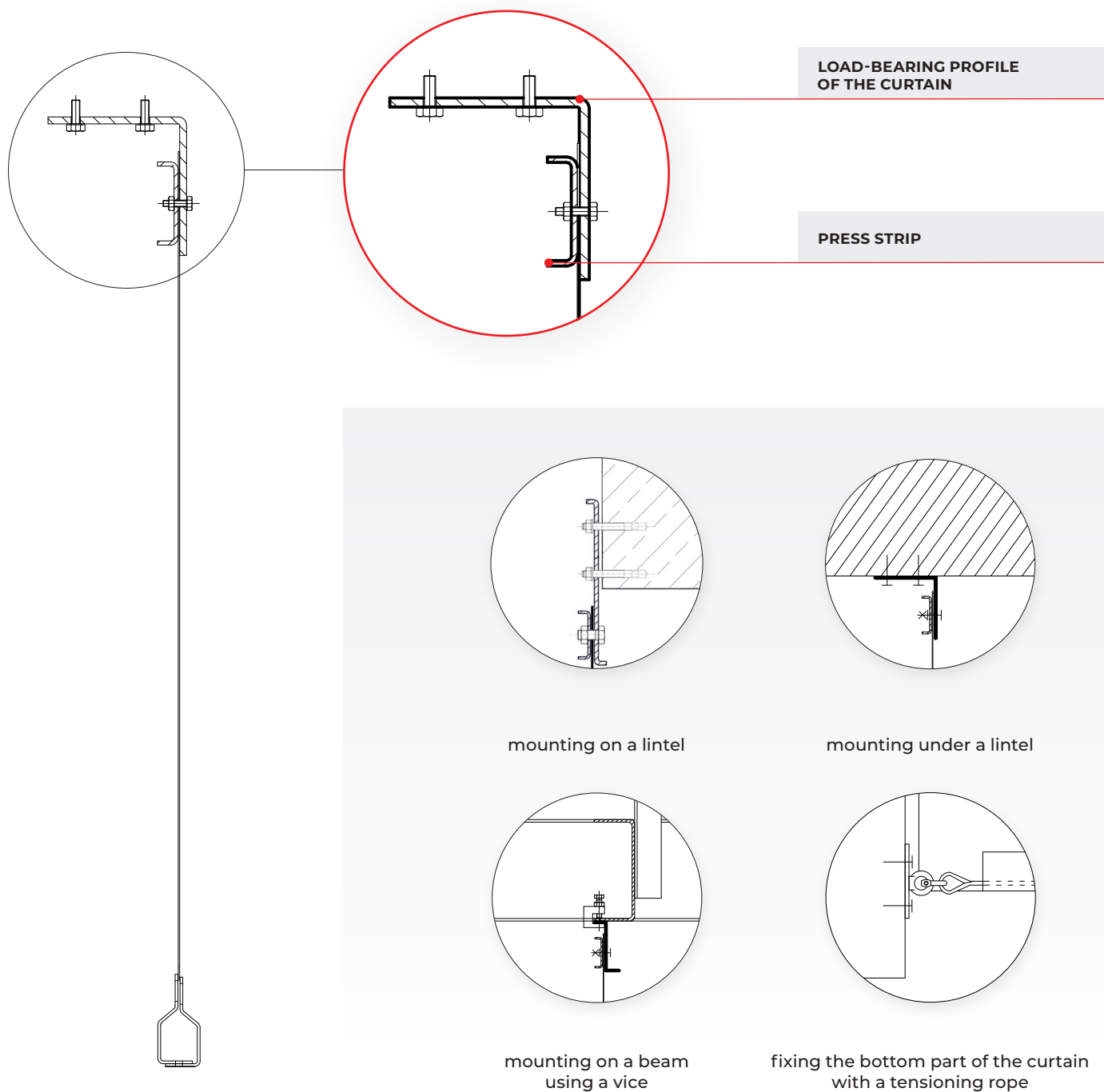
INSTALLATION OF mcr PROSMOKE S FIXED SMOKE CURTAINS

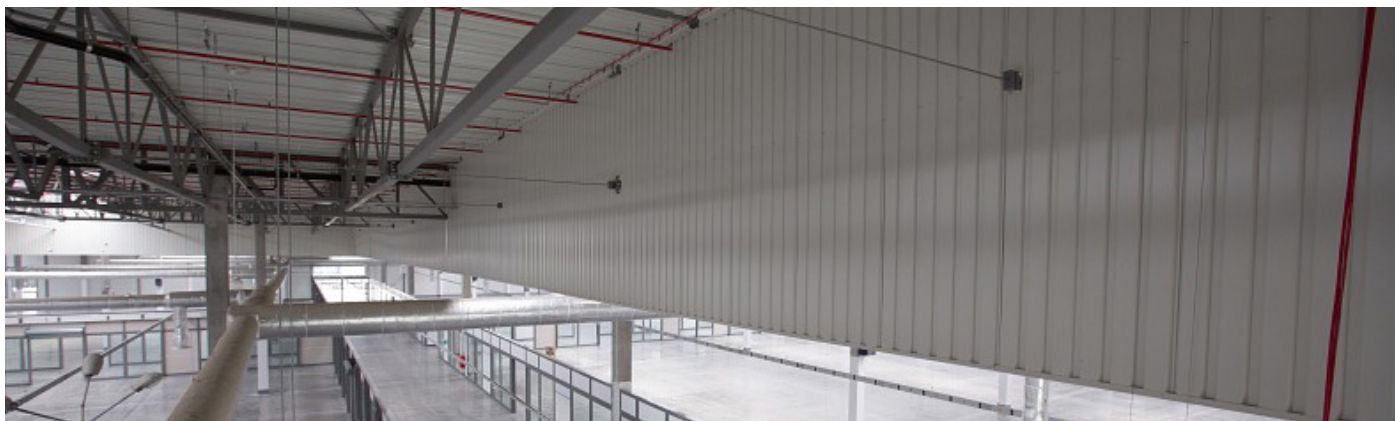
mcr PROSMOKE S fixed fabric curtain is mounted to the structure of the building (lintel, ceiling, wall, steel beam) using metal connectors (anchors, rods, screws) placed on the load-bearing part of the curtain at a maximum of **1 m** intervals.



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





mcr PROSMOKE ST FIXED SMOKE CURTAINS

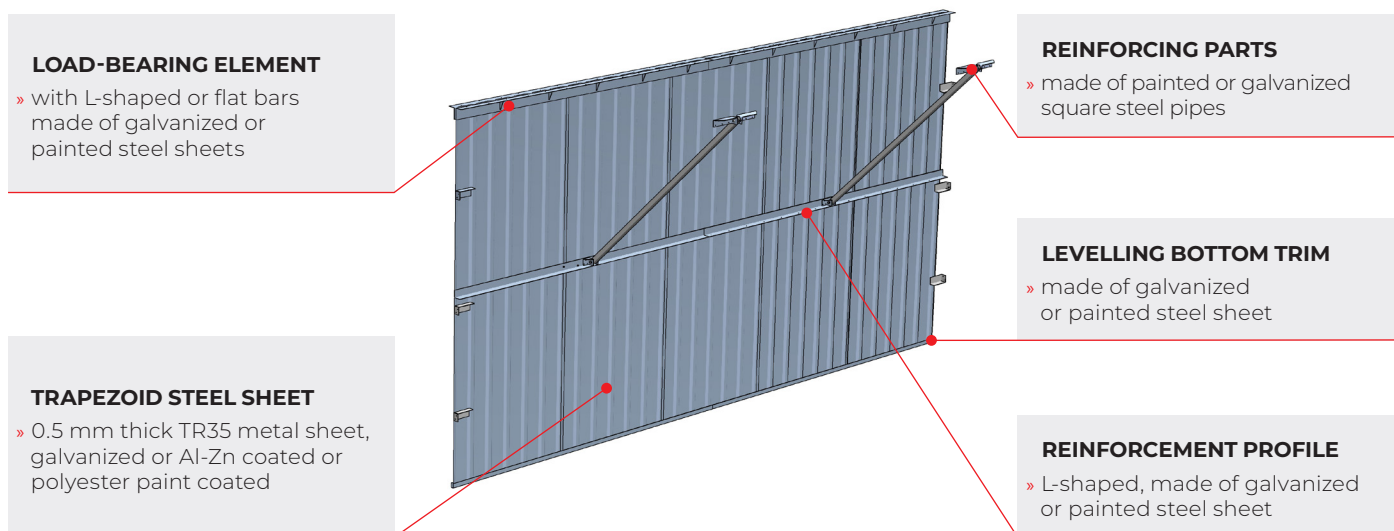
mcr PROSMOKE ST FIXED STEEL CURTAINS

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 warehouse 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



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/m ²

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.

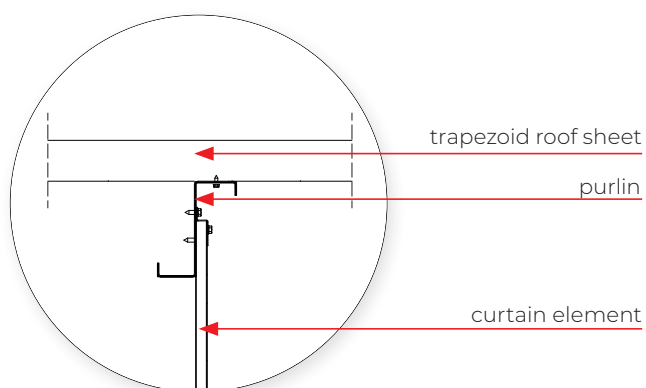
Fixed smoke curtains **mcr PROSMOKE ST** can be equipped with installation passages.



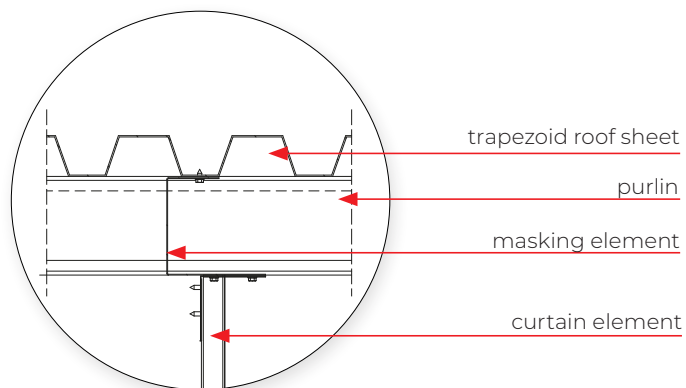
Installation of fixed smoke curtains made of steel sheet should be carried out in accordance with the construction project and the provisions of EN 12101-1 standard.

METHOD OF MOUNTING A FIXED STEEL CURTAIN

ST CURTAIN – MOUNTING ALONG THE PURLINS



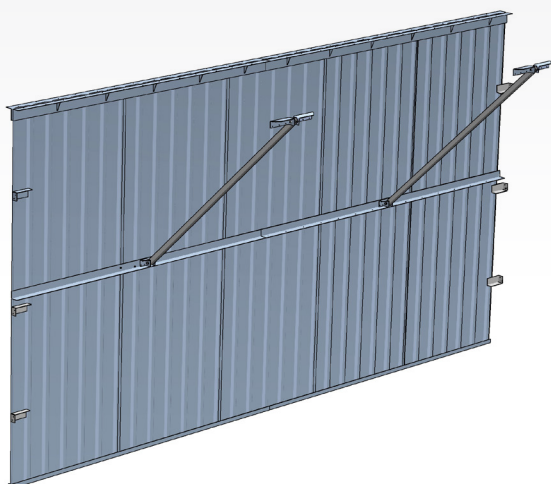
ST CURTAIN – MOUNTING ACROSS TO THE PURLINS



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





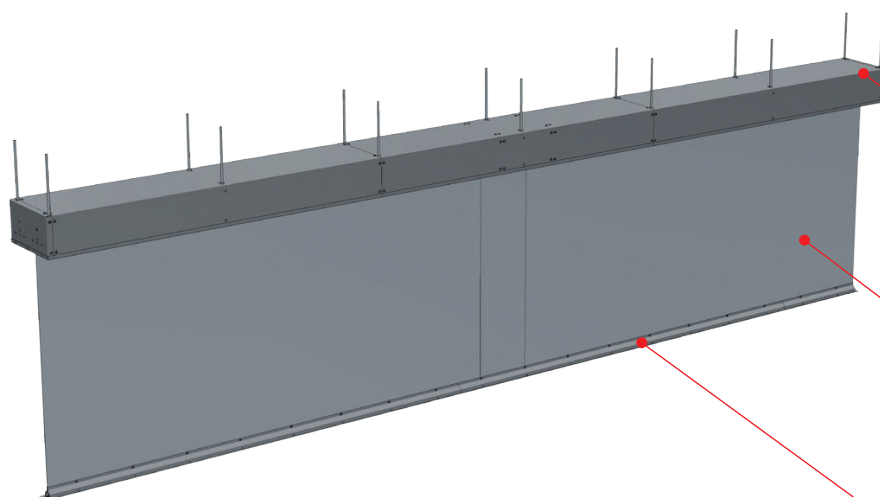
AUTOMATIC SMOKE CURTAINS mcr PROSMOKE ONE C/FS

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

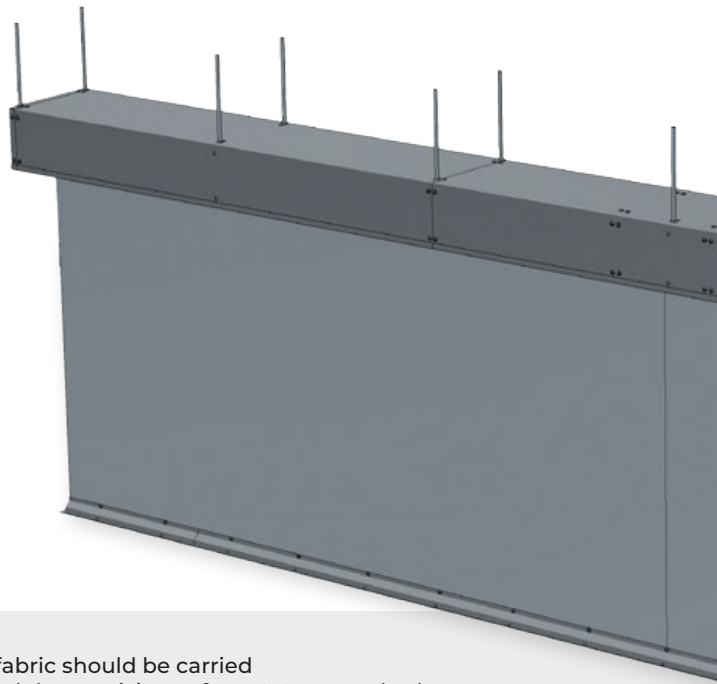
- » made of aluminium, available in any standard RAL color finish
- » width 60 mm or 80 mm (only for curtain's casing mounted above the suspended ceiling)

PARAMETERS OF mcr PROSMOKE ST 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	ASB1, ASB3 (C type) / ASB2, ASB4 (FS type)
resistance to high temperatures	D30, D180, DH30 (C type) / D30, DH30 (FS type)
Max. barrier permeability tested at ambient temperature	9.4 m ³ /h*m ²

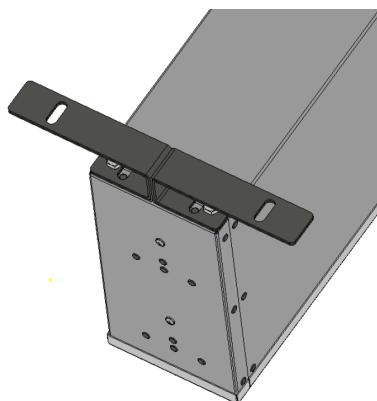
INSTALLATION OF mcr PROSMOKE ONE AUTOMATIC SMOKE CURTAINS

mcr PROSMOKE ONE automatic 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.

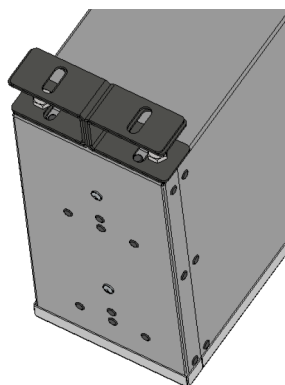


Installation of automatic smoke curtains made of fabric should be carried out in accordance with the construction project and the provisions of EN 12101-1 standard.

METHOD OF MOUNTING AN AUTOMATIC SMOKE CURTAIN



TYPE A
wide mounting brackets



TYPE B
short mounting brackets



TREADED RODS
(no mounting brackets)

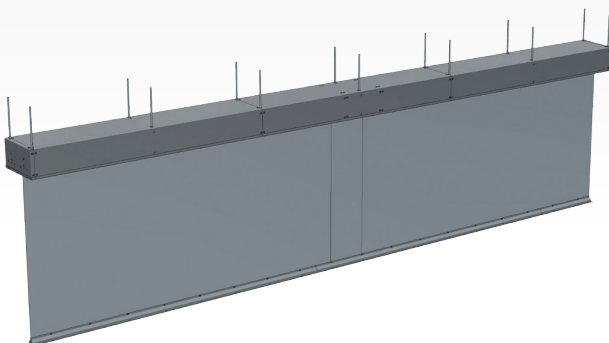
TYPES OF mcr PROSMOKE ONE CURTAINS

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.





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CONTINUOUS
ROOFLIGHT WITH
SMOKE VENTS



SMOKE AND
VENTILATION
VENTS



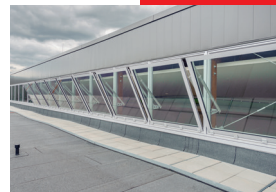
LOUVERED
VENTS



SMOKE
CURTAINS



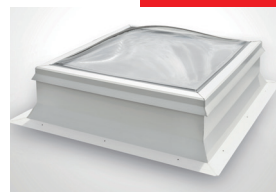
SMOKE
EXHAUST
WINDOWS



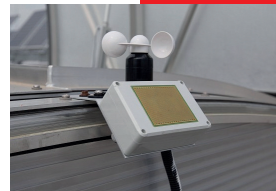
ROOF
HATCHES



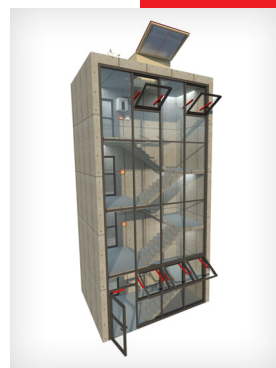
FIXED
SKYLIGHTS



CONTROL
SYSTEMS



STAIRCASE SMOKE
EXHAUST SYSTEMS



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.



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