mercor®

smoke vents

mcr
ULTRA THERM

We provide safety

NATURAL SMOKE EXHAUST SYSTEM

mcr ULTRA THERM smoke vent is an innovative product developed based on our almost 40 years' experience in natural smoke ventilation combined with the latest technological advances. We have achieved the most ambitious goal and created a product designed to meet both the current and the future requirements of the market and our customers.

We have not only achieved the thermal performance exceeding the current requirements (U_{rc}=0.8 W/m²K) but also eliminated any thermal bridges. Excellent thermal performance allows **mcr ULTRA THERM** to be used not only in the industrial, storage or retail facilities, but also in the public and apartment buildings.

Good thermal performance allows the devices also to be used in the cold rooms and freezers more and more frequently installed in large logistics centres.

While designing **mcr ULTRA THERM** we have consulted leading European experts in design and manufacturing of PVC profiles. Thus, excellent thermal performance is complemented with exceptional aesthetics thanks to similarly colored materials. Aluminium profiles are available in any RAL color.

Functionality and various executions of **mcr ULTRA THERM** products are possible because of wide range of leaf-fillings, bases and control types

Mercor Light&Vent's mission is to deliver safety to building users by providing them with comprehensive fire protection. For almost 40 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 vents

mcr ULTRA THERM

mcr ULTRA THERM SKYLIGHT AND SMOKE VENT LEAF-FILLINGS

MULTI-CHAMBER POLYCARBONATE PLATE

PCA 10, PCA 16, PCA 20, PCA 25

• **ACRYLIC DOMES**
• **SOLID POLYCARBONATE DOMES**
• **MIX DOMES**

MULTI-CHAMBER POLYCARBONATE DOME

SMOKE VENT FEATURES mcr ULTRA THERM

FUNCTION
Smoke vent, ventilation vent, skylight, roof access hatch.

QUALITY
Innovative PVC profile system provides exceptional durability. Multi-level gasket system guarantees tightness.

AESTHETICS
High quality plastics and aluminium Product color range compatible with other building finishes.

DESIGN
Various types of bases, leaf-fillings and controls to meet specific designer and user requirements.

HEAT
Excellent thermal performance no thermal bridges. Meets all future U_{rc} heat transfer requirements.

MODULAR DESIGN
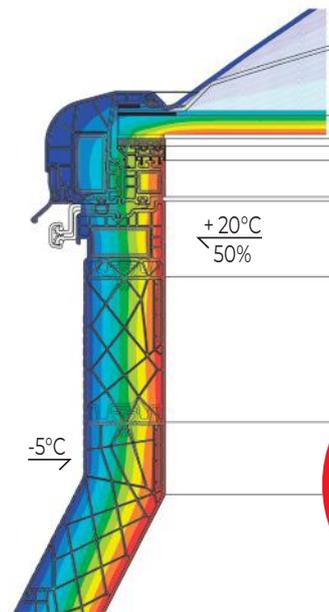Ensures compliance with expected delivery dates. Friendly installation and execution of roofing flashings.

ECO PLATFORM
EPD
EN 15804 VERIFIED

mcr ULTRA THERM smoke vents obtained enviromental declaration showing enviromental impact of the product - from sources extraction to transport.
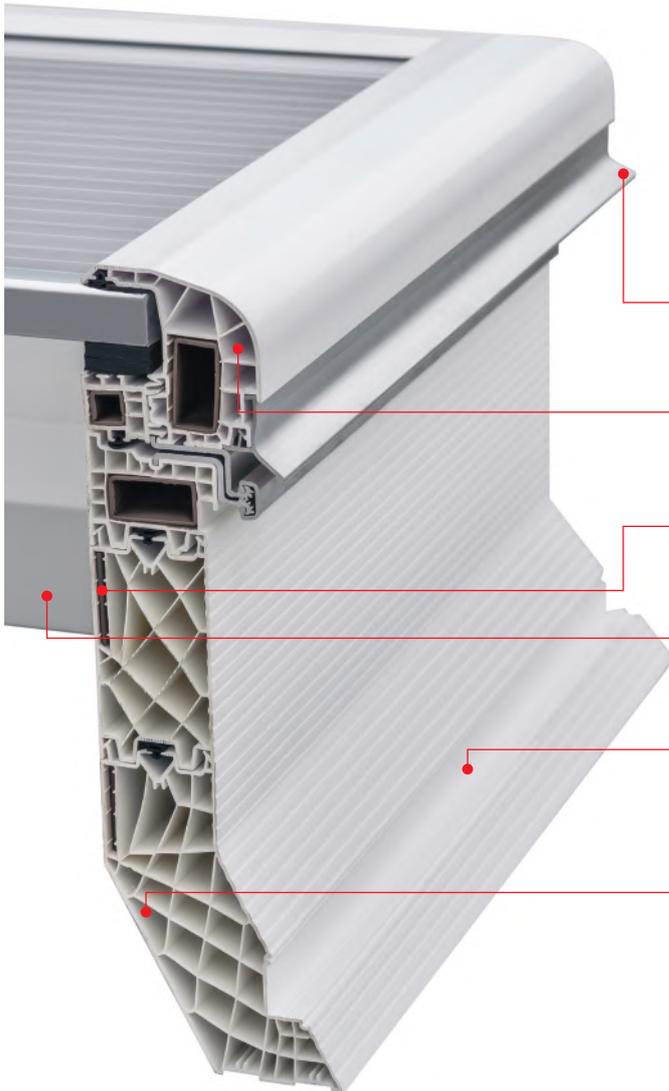
ENERGY EFFICIENCY

ISOTHERMS FOR
mcr ULTRA THERM WITH PVC BASE

Detailed numerical analysis in accordance with relevant standards have verified uniform isothermal curves in **mcr ULTRA THERM** profiles. The energy efficiency of the components guarantee **products without thermal bridges.**

Tests verified that the 10°C dew point isotherm is constrained to the interior of the hatch.

+ 20°C
50%

-5°C

$U_{rc}=0.8$
W/m²K

mcr ULTRA THERM

ALUMINIUM DRIP CAP
Aluminum profile protects the hinge and the end of the roof flashing; can be painted in any RAL color.

MULTI-CHAMBER PVC PROFILE
Patented base and leaf profile system provides rigidity, strength and exceptional thermal properties

HIDDEN REINFORCEMENTS
Actuators including opening systems mounted to invisible components.

INTERNAL FINISHING
Construction made of white PVC does not require additional finishing layers.
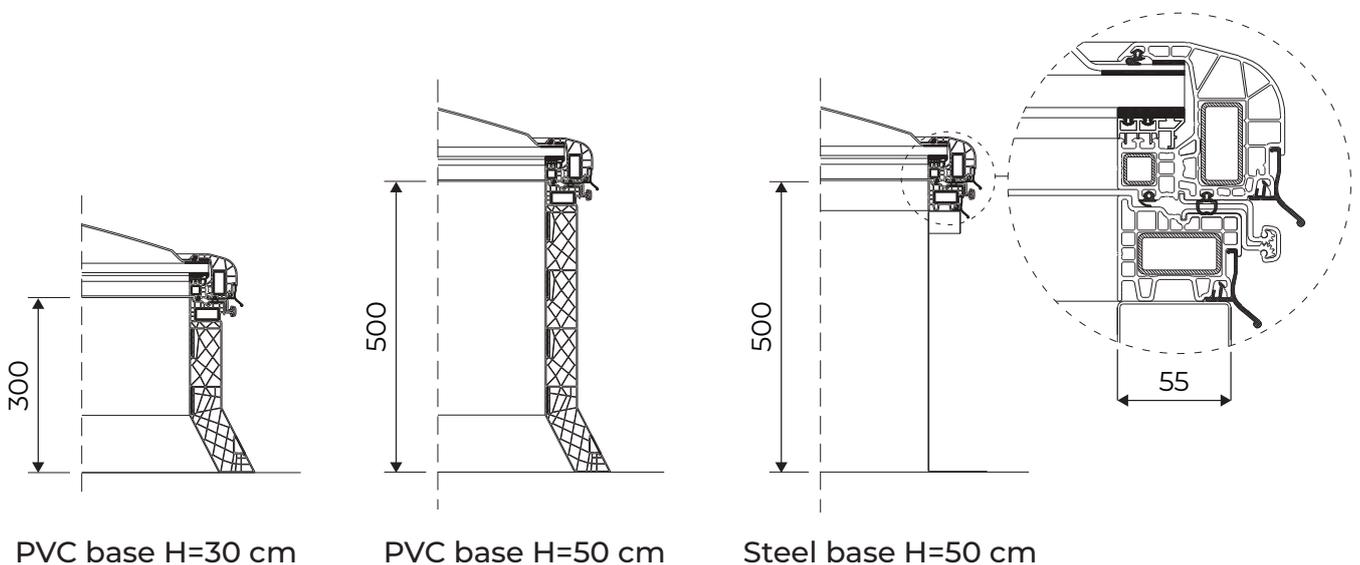
INVISIBLE MOUNTING
A socket in the base shielded by a special masking strip allows safe mounting to the the structure and the execution of flashings.

MAXIMUM ILLUMINATION
The shape of the base allows to increase daylighting area.

mcr ULTRA THERM SKYLIGHT AND VENT BASES

PVC base H=30 cm

PVC base H=50 cm

Steel base H=50 cm

mcr ULTRA THERM SMOKE VENT CLASSIFICATION TO EN 12101-2

80 [cm] x 120 [cm]	Min. nominal size
200 [cm] x 300 [cm]	Max. nominal size
B300	High temperature resistance class
Re300 + 168	Reliability
A1	Reaction to fire class for metal components
E, F	Reaction to fire class for other components
60[s]	Maximum vent opening time to working position
140° + 160°	Vent opening angle
B-s1-d0, B-s2-d0, B_{ROOF}(t1)	Reaction to fire class for polycarbonate infill
WL750 + WL1500	Constancy of performance of vents under wind load
SL200 + SL950	Constancy of performance of vents under snow load

EXAMPLE mcr ULTRA THERM SMOKE VENT PARAMETERS

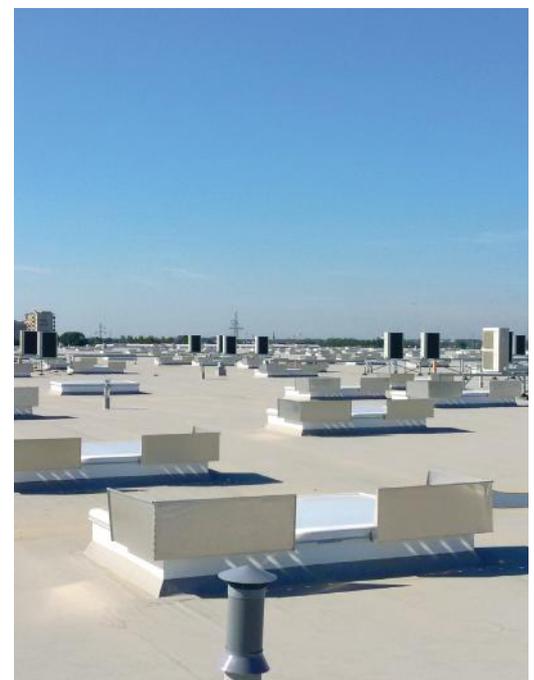| Type	Base inside dimensions [cm]		Active area A_a [m^2]				Mass [kg]*
	nominal dimensions	daylight opening	basic h=30 [cm]		basic h=50 [cm]		
	A x B [cm x cm]	a x b [cm x cm]	without deflector	with deflector	without deflector	with deflector	
NG-A 90/120	90 x 120	80 x 110	0.53	0.70	0.53	0.70	70
NG-A 100/100	100 x 100	90 x 90	0.40	0.66	0.40	0.66	67
NG-A 120/120	120 x 120	110 x 110	0.58	0.96	0.58	0.99	80
NG-A 140/140	140 x 140	130 x 130	0.78	1.35	0.78	1.39	101
NG-A 150/150	150 x 150	140 x 140	0.90	1.55	0.90	1.62	109
NG-A 150/250	150 x 250	140 x 240	1.50	2.66	1.50	2.78	144
NG-A 180/250	180 x 250	170 x 240	1.80	3.24	1.80	3.38	161
NG-A 200/200	200 x 200	190 x 190	1.60	2.84	1.60	2.96	153
NG-A 200/250	200 x 250	190 x 240	2.00	3.60	2.00	3.75	171
NG-A 200/300	200 x 300	190 x 290	–	4.34	–	4.56	190

THERMAL TRANSMITTANCE COEFFICIENT U_{rc}** OF mcr ULTRA THERM SMOKE VENTS

Type	PVC base h=30 [cm]	Steel base *** h=50 [cm]
NG-A 90/120	1.2 + 0.8	1.1 + 0.8
NG-A 100/100	1.2 + 0.8	1.1 + 0.8
NG-A 120/120	1.3 + 0.8	1.2 + 0.8
NG-A 140/140	1.3 + 0.8	1.2 + 0.8
NG-A 150/150	1.3 + 0.8	1.2 + 0.8
NG-A 150/250	1.4 + 0.9	1.3 + 0.8
NG-A 180/250	1.4 + 0.9	1.3 + 0.9
NG-A 200/200	1.4 + 0.9	1.3 + 0.9
NG-A 200/250	1.5 + 0.9	1.4 + 0.9
NG-A 200/300	1.5 + 0.9	1.4 + 0.9

(*)   Smoke vents weight incl. PVC base h=30cm, leaf-filling: acrylic roof dome and multi-chamber polycarbonat plate 16 mm and single pneumatic actuator.

(**) U_{rc} coefficient range depending on the vent's leaf-flling.

(***) U_{rc} coefficient determined for base insulation with mineral wool, thickness 50 mm.

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Read more
about our smoke
exhaust vents
mcr ULTRA THERM

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CONTINUOUS ROOFLIGHT WITH SMOKE VENTS

SMOKE AND VENTILATION VENTS

LOUVERED VENTS

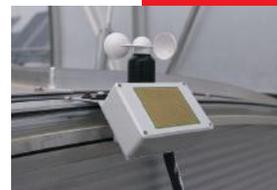**SMOKE CURTAINS**

SMOKE EXHAUST WINDOWS

ROOF HATCHES

FIXED SKYLIGHTS

CONTROL SYSTEMS

STAIRCASE SMOKE EXHAUST SYSTEMS