

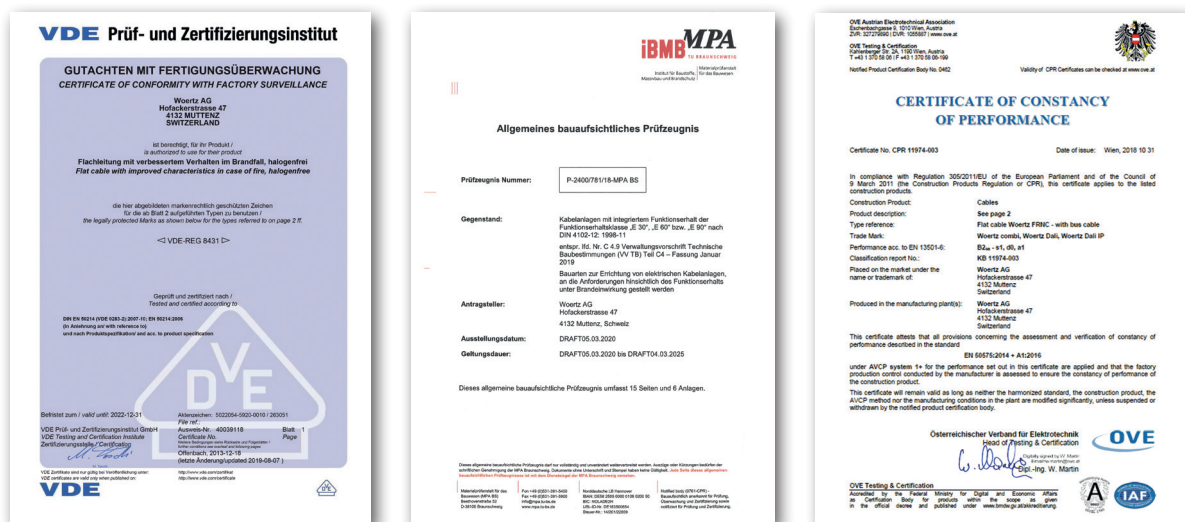
Woertz fire safety for all building installations



Fire safety - install safely with Woertz

Complete solutions with our Woertz flat cable systems for maximum safety in case of fire

When creating infrastructure buildings, the choice of cable installation for power supply should be made at an early stage. Decisive selection criteria are, for example, the size of the object and the type of use. For increased safety requirements in cabling systems, a fire protection concept is also mandatory. We have the necessary competence to support you in this and also prove this by the corresponding certificates.



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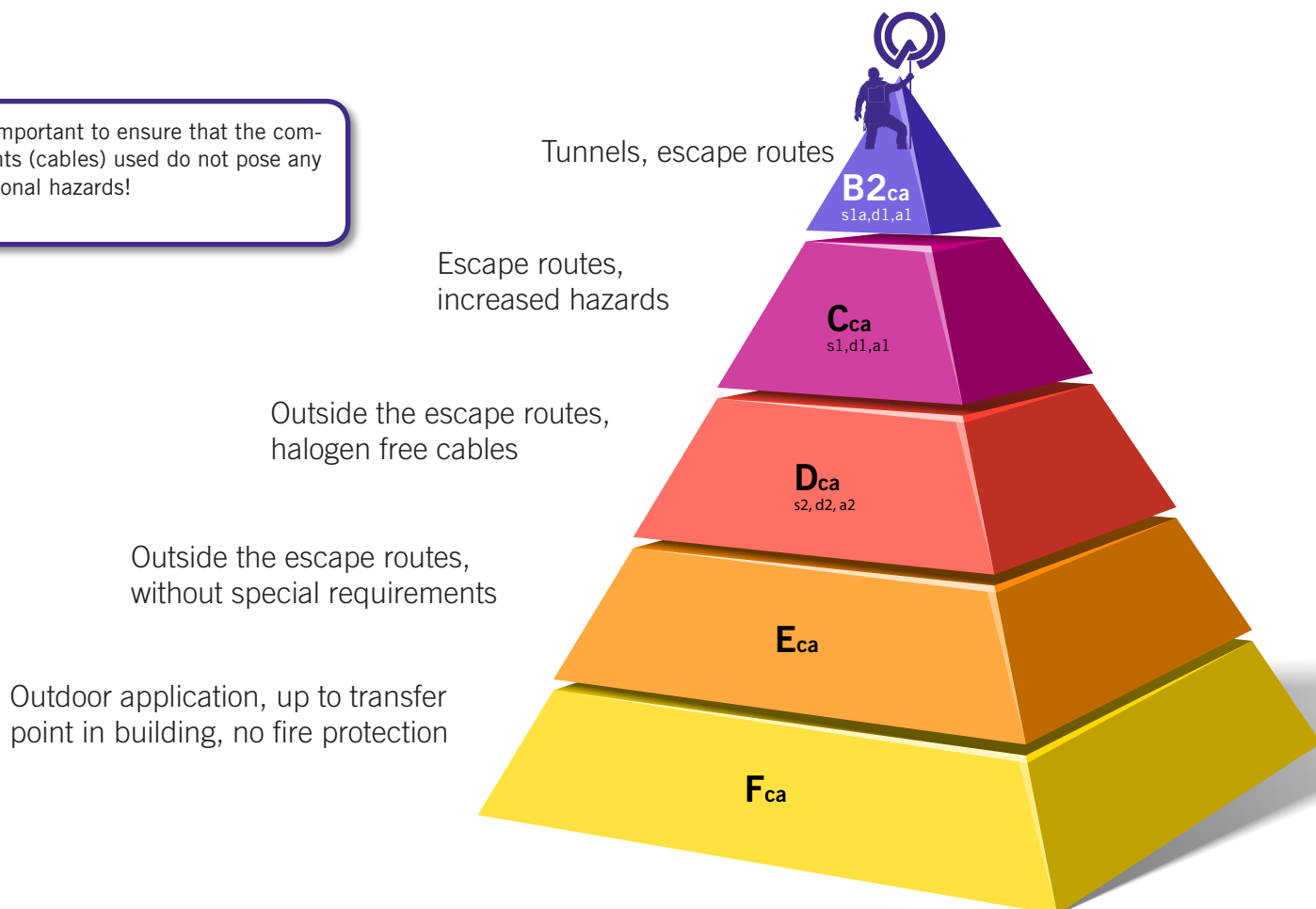
Construction product classification

Woertz flat cable systems with the highest standard for installation

The reaction-to-fire classes and the Construction Products Regulation specify which classes must be used in today's construction work. **Woertz flat cable systems are halogen-free, flame-retardant and low-smoke** – according to IEC and EN.

With the highest **construction product classification B2ca s1 d0 a1**, our flat cables far exceed the standard requirements of cables without critical behavior. With our solutions, we guarantee installation in buildings without concern – even just in case.

It is important to ensure that the components (cables) used do not pose any additional hazards!



Create preventive measures with the use of the right cabling system. This way the installation does not pose a hazard in the event of fire.

- Use of cables without critical behavior in case of fire (without fire risk)
- Cables lowest fire load
- Use halogen-free cables, so no corrosive fire gases are formed
- Use of fire safety cables in escape routes
- Safe and sustainable cabling

«Woertz makes no compromises when it comes to safety -
we rely on cables without additional hazards»



No burning droplets = **d0**



With the Woertz
cabling system at the
highest level certified!



Our halogen-free cabling systems and
FE180 E30/E90 certified cables comply
with classification **B2ca s1 d0 a1**

**Can be used in any location without
hesitation!**

Fire safety system FE180, E30/E90

The complete system for optimal and fast installations meets the highest safety requirements.

Based on the flat cable installation system, safety-relevant elements can be reliably supplied with power in the event of a fire.

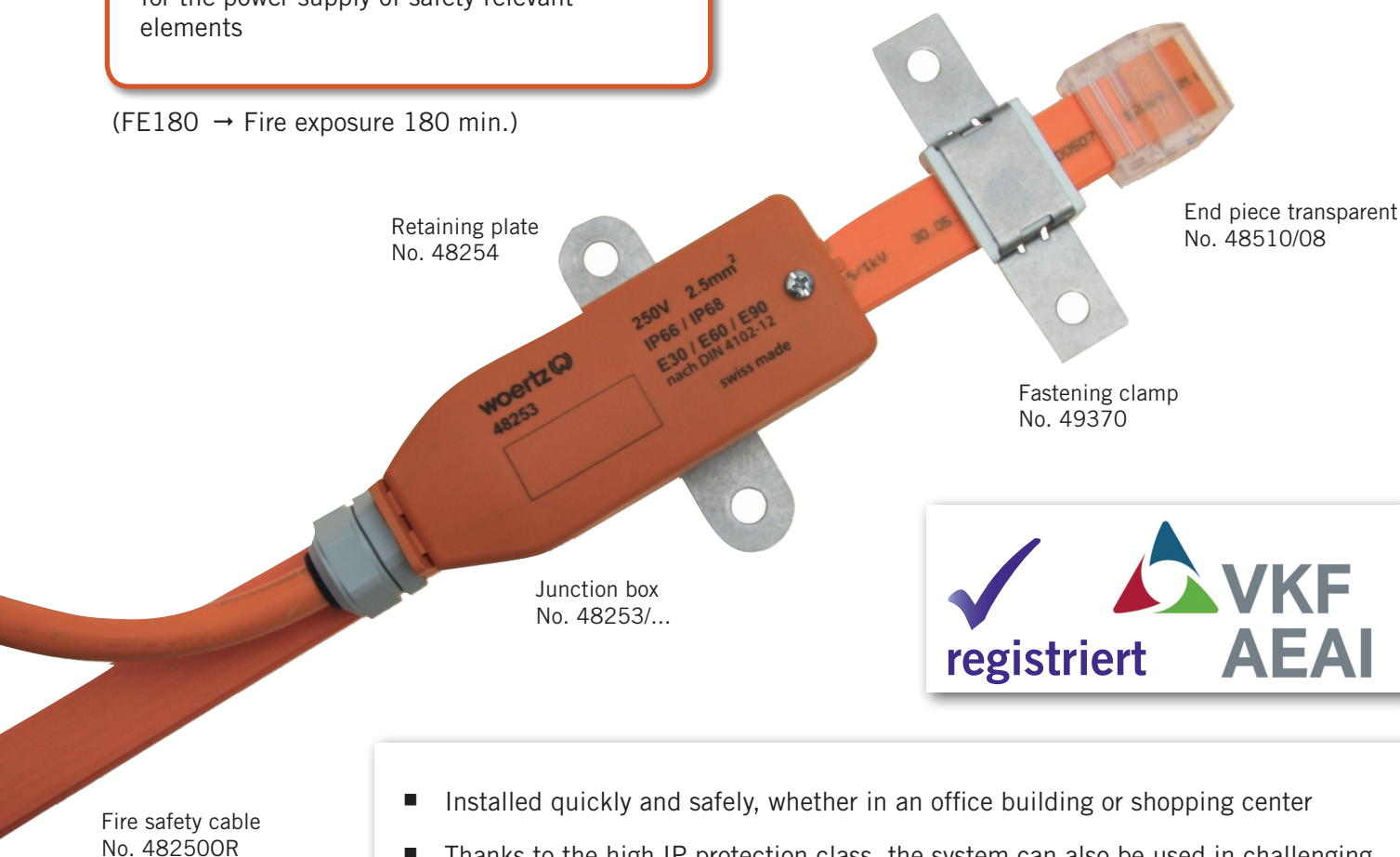
The Woertz flat cable is classified as safety cable FE180.

The conductors arranged in parallel in the flat cable are ceramic insulated. The conductor distances are dimensioned in such a way that even in the event of total destruction of the insulation sheath by fire, neither contact nor a short circuit will occur between the individual conductors.

Where are fire safety cables used?

- wherever the highest requirements are demanded
- for the power supply of safety-relevant elements

(FE180 → Fire exposure 180 min.)

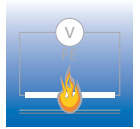


- Installed quickly and safely, whether in an office building or shopping center
- Thanks to the high IP protection class, the system can also be used in challenging environments such as tunnels or industrial plants.
- No complex sealing measures are required for the flat cable boxes. The cable is not interrupted and therefore no sources of error are installed.

The additional installation of connections is possible with a flat cable installation at any point.

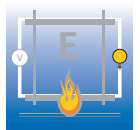
Properties and standards

**The requirements and loads for function maintenance systems are very high.
The norms and test standards are just as extensive.**



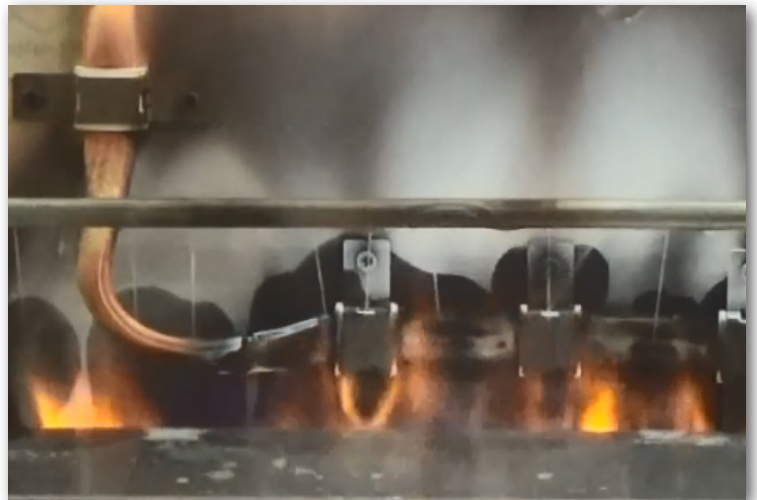
Insulation integrity FE180

The insulation integrity test is used to determine the period of time over which a mechanically unloaded cable retains a minimum insulation capacity when exposed to fire. If after the test period of 180 minutes the current is still flowing, no short circuit and no interruption has occurred, the test is considered to have been passed and the cable is given the classification FE180 (FE = exposure to flame or fire) for 180 minutes.



Function integrity systems E30/E90

The functional integrity states how long an installation must continue to function in the event of a fire. The statement refers to the behavior of the entire cable system including cable, box, cable trunking and fastening material.



Fire safety wiring in the building

The concept in the field of fire safety is to divide a building into fire compartments, which should prevent the spread of fire.

In the standard concept prescribed today, only the power supply to the respective fire compartments must meet a functional integrity E30/E60/E90. Within the sections, the wiring is permitted without functional integrity. In the event of a fire, it is therefore possible that there could be a total failure of the electrical system in the affected area, as a result of which safety-relevant components such as lighting, emergency exit warning lights, etc. would no longer function.

As a result, the evacuation of persons could become considerably more difficult.

Woertz offers 2 solution concepts:

1) Standard concept (No. 1.1, 1.2):

Cabling with function-preserving power supply to the fire compartments and room cabling without function maintenance.

2) Safety concept (No. 2):

Wiring for fire sectors where total loss of electrical supply is critical.

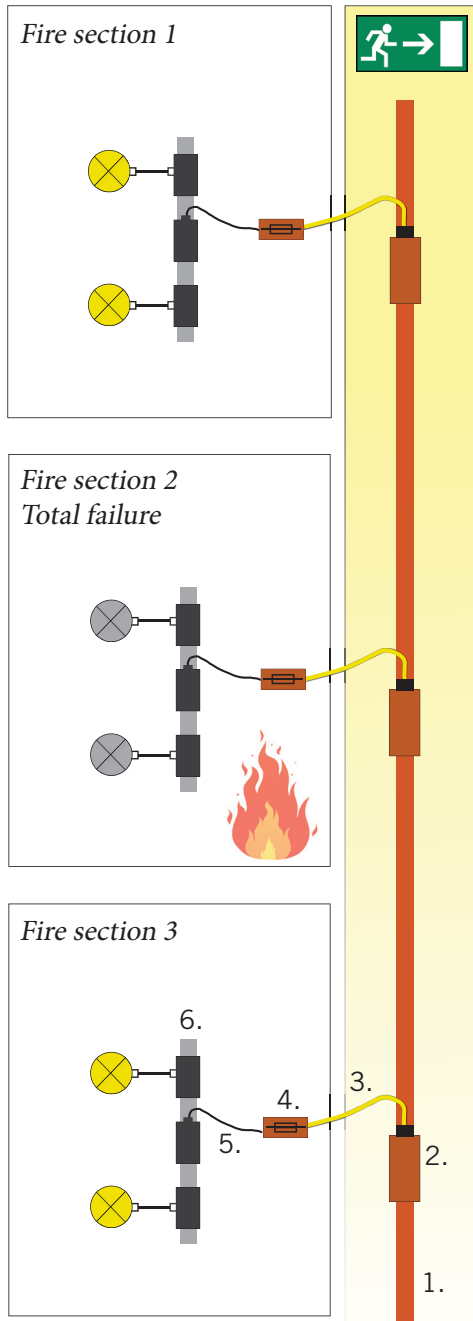
For these cases, we recommend a further, decentralized multiple supply with individually fused distribution.



**Fire test
at 1000°C!**

1) Standard concept

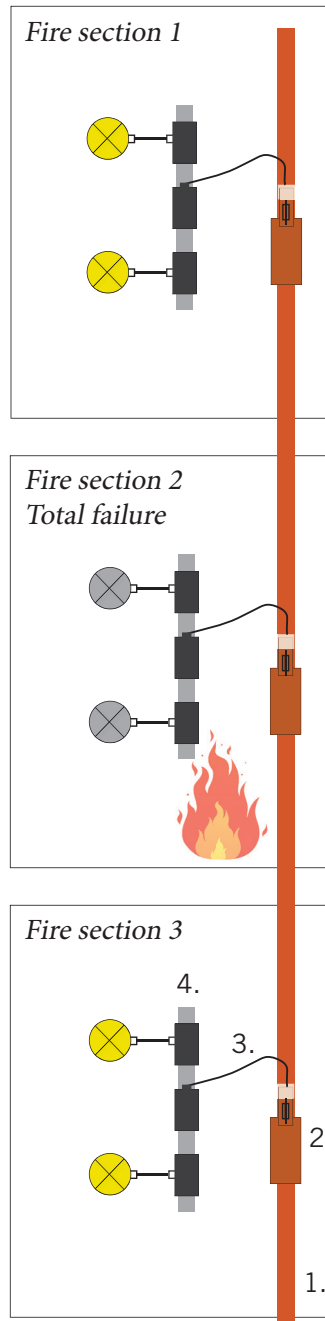
No. 1.1



Power supply cables outside the affected fire compartments:
(For example, in the corridors)

1. Flat cable E30/90
(No critical behavior B2ca)
2. Branching box E30/90
3. Round cable E30/90
4. Fuse adapter E30/90
5. Round cable halogen-free
6. Flat cable system halogen-free for consumer supply

No. 1.2

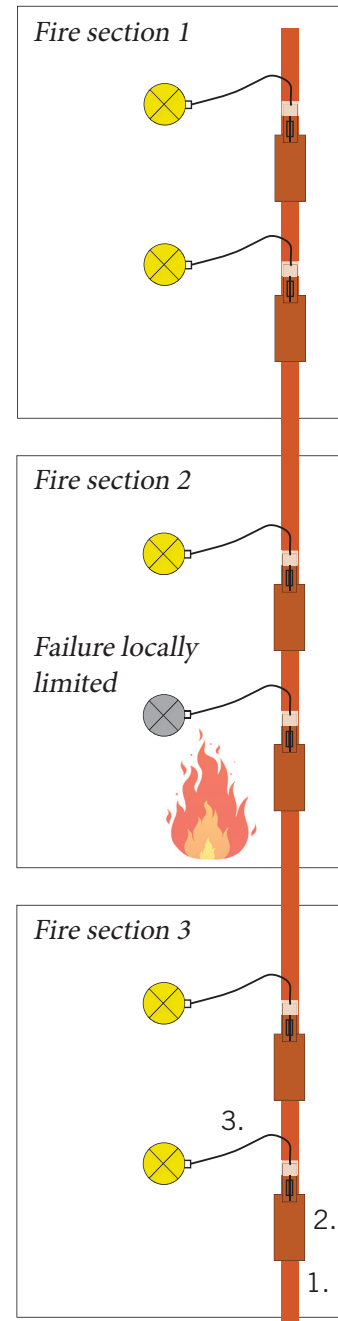


Power supply cables within the affected fire compartments:

1. Flat cable E30/90
(No critical behavior B2ca)
2. Branching box with fuse adapter E30/90
3. Round cable halogen-free
4. Flat cable system halogen-free for consumer supply

2) Safety concept

No. 2



Decentralized supply in one or more fire sections:

1. Flat cable E30/90
(No critical behavior B2ca)
2. Branching box with fuse adapter E30/90
3. Round cable halogen-free

Fire scenario: Local fire with heavy smoke development in fire section 2

Section 1: **Illuminated**
Section 2: **not Illuminated**
Section 3: **Illuminated**

Section 1: **Illuminated**
Section 2: **not Illuminated**
Section 3: **Illuminated**

Section 1: **Illuminated**
Section 2: **Illuminated**
Section 3: **Illuminated**

Fire safety application example in the building

Concepts and application examples for building installations with fire safety

Fire sections:

① ② ③ ④

Standard concept with
Power supply outside

No. 1.1

⑤ ⑥

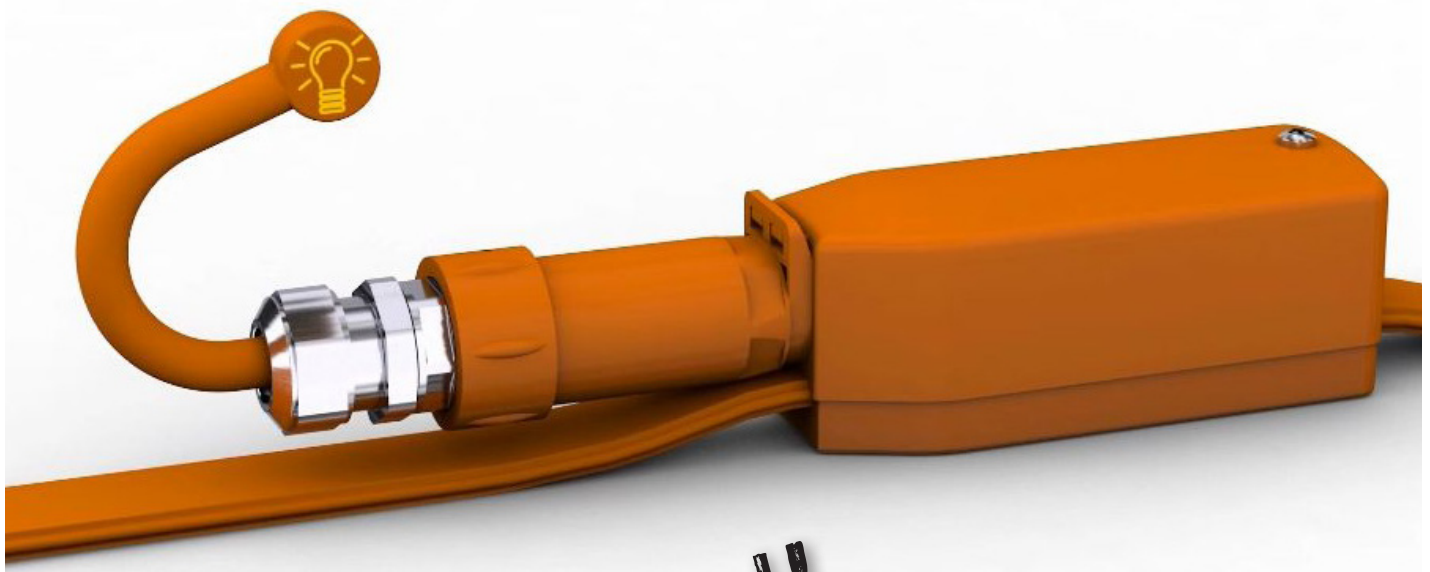
Standard concept with
Power supply inside

No. 1.2

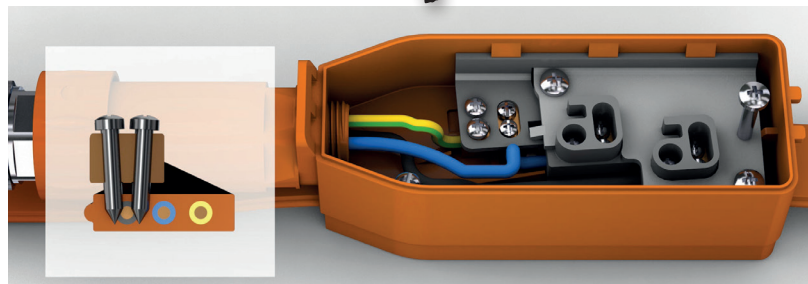
⑦

Safety concept with decentralized
supply in one fire compartment
(Escape route)

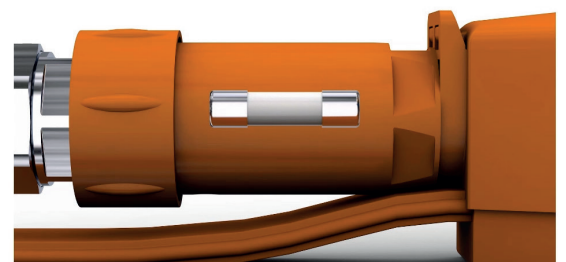
No. 2



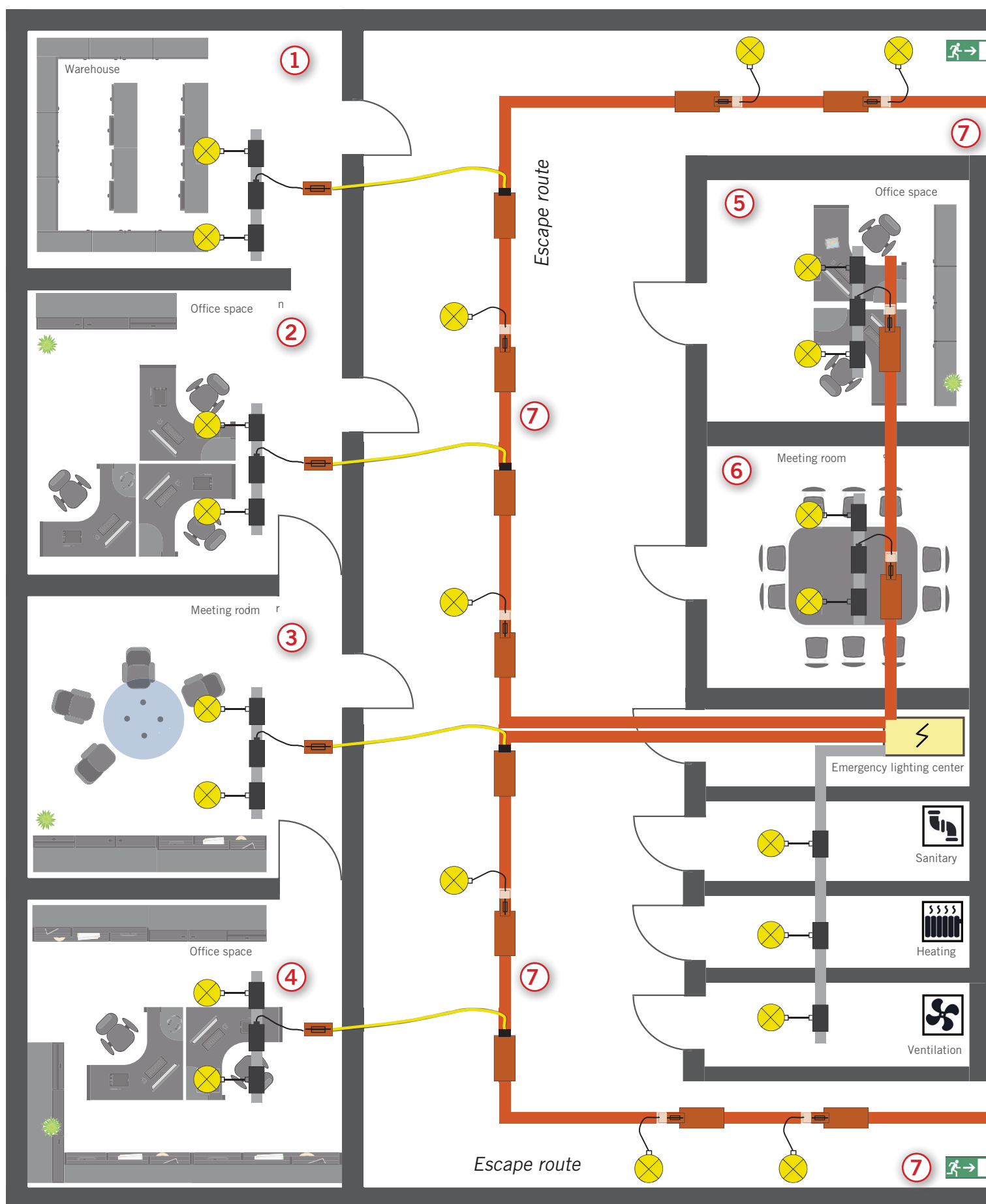
patented!



Twin-Piercing contact



Branching box with integrated
fuse



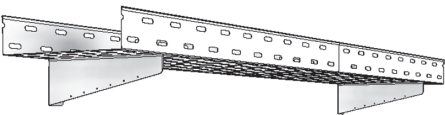


Cable system with function integrity E90 (DIN4102-12)


The test according to DIN 4102-12 with the classifications E30/E60/E90 is a system test, in which both the electrical elements and the support system are tested together for functional integrity.

Woertz follows this principle with its system solutions and therefore offers products that are tested and approved in combination.

This offers you, the customer, the advantage of receiving coordinated and compliant systems from a single source and from a single contact partner. The only confirmation you ultimately need is the system warranty, which we as the manufacturer provide.



= Cable system E30/E90
Woertz fire safety system



iBMB MPA
Institut für Bautechnik
Materialien und Brandschutz

Allgemeines bauaufsichtliches Prüfzeugnis

Prüfzeugnis Nummer: P-2400/791/18-MPA BS

Gegenstand: Kabelanlagen mit integriertem Funktionserhalt der Funktionserhaltsklasse „E 30“, „E 60“ bzw. „E 90“ nach DIN 4102-12: 1998-11 entspr. Rd. Nr. C 4.9 Verwaltungsvorschrift Technische Baubestimmungen (VVB) Teil C4 – Fassung Januar 2019 Bauarten zur Errichtung von elektrischen Kabelanlagen, an die Anforderungen hinsichtlich des Funktionserhalts unter Brandeinwirkung gestellt werden

Antragsteller: Woertz AG
Hofackerstrasse 47
4132 Muttenz, Schweiz

Ausstellungsdatum: DRAFT05.03.2020
Geltungsdauer: DRAFT05.03.2020 bis DRAFT04.03.2025

Dieses allgemeine bauaufsichtliche Prüfzeugnis umfasst 15 Seiten und 6 Anlagen.

Dieses allgemeine bauaufsichtliche Prüfzeugnis darf nur vollständig und unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der schriftlichen Genehmigung der iBMB Bautechnik. Die iBMB Bautechnik ist eine Einrichtung des Bundesverbandes der Materialprüfingenieurinnen und -ingenieure (BDM) in der Bundesrepublik Deutschland.

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DIN 4102-12: 1998-11
Bauarten zur Errichtung von elektrischen
Kabelanlagen

Kontakt: iBMB (iBMB-CP)
Bautechnikprüfer für Prüfung,
Genehmigung und Zertifizierung sowie
Beratung bei Prüfung und Zertifizierung



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VKF
AEAI



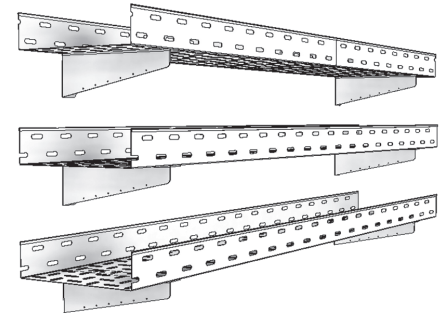
Woertz cable trunking system E30/E90

Material **Stainless steel or steel
tin-plated**

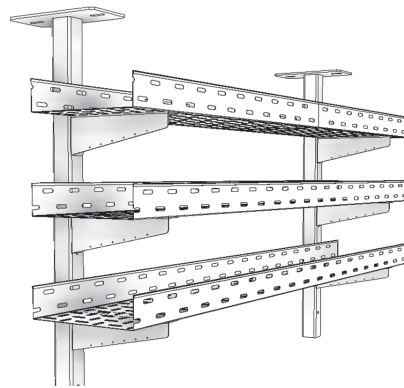
Span width 1'500 mm

Cable tray 80 x 100 to 300 mm

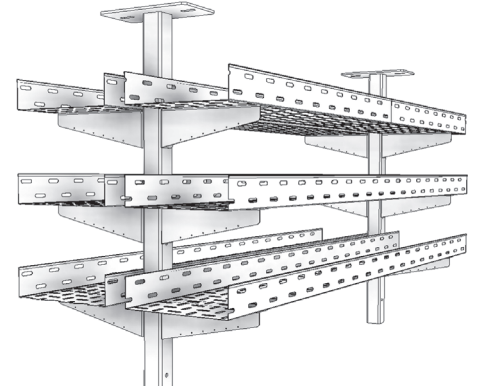
Wall mounting with trunking



Ceiling mounting one-sided



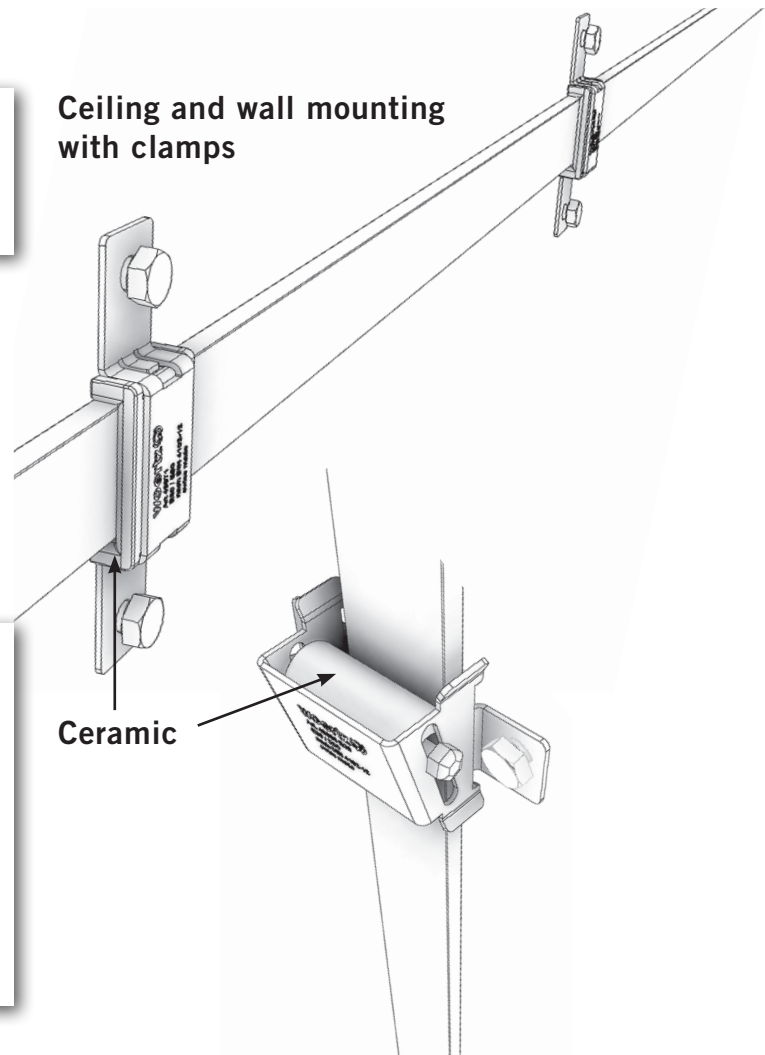
Ceiling mounting on both sides



Material **Stainless steel + ceramic**

Span width 800 mm

**Ceiling and wall mounting
with clamps**

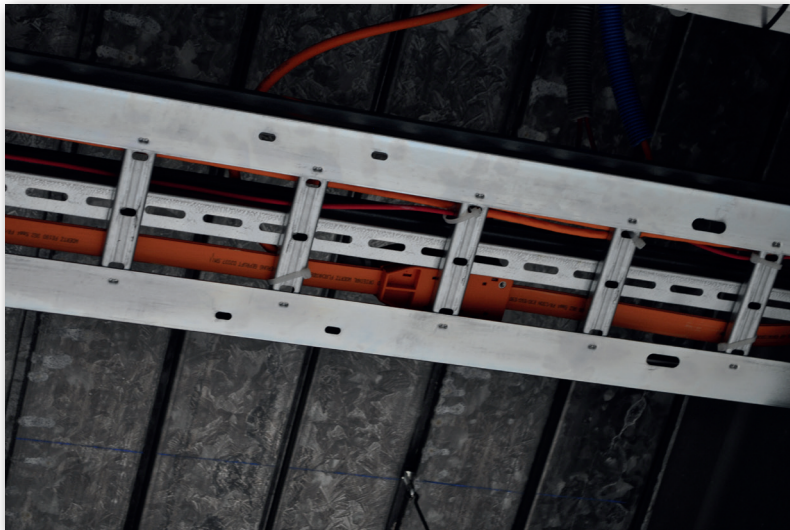


The new and patented **riser clamp system for E90 fire safety applications** is used for direct attachment of vertical flat cable lines to walls or ladders.

The purpose of the self-supporting fastenings clamp is to hold the individual wires of the burnt cables in the event of a fire, thus preventing power interruptions.

Fire safety systems already in use everywhere

Woertz flat cable systems are optimally suited for building installations. In addition, our fire safety system offers the best conditions for escape and evacuation routes.





YOUR CONTACTS

We are always happy to help.



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