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Technical Data Sheet

clamp4fire

1. Fire Protection Requirements

clamp4fire is designed to assist with compliance with the latest Fire Regulations BS7671:2018 amendment 3 and IET Wiring Regulations 18th Edition
Additionally, MLAR is a well-recognised German Building Code for fire protection for pipelines and electrical installations. According to Section 3.1.1 of the model guideline on fire protection requirements for cabling systems (MLAR), fire protection cabling systems may only be installed in escape and rescue routes if they can be used as a rescue route in the event of a fire for a sufficiently long time.
One way to ensure this requirement is to install the line systems above fire protection ceilings. In the event of fire exposure from above and below, these suspended ceilings must be classified at least in fire resistance class F30. In Section 3.5.3 of the MLAR and in the building inspectorate test certificates of the suspended ceilings, the following basic requirements are specified with regard to the installations carried out.

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The following requirements apply to the installation of cables in the event of a fire:

- The cables must not fall on the ceiling structure.
- The sag of the cables in the event of a fire must remain so low that they do not spread support the ceiling structure.

In addition, the following basic fire protection requirements must be met when installing lines:

- The maximum permissible tensile stress of 9 N / mm² specified in table 109 of DIN 4102-4 (edition from March 1994) for unprotected steel parts in the event of fire must be observed.
- The clamps to be used for the installation of cables are to be installed under the floor ceiling or on the wall with fasteners that have been proven in terms of fire protection – fix4fire is recommended for use in conjunction with the clamp4fire installation.

The fixings to be used must have been fire tested within a European Certified Test House or hold a European Technical Assessment (ETA). The fixingss must be installed in accordance with the specifications from the respective approval.
If the approval does not contain any information on the fire behaviour of the anchor, the suitability of the anchor can alternatively be verified by appropriate fire protection evidence, e.g. by testing by a recognized test centre.

2. Description

Clamp4fire is a one-piece cable bracket made of sheet steel with a special locking technology on the front. The weight of the inserted cables and lines secures the closure against unintentional opening. The mounting brackets can be mounted under the ceiling or on the wall.

3. Mechanical Stability

The aim of the test, which was carried out in accordance with DIN 4102, was to obtain statements about the mechanical behaviour and the stability of the collective brackets as wall and ceiling installation when exposed to fire for 90 minutes. The test is documented in the test report No. 3054/1495-Mu dated March 22, 2005 by the IBMB.

Steel weights were suspended in the cable holders to simulate a cable assignment during the test. The mechanical load was as follows:

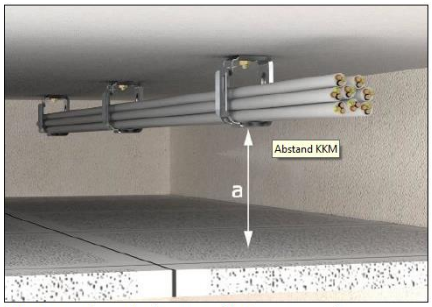
Type	strain [N]
KKM15	20
KKM30	35

Table 1: Load on the collective brackets

The test furnace was heated according to the unit temperature-time curve (ETK) in accordance with DIN 4102-2. The test duration was 90 minutes.

4. Fire Safety Assessment

Through the test, the collective holders have proven that they do not fail mechanically when exposed to fire for 90 minutes. They did not open during the tests and the steel weights did not come loose.
Assembly parameters can be derived from the proven load-bearing capacity of the mounting brackets with a fire load of 90 minutes. Depending on the fastening distance of the collecting brackets, the minimum distance "a" (see Figure 1) between the top of the false ceiling and the lower edge of the collecting brackets must be observed.



Picture 1: minimum distance „a“

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Table 2: Assembly Parameters of the Collective Brackets

Olympic Code	Fastening Type Distance [mm]	Cable Occupancy [kg/m]	Load [N]	Minimum Distance "a" [mm]
076-010-120	600	≤ 3,4	≤ 20	≥ 100
	800	≤ 2,5	≤ 20	≥ 250
076-010-130	600	≤ 5,9	≤ 35	≥ 100
	800	≤ 4,4	≤ 35	≥ 250

5. Summary

Based on the assembly parameters summarized in Table 2 and the minimum distances to the ceiling that must be observed, it is ensured that the ceiling is only loaded by its own weight when exposed to fire for 90 minutes in accordance with DIN 4102 in accordance with the existing requirements (see Section 2).

6. Special Notes

This fire protection statement only applies if:

- the collective brackets are attached to floors made of concrete / reinforced concrete according to DIN 1045 or from aerated concrete according to DIN 4223,
- the collective brackets are attached to solid walls made of masonry according to DIN 1053-1 to 4, of concrete / reinforced concrete according to DIN 1045 or from aerated concrete building boards according to DIN 4166,
- proof of fire protection is available for the floor ceilings and solid walls for at least 90 minutes (fire resistance class at least F90),
- To be used in conjunction with fix4fire screws.