A FIREPROOF INSTALLER

opts for Attema fire-proofing products

Innovative ideas for a changing world.
The fireproof installer

Fire cannot always be prevented. However, the risks for man and the environment can be contained as much as possible, a/o by using fireproof Attema boxes: single pre and post-installation cavity wall boxes, duo cavity wall boxes, coupling boxes and square terminal boxes. Even under the most extreme circumstances, they all meet the requirements of NEN-EN 60670 and of fire resistance standards NEN-EN 1364/1365. Moreover, they are all CE and KEMA certified and, like most Attema products, they are halogen-free, which means they do not release toxic fumes in the event of fire.

Become a fireproof installer

Opt for the fireproof boxes of Attema and become a fireproof installer.

Follow the “Fireproof installation the Attema way” forum on LinkedIn.

Expansion of the range of fireproof products.

Working together for more safety.

The hazards posed by fire and smoke are still underestimated. Smoke contains carbon monoxide that slows down oxygen transport through the body. This can cause headaches, dizziness, loss of consciousness and ultimately death. Each year, more people die because of smoke than fire! To change this, installers must make sure that fire and smoke development are slowed down as much as possible, in compliance with the current Building Decree, art 1.16.

In order to offer installers a fireproof alternative, in both pre-installation and post-installation, Attema introduced two built-in boxes for cavity walls in 2011: the UHW50-BW and the HWD50L-BW. These boxes, which are also halogen-free and don’t release toxic fumes in a fire, are used more and more often.

With the Building Decree 2012, the focus on fireproof solutions has increased even further. It stipulates that the installer now has the obligation to use fireproof installation materials wherever fireproofing is required. The ambitious product developers at Attema have immediately responded to this by greatly expanding the programme of fireproof boxes.

Now, there is also a fireproof duo box (DUO-UHW50-BW) and a fireproof coupling box (UWH50-KS-BW) for cavity walls. For technical ceiling systems, Attema also offer a fireproof, square terminal box (CDS5VG-BW). With these, each installer can meet the new fire resistance requirements for installations efficiently, a/o in apartment buildings, hotels, hospitals and care homes, office buildings and schools.

When is something fireproof?

An object is fireproof when it resists for a certain number of minutes (see official directives of the Building Decree) against burning through or spreading fire. This means that fire and smoke cannot escape from one fire (sub-)compartment to another room. A fire compartment is a space delimited by firewalls and ceilings. Such a space can consist of several sub-compartment or smoke compartments to prevent smoke development.
How long a wall is fireproof in a fire (sub-)compartment depends on the combination 1. Type of plasterboard, 2. Thickness of plasterboard and 3. Type of insulation. E.g. a wall system consisting of 10mm fibreglass reinforced plasterboard on both sides with 30 mm rock wool (45 kg/m3) insulation offers a fire resistance of 60 minutes. A wall system consisting of 2 plasterboards of 12.5 = 25 mm on each side with no insulation or glass wool insulation offers a fire resistance of 60 minutes. Therefore, the fire resistance of a wall is not determined by one plasterboard, but by the total wall system.

The fire resistance of a ceiling in a fire (sub-)compartment depends on the combination 1. Type of plasterboard, 2. Thickness of the plasterboard, 3. Type of insulation, 4. Fastening of plasterboard to latticework or floor joists as uninterrupted surface and 5. Air tightness of the ceiling construction.

If there is a “leak” in the wall surface of a fire (sub-)compartment, the resistance is insufficient. Therefore, if a hole is drilled in the plasterboard, e.g. for the mounting of installations, this hole must be filled with a fireproof solution to make the whole wall or ceiling system fireproof again.

If not, this creates inadmissible risks. Installers must always make sure that their installations are always made sufficiently fireproof. They must also keep a careful administration of all this, with a view to a possible liability that can be imposed by law. Each wall system must be compliant to a certain fire class in accordance with DIN EN 13501-1. To prevent risks, each “leak” in a wall system must be provided with a fireproofing solution.

**What is a fire compartment?**

A detached house can be considered as one fire compartment. In this case, this fire compartment consists of several rooms that are linked by a hallway. A fire compartment can also consist of a single big room. This can be either in dwellings or industrial structures. Each compartment is delimited by walls and ceilings that must be fireproof. The size of a fire compartment depends on:

- the usage function
- the occupation level, how many persons are present in the building / room
- the shape and size of the building

A fire compartment can consist of several compartments: fire sub-compartments, also called smoke compartments. These sub-compartments will mainly prevent smoke from spreading beyond a single fire compartment. Examples of fire sub-compartments are:

- an office room
- a lab

In addition, within the fire compartments and sub-compartments, there can also be fire sub-compartments that offer a greater protection against smoke and fire than the standard sub-compartments and fire compartments. Examples of protected fire sub-compartment are:

- rooms for bedridden patients that are not monitored (50 m²)
- rooms for bedridden patients that are monitored (500 m²)
- cells
- residential accommodation, such as a hotel
When do you need a 20, 30 or 60-minute fire resistance in the cavity wall?

**Dwellings**

As indicated earlier, a detached house is considered as a single fire compartment in the Building Decree. The main load bearing structure of such a dwelling must have a fire resistance of 60 minutes. This is not applicable to cavity wall systems used inside the main load bearing structure of the house.

**Dwellings / Industrial structures**

In buildings like terraced houses, apartment buildings, offices and care homes, the fire resistance of the main load bearing structure of the building is not part of the installer's responsibility. What the installer is responsible for is the resistance against fire spread and burn-through. This concerns the fire resistance of a/o walls, ceilings, shafts and channels.

Cavity wall systems are used in both fire sub-compartment and fire compartments. If installations are placed in cavity walls, this results in a ‘degradation’ of the surface of walls and ceilings. It causes a ‘leak’. This ‘leak’ must be filled with fireproof products that meet the required fire resistance level. The Building Decree lists the situation in which a 20, 30 or 60-minute fire resistance is required in a fire compartment and in a fire sub-compartment.

**Fire compartment**

In article 2.84, par. 1, of the Building Decree 2012, a resistance against fire spread and burn-through of at least 60 minutes is required between fire compartments (walls and floors separating dwellings, but also outside walls). This requirement also applies to walls and ceilings from a fire compartment to four specific room types that are not located in a fire compartment. These are:

- an enclosed space, such as a lift shaft, basement or pipe shaft (spaces that are difficult to access or even inaccessible), through which an extra protective escape route runs.
- a public emergency stairwell.
- public evacuation routes (see article 1.1)
- spaces with a useful area > 1.000 m² (see article 2.84, par. 5)

In accordance with the provisions of article 2.10, par. 3, and article 2.84 of the Building Decree 2012, a 30-minute fire resistance is sufficient for the above compartments if:

- the highest floor in a building does not exceed 7 metres above the reference level, measured from the entrance floor of the building and the fire compartment has a permanent fire load < 500 MJ/m² (article 2.84, par. 3).
- it concerns trailers/caravans that are spaced 5 metres apart (article 2.84, par. 8)
- it concerns temporary constructions
- the compartment has no usage as dwelling, cell or health/care function (with beds); are located on the same plot and the highest floor does not exceed 5 metres above the reference level (article 2.84, par. 4)
Fire sub-compartment

In article 2.94 of the Building Decree 2012, a resistance against fire spread and burn-through of at least 20 minutes is required between fire sub-compartments and towards other rooms in the fire compartment. However, the second paragraph of the same article stipulates that a protected fire sub-compartment (used as bedroom) must have a fire resistance of 30 minutes. You know your way in your own environment (your home), but you could also be staying in a hotel. In order to give you enough time to find your escape route, these rooms are classed as protected fire sub-compartments.

Tested and certified:
Better safe than sorry

The Building Decree stipulates when a fire compartment and sub-compartment must have a fire resistance of at least 20, 30, 60 or 90 minutes. Some installers still trust their own creative solutions (see photo). However, if they have never been tested officially, it remains to be seen whether or not they offer the required resistance. Make sure you don’t find out afterwards that you didn’t meet the required standard. Only use fireproof solutions that have been tested and certified, like the fireproof boxes of Attema. They have already proven their fire resistance in fire and smoke for 20, 30, 60 or 90 minutes. Not only as single boxes, but also up to 5 boxes coupled back to back, both horizontally and vertically. Check out the order numbers and specifications on the opposite page. The official certificates corresponding to the certified fireproof Attema products can be found on www.attema.com. You must always include these certificates in your project administration and submit them to your client.

For a personal chat with our advisors, please call (+31 (0)183 650 650) or e-mail (elektro@attema.com) us. We will arrange an appointment.

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