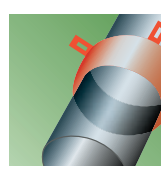

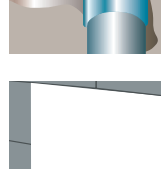
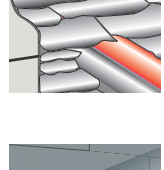
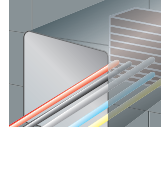
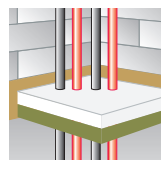
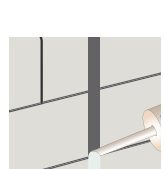
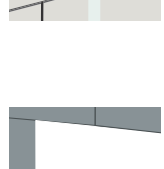
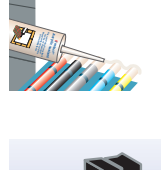
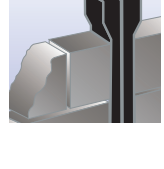





Technical specifications Firetect® Firestopping Range, fire rated penetrations

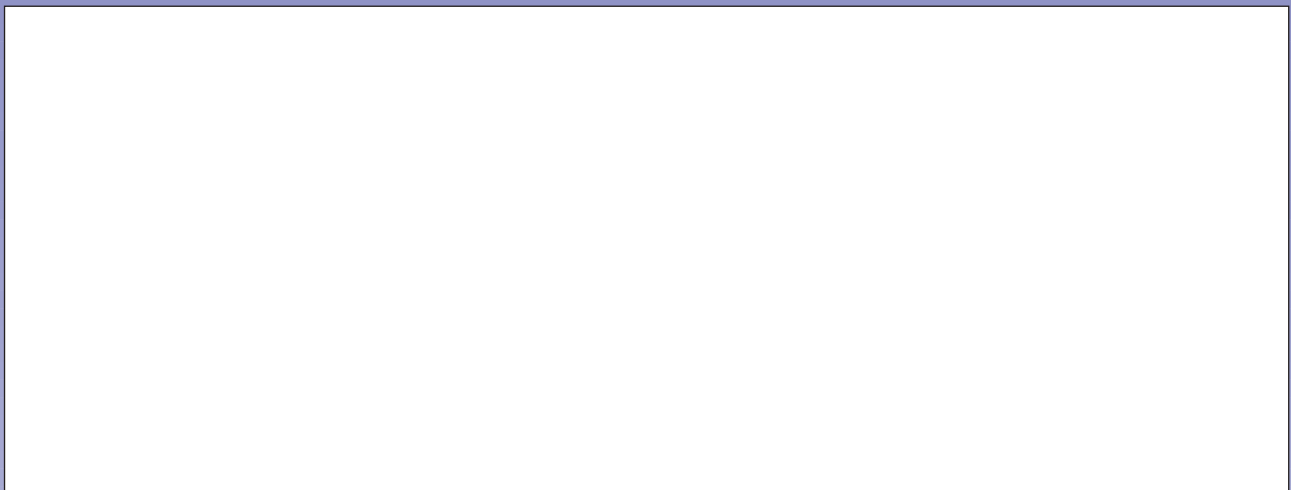
	Product name	Application	Characteristics Type of material	Tested according to:	Dimension / packaging
	Firetect® FMU collar	Sealing of plastic pipes	compact design height Intumescent material	EN 1366-3 NEN 6069:2001 60 minutes	Several diameters Packed in 2 pieces
	Firetect® FMI collar	Sealing of plastic pipes	Intumescent material Red epoxy coating for corrosion protection	EN 1366-3 NEN 6069:2001 60 - 240 minutes	Several diameters Packed in 2 pieces
	Firetect® Wrap	Sealing of plastic pipes	Intumescent material application in floor or wall	EN 1366-3 NEN 6069 60 - 240 minutes	Several diameters Packed in 2 pieces
	Firetect® PA boards Firetect® PA coating	Sealing of cable penetrations	Ablative coating WB in combination with high density rock wool	EN 1366-3 NEN 6069:2001 60 - 120 minutes	Rock wool 600 x 1000 x 50 of 60 mm. Density approx. 150 kg/m³ Coating in pails of 20 kg
	Firetect® Pillows	Sealing of flexible cable penetrations	Water resistant intumescent	EN 1366-3 NEN 6069:2001 60 - 120 minutes	250 x 40 x 100 / 200 / 250 mm
	Firetect® Cable transit	Flexible penetrations for cables	Device to apply in primary phase of the building process or in the end phase with oversized openings	EN 1366-3 NEN 6069:2001 60-240 minutes	Packed by 6 pieces
	Firetect® Mortar	Robust seal in floor or wall	Fire rated mortar, gypsum based	EN 1366-3 NEN 6069:2001 60-120 minutes	25 kg bag
	Firetect® Silicone sealant WB	Flexible joint constructions	Mastic, water based, fungus resistant, can be over painted	EN 1366-3/4 NEN 6069:2001 60 - 120 minutes	Per box of 25 cartridges of 310ml
	Firetect® Silicone sealant	Flexible joint constructions	Mastic, alkoxy based	EN 1366-3 NEN 6069:2001 60 - 120 minutes	Per box of 25 cartridges of 310ml
	Firetect® Acrylic sealant	Intumescent fire rated mastic for seals with minor movement	Mastic, water based, easy to finish	EN 1366-3/4 NEN 6069:2001 60 - 240 minutes	Per box of 25 cartridges of 310ml
	Firetect® Flexjoint	Flexible seal of movement joints and other joints	Based on intumescent material, flexible	Awaiting test results	
	Firetect® Cable coating	Protection and prevention of spread of flame on electricity cables	High quality coating, very flexible, endothermic	IEC60332: part 3 1992 Continued functioning of (technical) facilities under development	Pails 25 kg

For further details, applications, handling and safety instructions, consult the Technical / Material safety data sheets.

Firetect®

for fire safe building

Your dealer



Firetect® is a registered product of:

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FIRETECT®

FIRE STOPPING RANGE

Fire rated penetrations



KLF

Building Products

Fire protection: a matter of details



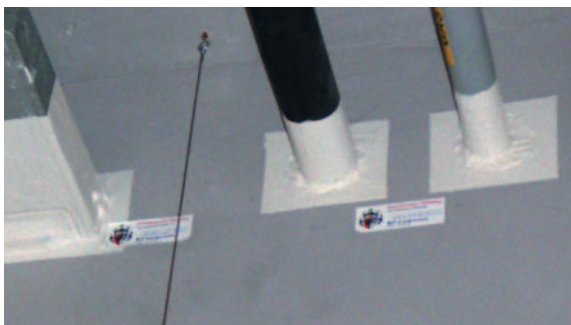
When designing a building, an architect looks at (economic) construction, functionality and aesthetics. In the last decade, also the building fire performance plays a major part in the design process. In case of fire it is essential that the fire is limited to a designated area to allow humans to escape and to minimize damage to other areas or buildings.

Buildings have become more high-tech. These are equipped with an increasing number of advanced technical devices such as emergency escape lighting, air control, fire alarms, sprinkler- and smoke extraction installations. Therefore, a complex system of cable traces, air ducts, shafts and pipes is necessary which often penetrate through ceilings, walls and floors of a building.

These service 'penetrations' must not be a passage for fire, smoke and toxic gases and should, where necessary, limit temperature rise on the penetration. Therefore, the openings must be suitably fire-stopped using specially designed fire seals. Correct selection and installation of these fire seals should provide additional protection to building services from fire damage. The fire seals should not interfere with the normal functioning of the services under non-fire conditions.

Failure of fire seals can lead to fire spread by ignition of combustible materials remote from the fire source.

No matter how well constructed the building is, a failure to protect service penetration openings WILL lead to horizontal and vertical fire spread into adjacent compartments.



Passive fire protection represents only a small part of the total construction costs, yet provides (along with active fire protection systems) the protection to building and life safety that is required. Fire seals like collars, mastics, cable transit systems together with ablative, endothermic and intumescent coatings determine the ultimate level of fire performance.

The Building Codes prescribe the minimum fire performance level for residential, office, leisure and industrial complexes. The local building codes specifically describe the test methods to meet the performance norms. In general, the local codes involve material performance, the total performance of material and construction in terms of spread of flame, flashover, integrity, thermal installation and maximum temperature rise.

Local building codes often require a building to be divided into fire compartments. These fire sealed areas prevent spread of fire to connecting areas or floors in order to control the fire. The local codes state in which



cases a fire compartment must be in place as well as the criteria applicable for that compartment. In general, size is determined as 500 m² or 1000 m². In certain circumstances a smaller compartment surface is demanded, for example in case of technical equipment areas, hotel rooms or kitchens.

Example of a Dutch building code
Resistance to fire Propagation and Flash Over
(WBDBO), in accordance with NEN 6068

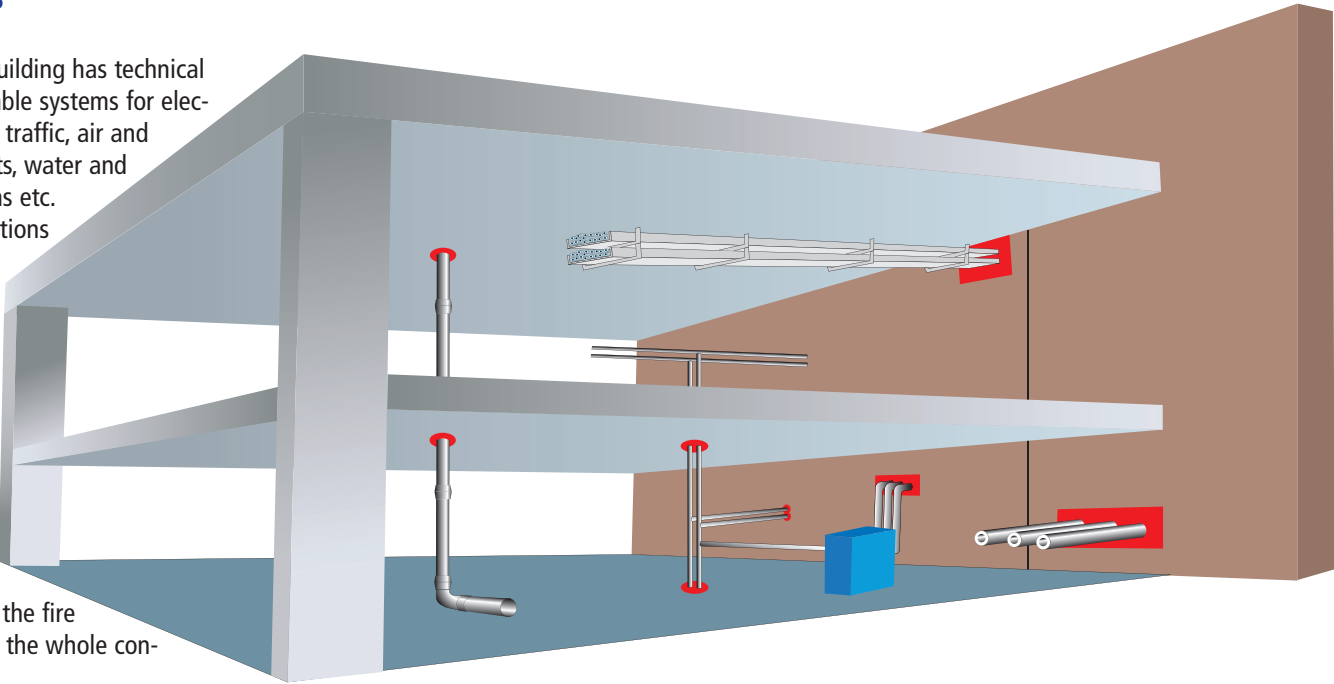
Flash Over from one fire compartment to another. The WBDBO requirements can apply to facades, walls, roofs and the roof/wall joint.

Fire compartments can be compromised if service penetrations for technical installations have been insufficiently protected. The openings made in walls and floors for service penetrations connect the fire compartments and can therefore easily contribute to spread of fire. Local building codes prescribe specific criteria for connecting facilities like cable traces, air ducts, shafts and pipes. Depending on the number and size of service penetrations and the material which the connecting facilities consist of, additional fire stopping materials are necessary to guarantee the WBDBO.

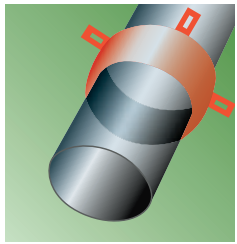


Fire Seals

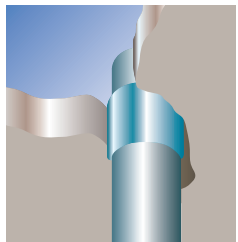
Almost every building has technical installations: cable systems for electricity and data traffic, air and ventilation ducts, water and gas pipes, drains etc. Service penetrations through compartment floors, walls or ceilings must be protected against fire in order to avoid fire and smoke spread. Every unsealed service penetration will undermine the fire performance of the whole construction.



Pipe collars

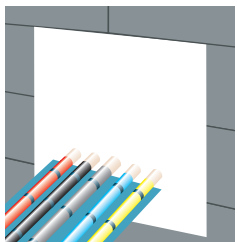


During fire, plastic pipes will melt and will allow spread of fire and smoke through the void left by the collapsed pipe. Such pipes must be fire sealed with fire collars. The **Firetect® FMU collars** are fixed around the pipe and under fire conditions the reactive intumescent expands under high pressure to seal the hole left by the collapsed pipe. When applying fire collars, the joint between the collar and floor/wall must be sealed with **Firetect® Acrylic sealant**, **Firetect® Silicone sealant WB** or **Firetect® Mortar**. The compact design height of the **Firetect® FMU collar** makes site fitting very easy. The **Firetect® FMU collar** is protected from corrosion by a red epoxy coating.



If it is not possible to fit a fire collar due to aesthetical reasons or restricted site fitting conditions, plastic pipes can be fire stopped using **Firetect® Wraps**. These function in the same way as a fire collar by high pressure expansion, but they must be cast-into a solid structure.

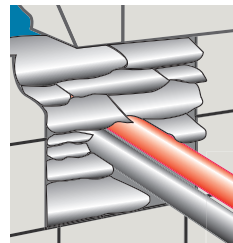
Cable penetrations



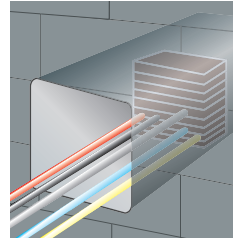
In the primary phase of construction, it is not quite clear what the size of a cable penetration opening should be. Therefore, most penetration openings are made larger. Often, a combination of fire stopping materials are used to fully seal the opening within the wall or floor. The opening can be easily and quickly sealed using

Firetect® PA boards, high quality mineral fire boards with a **Firetect® PA** (ablative fire rated) coating on one or two sides. Smaller openings can be sealed with **Firetect® Acrylic sealant**.

Flexible cable penetrations

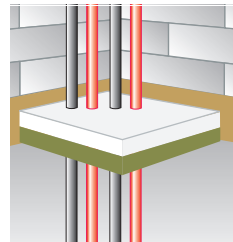


Firetect® Pillows are suitable as flexible, humidity resistant seals in order to easily allow application of additional cables. .



When using **Firetect® Cable and tube transits** in the building construction, (technical) facilities can be easily installed, providing a flexible system that guarantees permanent fire performance.

Fixed cable penetrations



Using **Firetect® Mortar** a fixed seal is achieved. **Firetect® Mortar** installed onto a mineral wool shutter will provide a durable fire rated construction. Extra facilities can be added later and fire sealed with **Firetect® Acrylic sealant**.

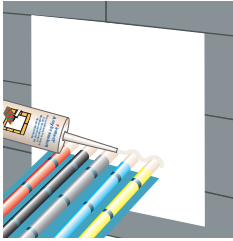
Construction openings, gaps and linear joints



Construction openings, gaps and linear joints with a diameter of 25 mm or more must be fire sealed in order to prevent spread of fire. (local Dutch building code) **Firetect® sealants** are very suited for fire sealing small openings in fire compartment walls, floors and ceilings to ensure resistance to fire and smoke. For example,

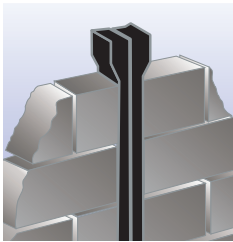
Firetect® Silicone sealant WB is a fire retardant neutral curing one component silicone water based mastic. The mastic is also resistant to fungus, so it can be applied in humid locations, indoors as well as outdoors.

Firetect® Acrylic sealant is an acrylic intumescent mastic which expands in case of fire. This universally applicable interior mastic is very suitable to fully fire seal small gaps and linear joints and service penetrations. Plastic pipes up to a diameter of 42 - 50 mm can be fire sealed by way of the mastic's expansion characteristics in case of fire.



Firetect® sealants have a superior adhesive ability and can be applied on most common construction materials without using any primer. In addition, a joint can be sealed with **Firetect® PA boards**, whether or not in combination with **Firetect® PA coating** or with **Firetect® Acrylic / Silicone sealant**.

A very simple alternative is **Firetect® Flexjoint**, mostly applied on movement joints which are subject to frequent expansion and contraction. **Firetect® Flexjoint** consists of an intumescent material in order to guarantee the seal to be resistant to fire.



Protection of cable systems



The insulation layer of electrical cables is often highly flammable and can quickly result in fire propagation and the production of toxic smoke. It is therefore necessary to protect cable systems against the effects of fire. **Firetect® CE coating**

retards the combustion process, by lowering the amount of heat released and thus the onset of flashover and contributes to long lasting functioning of (technical) facilities.

Technical installations are subject to change and maintenance. During check-ups, the cable penetrations are often damaged. Therefore, they should be periodically checked and restored in order to guarantee the fire performance. The requirements for maintenance of services must be taken into account when selecting the appropriate fire seal type.

Considering the complexity of the legislation, standards and test results, KLF Building Products advise to contact a fire prevention consultant in every (non standard) site requirement. No rights can therefore be derived from this brochure, test reports or results.

For information and technical advice, please contact your dealer or

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Firetect® FIRE STOPPING RANGE

Firetect® fire rated penetrations

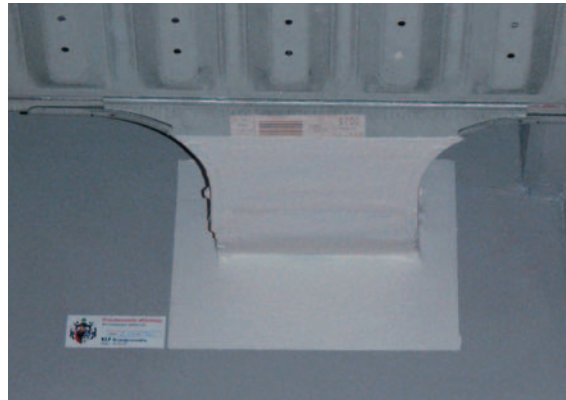
There are several variants of mastics, foams and coatings available on the market for many applications. Only a few of them are actually suitable for their contribution to fire containment in buildings.

Firstly, fire stopping materials must be sufficiently fire resisting. For example, using a 'wrong' mastic can actually contribute to the fire! Moreover, the products must be tested according to the local standards.

Secondly, fire stopping products must also be easy to handle, e.g. when selecting a suitable fire rated coating, the right viscosity is essential.

Once installed, most fire seals are not visible. Where they will be visible, the products must have an acceptable aesthetic appearance, for example a common RAL colour.

Every fire seal has its own unique application. Often little attention is paid to the fact that the choice of fire seal can be dependant on the maintenance level of technical installations. Every time an air shaft is opened for maintenance or the cable system is updated, it has an impact on the fire performance of the cable penetration and the fire performance as a whole.



KLF Building Products, producer of **Firetect®** fire resistant boards, developed the **Firetect® fire stopping range**, based on its own experience and the growing demand of the market. These fire performance products combine all of the above mentioned characteristics of a true fire seal product. The **Firetect® fire stopping range** stands out because of its multi-application and the good value for money. The products are not only easy to handle, they are also environmental friendly and safe in usage.

Firetect® fire resistant cladding and fire seals are applied by contractors, specialised in fire protection. Fire performance is often very site and orientation specific and fire stopping installations must meet the local building standards. Therefore, **KLF Building Products** strongly recommends putting fire performance in the hands of professionals. Recommended application contractors exclusively and only work with approved products and will hand out a guarantee certificate of fire performance. Passive fire performance is a durable investment. Therefore, it is recommended to conclude a maintenance contract with the installation company.

KLF

