

# Intumescent Accessories Manual and Datasheet

General Manual, Installation and Datasheet for fire safe sleeves and collars.

**Part Number**

90000107 / 90000108 / 90000109 / 90000110 / 90000111 / 90001488 / 90001022 /  
90001023 / 90001024 / 90001025

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# Section 1: Intumescent Collars

90000107 / 90000108 / 90000109 / 90000110 / 90000111



## **1.0 Functional Description**

The CE Marked Fire Collars consist of a continuous pressed stainless steel flexible shell which forms the shape of a “collar”. This shape contains high performance graphite based intumescent material which reacts under the influence of heat to exert pressure on the duct, it softens to form a carbonaceous char which provides an effective insulation plug within the duct thus preventing fire passing through to the adjoining fire compartment. The CE Marked Fire Collar has built in fixing lugs which are used to secure it to the structure.

- Tested to BSEN 1366-3:2009 and certified according to EN 13501-2:2007 + A1:2009.
- CE certified high durability material.
- 4-hour fire safety rating, available for 75mm-160mm duct diameters and can be easily retrofitted.
- Tested for use in concrete and masonry floors and walls.
- Tested on a plasterboard ceiling/timber floor in accordance with the principles of BS EN1366-3:2009.
- Compatible with all MVHR and mechanical ventilation systems.

Installation for a correctly sized hole.

Fire Collars are supplied individually to suit specific pipe diameters of plastic pipe and may be packaged in cardboard boxes for shipping purposes and should be stored in a cool, dry location. CE Marked Fire Collars consist of a pressed stainless steel shell containing graphite in a synthetic compound with the addition of filters and process oils. The steel shells can have sharp edges, always wear gloves when handling

## 2.0 Performance Ratings

The CE Marked Fire Collars are suitable for use in concrete floors with plastic pipes including HDPE, PVC and PP in concrete floors providing up to 4 hours integrity.

Table 1: Performance Data

Part Number	Duct Size(mm)	Estimated clearance around duct for fitting(mm)	Recommended hole diameter(mm)	Collar Length(mm)	Fire Rating
90000108	Ø75	50	Ø77	50	4 Hours
90000109	Ø110	40	Ø112	50	4 Hours
90000110	Ø125	45	Ø132	50	4 Hours
90000111	Ø160	50	Ø162	50	4 Hours

## 3.0 Applications and Installation

**The CE Marked Fire Collars should be used where a plastic pipe penetrates a fire rated wall or floor. For vertical pipework, one unit should be installed to the underside of the floor. For horizontal pipework one unit should be fitted to both sides of the wall.**

The surface of the wall must be clean and free of loose debris/dust and any irregularities between the collar and the wall, and between the pipe and wall, should be filled by applying Acrylic Sealant.

Holes for the pipes should be drilled as close as possible to the outside diameter of the plastic pipes and are described in *table 1* of this document. The CE Marked Fire Collar should be fed around the plastic pipe, securing the ends together by passing the tongues on one end through the slots on the other end.

The tongues should then be bent back, and the unit secured to the structure using the correct fixings through all the lugs. (It is not a tested solution to not use all the lugs so space should be allowed for the fixing of the Fire Collar during design and installation of the pipework.) A full set of installation details and a step-by-step guide is available below and we recommend you check all available data before commencing installation.

### Step By Step Guide

**This installation guide is for general guidance only and all installation details should be checked against relevant supporting test evidence and certification.**

Fire Collars are lifesaving products designed to prevent the spread of fire where plastic pipes penetrate fire compartment floors. It is therefore essential that they are fitted in a responsible and workmanlike manner. The Fire Collar can be installed to concrete walls and floors, fire rated plasterboard partitions, fire rated plasterboard ceiling/ timber floors so this document should be read in conjunction with all other available relevant information and tested scope of application.

1. A lot of extra work and associated cost can be avoided by early engagement, coordination, and good communication between all trades. Holes for the pipes should be drilled as close as possible to the outside diameter of the plastic pipes and as given in the table in which case installation will be simple by fixing the collar to the substrate with the correct fixings.

2. The surface of the wall must be clean and free of loose debris/dust. Any small irregularities between the collar and the wall, and between the pipe and wall, should be filled by applying Intumescent Acrylic Sealant. The CE Marked Fire Collar can be retrofitted around the pipe by undoing the 2 tabs that hold it together.



The collar can then be fed around the plastic pipe, wrapped tight and the ends secured together again by passing the tongues on one end through the slots on the other end. The tongues should then be bent back and the unit secured to the substrate through all the fixing lugs with the correct fixings.



All lugs must be secured in accordance with the test evidence. CE Marked Fire Collars are manufactured specifically to suit individual pipe diameters so select the correct product by determining the outside diameter of the pipe. For example, a Ø110 suits a Ø110mm outside diameter plastic pipe. For vertical pipework, one unit should be installed to the underside of the floor. For horizontal pipework one unit should be fitted to both sides of the wall.

**There are some examples of installation in the proceeding pages, if using a oversized hole, consultation is required.**

## **3.1 Installation of Fire Collar to a plastic duct penetrating a concrete floor with correctly drilled hole.**

*Products used:* CE Marked Fire Collar

*Fixings:* M8 X 60mm Steel Sleeve Anchors

1. Make sure that the surface around the aperture and the services are clean of any debris and remove dust from all edges.
2. Any small irregularities on the face of the slab to which the collar will be installed can be filled using Intumescent Acrylic sealant as can any small gaps around the pipe. Large gaps require QF2 Fire Protection Compound, refer to other relevant details if this is the case.
3. The CE Marked Fire Collar should be fed around the plastic pipe, wrapped tight and the ends secured together by passing the tongues on one end through the slots on the other end. The tongues should then be bent fully back to fully secure it.
4. The Fire Collar should then be secured to the soffit using M8 x 60mm steel sleeve anchors through all integral fixing lugs.

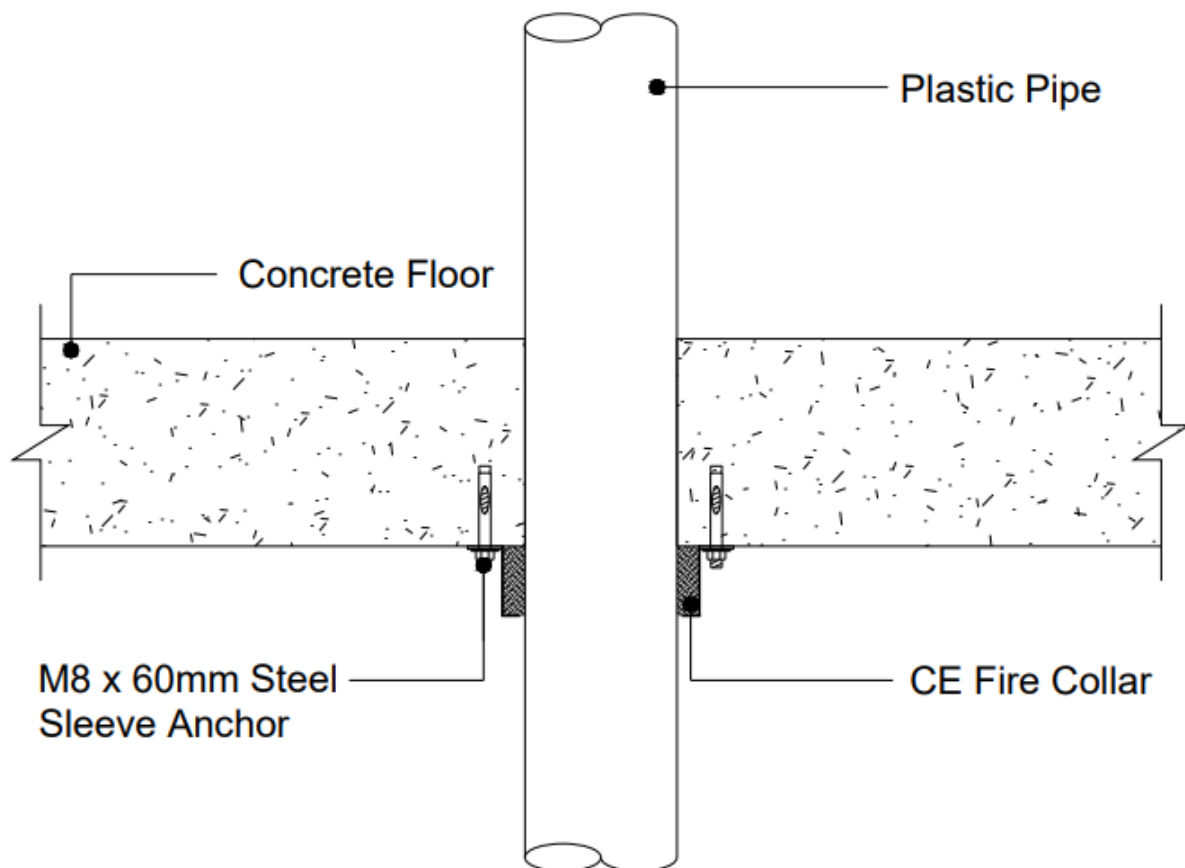


Figure 1: Installation in concrete floor

### **3.2 Installation of the Fire Collar to a fire rated plasterboard ceiling/timber floor construction**

*Products used:* CE Marked Fire Collar, Intumescent Sealant

*Fixings:* M5 X 65mm Steel hollow wall anchors

1. Make sure that the surface around the aperture and the services are clean of any debris and remove dust
2. Any small gaps around the pipe can be filled using Intumescent Acrylic Sealant.
3. The collar should be fed around the plastic pipe, wrapped tight and the ends secured together by passing the tongues on one end through the slots on the other end. The tongues should then be bent fully back to fully secure it.
4. The Fire Collar should then be secured to fire rated plasterboard using M6 x 65mm steel hollow wall anchors through all integral fixing lugs
5. Finally, Acrylic Sealant should be applied around the plastic pipe on the upper face of the floor acting as a smoke seal.

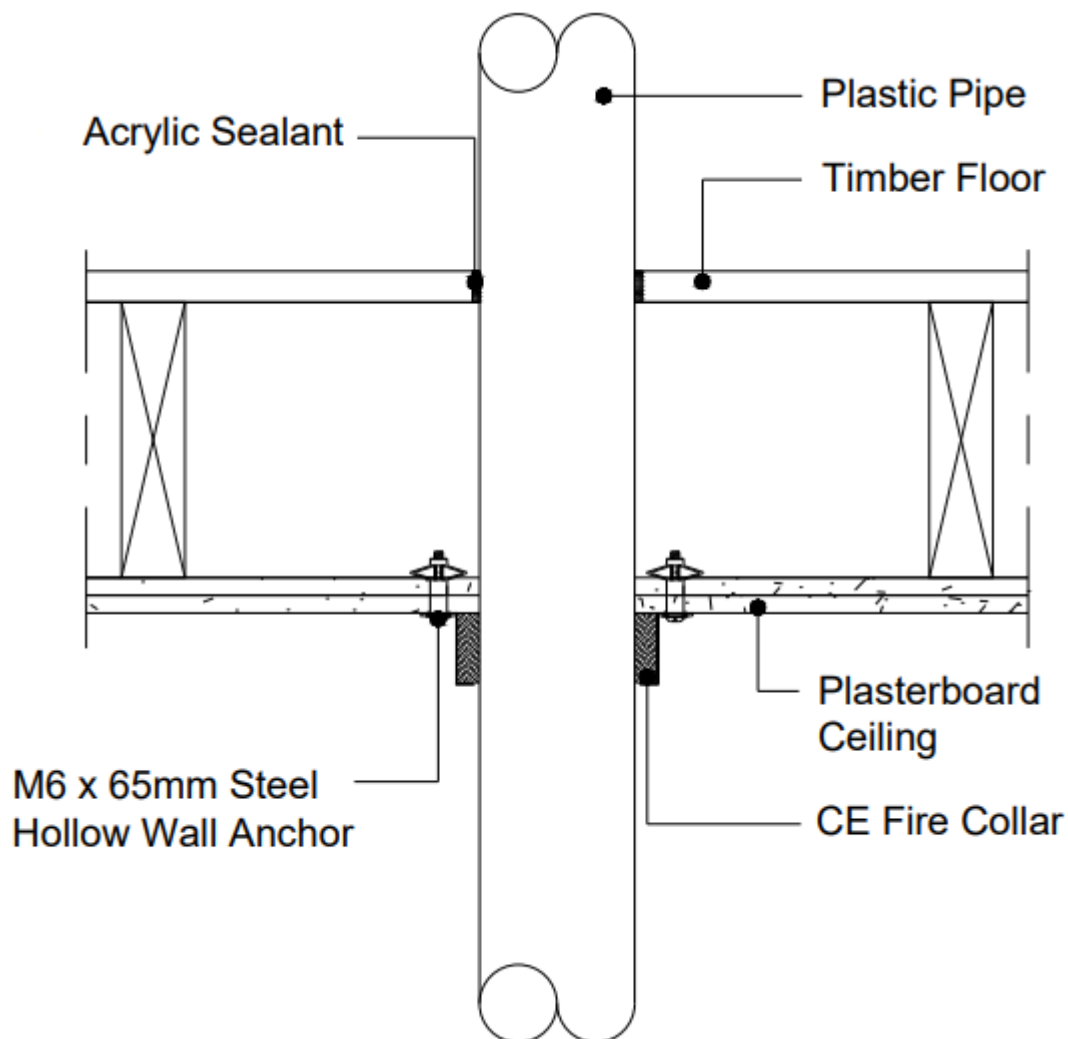


Figure 2: Installation in a fire rated plasterboard

## **3.3 Installation in a concrete or masonry wall**

Products used: CE Marked Fire Collar

Fixings: M8 X 60mm Steel sleeve anchors

1. Make sure that the surface around the aperture and the services are clean of any debris and remove dust from all edges.
2. Any small irregularities on the face of the wall to which the collar will be installed can be filled using Intumescent Acrylic sealant as can any small gaps around the pipe.
3. The Fire Collar should be fed around the plastic pipe, wrapped tight and the ends secured together by passing the tongues on one end through the slots on the other end. The tongues should then be bent fully back to fully secure it
4. The Fire Collar should then be secured to the wall using M8 x 60mm steel sleeve anchors through all integral fixing lugs
5. Repeat steps 1 to 4 on the other side of the wall so that a pair of Fire Collars is installed.

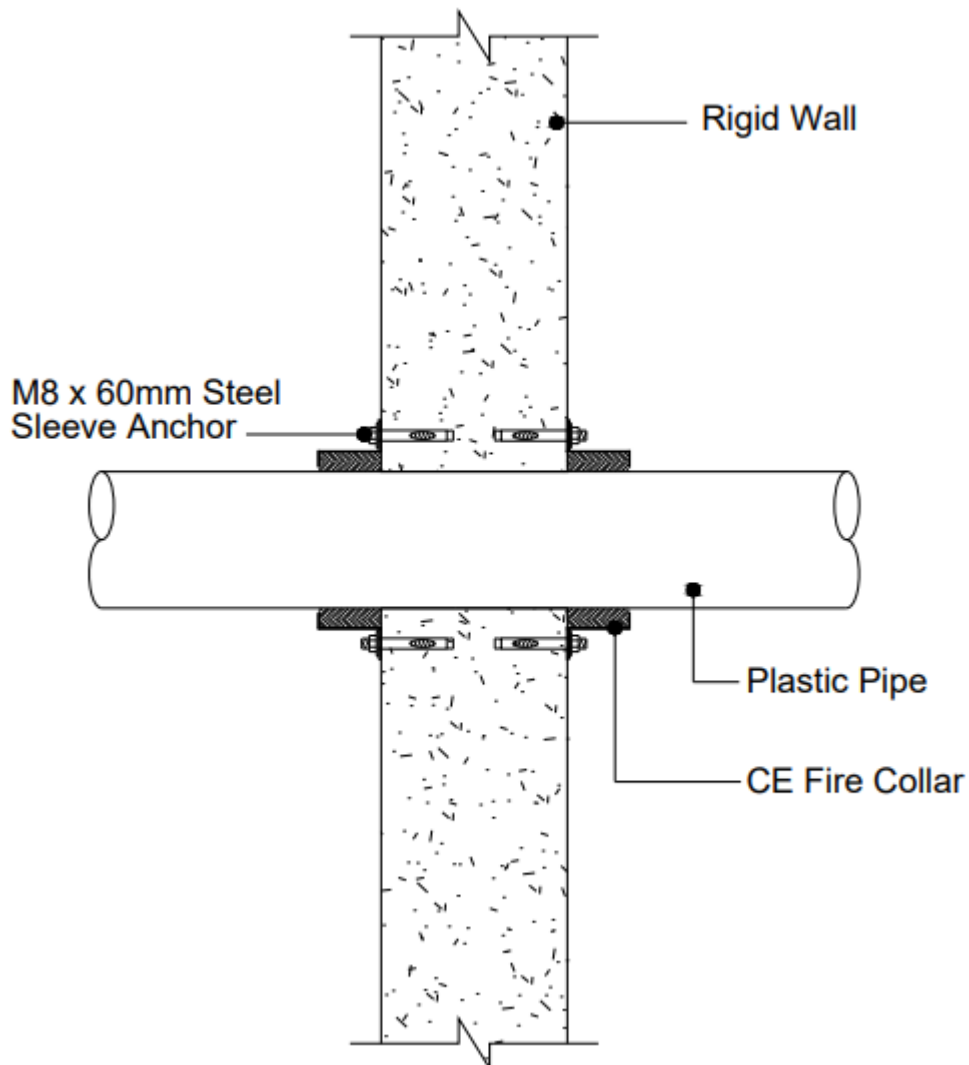


Figure 3: Installation in concrete or masonry wall



## **3.4 Installation in a plasterboard wall**

Products used: CE Marked Fire Collar

Fixings: M6 X 65mm Steel hollow wall anchors

1. Make sure that the surface around the aperture and the services are clean of any debris and remove dust from all edges.
2. Any small gaps around the pipe can be filled using Intumescent Acrylic Sealant.
3. The Fire Collar should be fed around the plastic pipe, wrapped tight and the ends secured together by passing the tongues on one end through the slots on the other end. The tongues should then be bent fully back to fully secure it.
4. The Fire Collar should then be secured to the wall using M6 x 65mm steel hollow wall anchors through all integral fixing lugs.
5. Repeat steps 1 to 4 on the other side of the wall so that a pair of Fire Collars are installed.

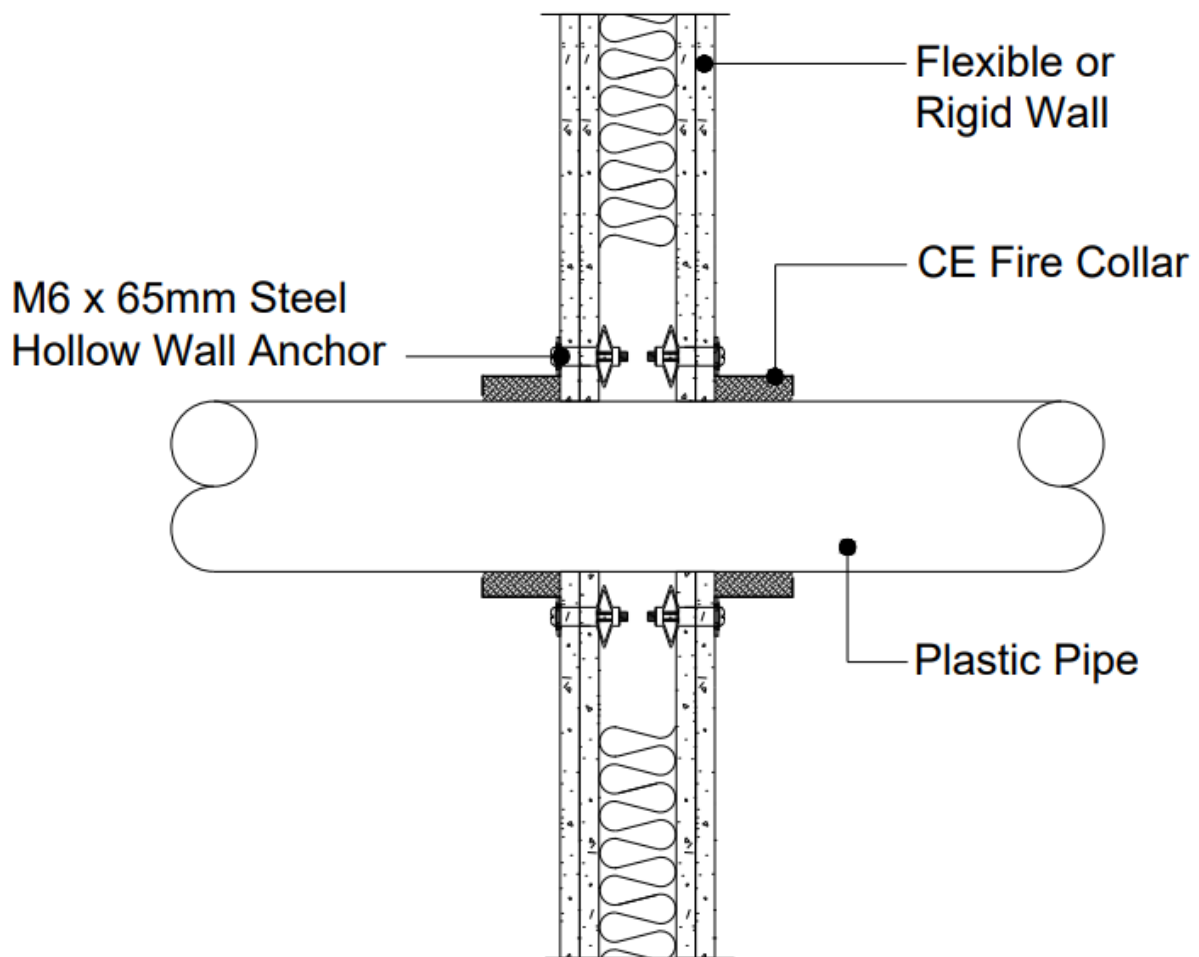


Figure 4: Installation in plasterboard

## Section 2: Intumescent Sleeves

90001022 / 90001023 / 90001-024 / 90001025



### **1.0 Functional Description**

The CE Marked Fire sleeves consist of a continuous pressed stainless steel flexible shell which forms the shape of a “sleeve”. This shape contains high performance graphite based intumescent material which reacts under the influence of heat to exert pressure on the duct, it softens to form a carbonaceous char which provides an effective insulation plug within the duct thus preventing fire passing through to the adjoining fire compartment. The sleeve is manufactured specifically to suit differing sizes and diameters of duct and is supplied ready to be fitted into the wall with an opening lid for retrofitting.

- Tested to BSEN 1366-3:2009 and certified according to EN 13501-2:2007 + A1:2009.
- High durability material.
- 4-hour fire safety rating, available for 75mm-125mm duct diameters and can be easily retrofitted.
- Tested with Uncapped / Uncapped (U/U) duct configurations as required for ventilation ducts.
- Tested on a plasterboard ceiling/timber floor in accordance with the principles of BS EN1366-3:2009.
- Compatible with all MVHR and mechanical ventilation systems.

Installation for a correctly sized hole.

Fire Sleeves are supplied individually to suit specific pipe diameters of plastic pipe and may be packaged in cardboard boxes for shipping purposes and should be stored in a cool, dry location. CE Marked Fire sleeves consist of a pressed stainless steel shell containing graphite in a synthetic compound with the addition of filters and process oils. The steel shells can have sharp edges, always wear gloves when handling.

## 2.0 Performance Rating

CE Marked Fire Sleeves are suitable for use around plastic ventilation ducts and are tested to BSEN 1366-3: 2009 and classified according to EN 13501-2: 2007 + A1: 2009 up to 2 hours integrity.

Table 2: Sleeve Performance Data

Part Number	Duct Size(mm)	Estimated clearance around duct for fitting(mm)	Recommended aperture(mm)	Length(mm)	Fire Rating
90001022	Ø75	8	Ø90	140	2 Hours
90001023*	Ø100	18	Ø135	180	2 Hours
90001024*	Ø125	23	Ø170	180	2 Hours
90001025	204 x 60mm	13	230 x 132	140	2 Hours

\*Not currently CE marked

## 3.0 Installation and application

CE Marked Intumescent Fire Sleeves should be used where a plastic ventilation duct penetrates a fire rated wall to maintain the compartmentation in the event of a fire. The sleeve requires no mechanical fixing or framework support, they rely on the fire rated wall construction, plasterboard or solid masonry/block to hold it in place so the penetrations should be cut as tight as possible to the Fire Sleeve itself, suggested approximate apertures sizes are given in the “sleeve performance data” table 2.

For the simplest installation, the Fire Sleeve should be installed around the duct and then the wall installed tight around the sleeve, however they can be retrofitted into the wall too.

Simply hinge open the lid, feed around the duct, wrap tight and close the lid, secure shut with the self-adhesive tape supplied (or self-tapping screw in the case of circular fire sleeves) and then slide the sleeve along the duct into the wall construction. The sleeve should be installed centrally positioned within the wall and must be either flush or protruding from both sides of the wall in accordance with the relevant installation detail. Once installed into the wall, in the correct position, the perimeter should be sealed with Intumescent Acrylic Sealant.

Where a cluster of ducts/sleeves are installed, the sleeves should be tight to each other, alternatively they need to be far enough apart to suitably install the original wall construction, all in accordance with the specific installation detail and tested scope of application.

A full set of installation details and a step-by-step guide is available below and we recommend you check all available data before commencing installation.

Apertures for the sleeve should be cut or drilled as tight as practically possible to suit the external dimensions of the Fire Sleeve. Gaps around the installed Fire Sleeve should not exceed 5mm and can therefore be sealed with Intumescent Acrylic Sealant. The sleeve can be retrofitted but is dependent on being able to cut the right size aperture within the wall substrate which may be easier to achieve without the duct in position.

## Step By Step Guide

This is general guidance and installation should consider safety regulations and applicable requirements.

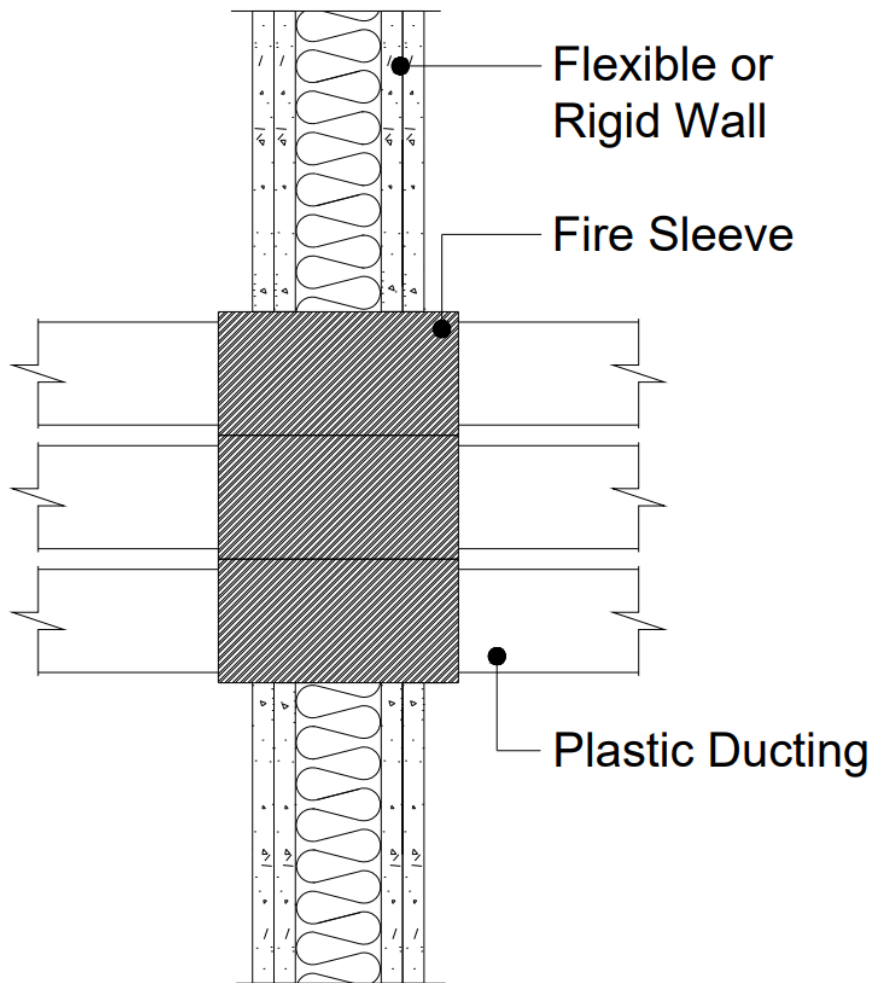
1. Once the correct diameter hole or aperture has been achieved within the wall and the correct Fire Sleeve has been identified, check the duct and penetration are clean of debris and there are no obstructions that would prevent the sleeve being slid into position.
2. Hinge open the Fire Sleeve and wrap tight around the plastic vent duct.
3. Secure the lid of the sleeve shut with the self-adhesive tape fitted to the rectangular versions (or the self-tapping screw supplied with circular versions).
4. The Fire Sleeve can then be slid along the duct into the substrate.
5. Ensure that the Fire Sleeve is centrally positioned within the wall and that the face of the sleeve is either flush or protruding from the substrate in accordance with the specific installation detail – check both sides.
6. Seal around the perimeter of the sleeve where it meets the substrate with Intumescent Acrylic Sealant.
7. Where the duct is required to be insulated, this can now be butted up to the Fire Sleeve and sealed in accordance with manufacturer's recommendations.

### **3.1 Example Installation 1 – Direct to flexible or rigid walls**

Drill or cut the hole in accordance with the details provided in table 2 then install as described above ensuring the minimum required protrusion is achieved on both sides of the wall and finally seal both sides of the wall with Intumescent Acrylic Sealant.

### **3.2 Example Installation 2 – Multiple Sleeves/ducts stacked side by side**

Multiple sleeves can be installed as a cluster and the sleeve should be installed in accordance with the details given above. Once finally positioned, the sleeve should be touching, 0mm between each, and sealed around the perimeter. If the sleeves are not touching, then they need to be far enough apart so as to be able to practically and robustly install and seal the sleeve in the original wall construction. 50mm is usually regarded as an absolute minimum space, but 100mm is much more practical.



*Figure 5: Stacked sleeve installation*

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