

### Technical data

- 1 PROMASTOP®-CC
- 2 Stone wool, in acc. Table 3
- 3 PROMASTOP®-FC
- 4 PROMASTOP®-W
- 5 Filling material depending on Detail
- 6 PROMASTOP®-IM CJ21
- 7 Cable
- 8 Supporting construction, in acc. Table 2
- 9 Plastic pipe
- 10 Non combustible pipe material
- 11 Threaded rods
- 12 Backfilling material
- 13 Identification label

Certificate: CR No. 14030405

### Advantages:

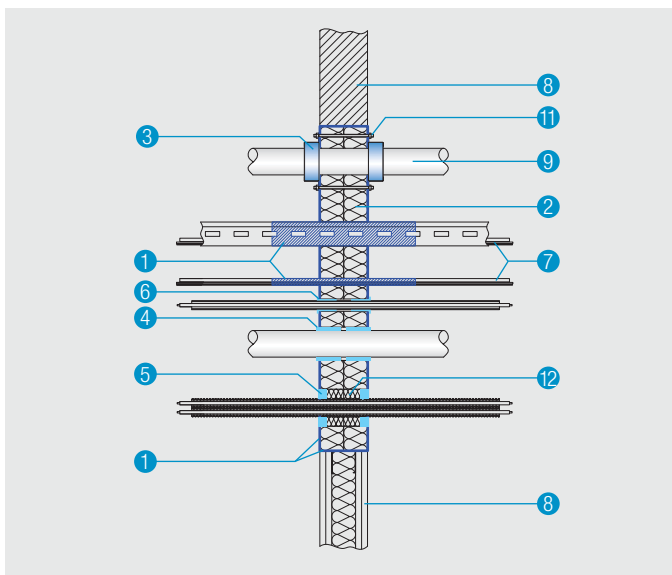
- Seal size up to 3,75 m<sup>2</sup> in tested Wall and Floor
- Moisture resistant
- Wet film thickness 0,9 mm on Stone wool boards (=Dry film thickness of 0,7 mm)

### Detail A/B - Overview PROMASTOP®-CC mixed penetration seal

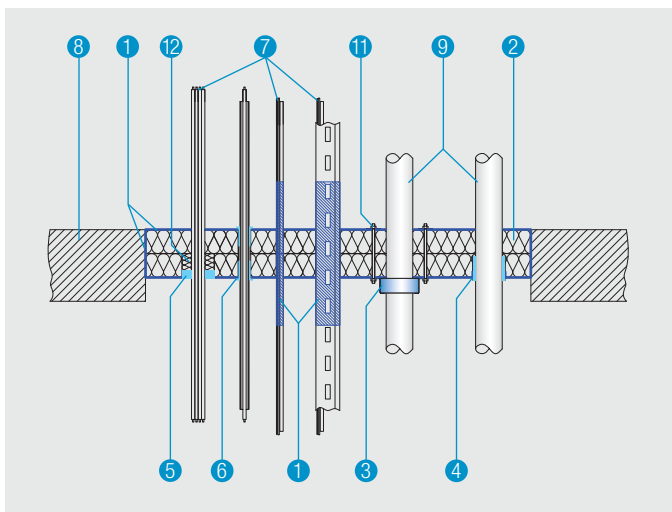
Product name	Description
PROMASTOP®-CC	Fire stop coating
1. Installation procedure	
2. Aperture framing	
3. Field of application	
4. Cable penetration seal	
5. Non combustible pipes with non combustible insulation	
6. PROMASTOP®-IM CJ21	Fire stop cable jacket
7. PROMASTOP®-FC	Fire stop collar
8. PROMASTOP®-W	Fire stop wrap

## 1. Installation procedure

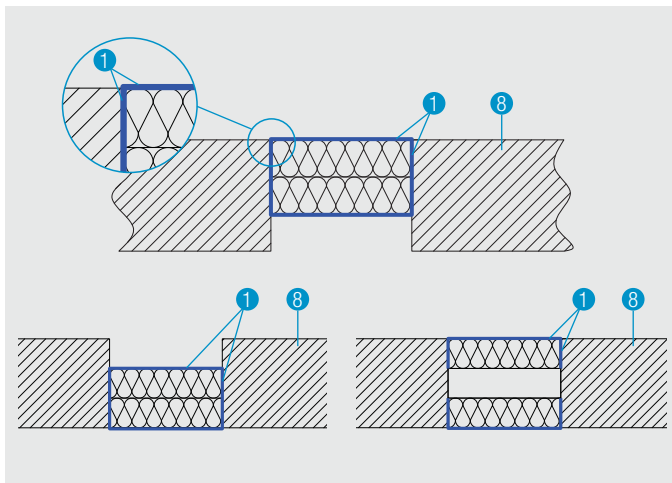
- Build a aperture framing in flexible walls, as shown in (Detail D)
- The boards must be made of non combustible stone wool (A1 acc. to EN 13501-1) with a melting point of  $\geq 1000^{\circ}\text{C}$  and a density of  $\geq 140 \text{ kg/m}^3$ , The amount of layers depend on the fire resistance (Table 3)
- The distance between the stone wool boards may be:  $\geq 0 \text{ mm}$
- The PROMASTOP®-CC firestop coatin must be applied on the outer surfaces, all cutting edges and board joints
- Remaining gaps are filled with stone wool and coated with fire stop coating or filled with PROMASEAL®-A
- It is not necessary to paint the adjacent wall and floor construction
- Secure the floor penetration seal against step on
- Affix the identification label



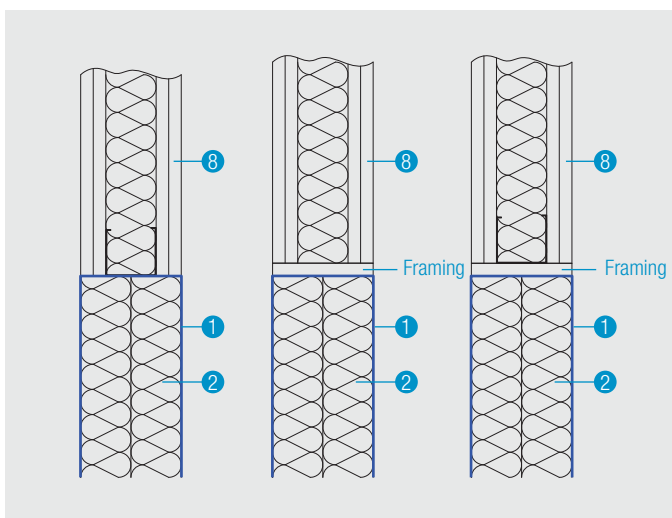
Detail A - Mixed penetration seal in flexible wall and rigid wall



Detail B - Mixed penetration seal in rigid floor



**Detail C - Possible positions of the stone wool boards**



**Detail D - Aperture framing of the flexible wall**

**Table 2 - Supporting construction and maximum seal size:**

Separating element	Thickness of the stone wool board		
	1 x 50 mm	1 x 80 mm	2 x 50 mm
Flexible wall $\geq 100$ mm	1,80 m <sup>2</sup>		3,75 m <sup>2</sup>
Rigid wall $\geq 100$ mm			
Rigid floor $\geq 150$ mm	1,95 m <sup>2</sup>		

### Detail C

There are 3 possibilities shown in Detail C shown, how to build in the penetration seal in floor and wall constructions.

- flush to the upper edge of the floor
- flush to the lower edge of the floor
- both stone wool boards flush to the upper and lower edge of the floor

## 2. Aperture framing

### Detail D

The penetration seal may be built into walls and floors according to table 2. For flexible walls there are the following possibilities for the aperture framing:

- The existing metal stud is used, additional metal studs shall be added to create a circulating metal frame
- Without the metal stud but with minimum 1 layer of the flexible wall lining in the aperture
- With the metal stud and minimum 1 layer of the flexible wall lining in the aperture

## 3. Field of application

### Table 2

In table 2 are the maximum tested and certified penetration seal sizes shown, depending on the installation situation. The maximum sizes may not be exceeded.

### Flexible wall constructions

**The wall must a thickness of  $\geq 100$  mm and be made from wooden or metal studs which are lined on both sides with minimum 2 layers of minimum 12.5 mm thick fire protective boards (other board thicknesses shall be permissible, please note minimum thickness). For timber stud walls, a minimum distance of 100 mm must be kept from each of the wooden stud to the sealing and the cavity between studs and sealing must be filled with a least 100 mm insulation material compliant to class A1 or A2 (in acc. EN 13501-1). An additional framing with boards of the opening is not necessary.**

### Rigid wall constructions

**(Aerated concrete, concrete, reinforced concrete, masonry,...):** The rigid wall must have a thickness  $\geq 100$  mm and a density of  $\geq 450$  kg/m<sup>3</sup>. The results achieved using a standard rigid supporting construction are valid for separating construction products of concrete or masonry having a similar or higher thickness and density as the tested ones. The classification results from flexible wall constructions may be also applied to rigid wall constructions in case the thickness and density is higher than those of the tested construction.

**Table 3 - Tested and certified stone wool boards:**

Manufacturer	Type
<b>Rockwool</b>	RP-XV, Hardrock II, Rockwool 360, Taurox D-C, Taurox Duo NP, Rockwool Paneel 755
<b>Knauf Insulations</b>	Knauf Insulations DP-15, Knauf Insulations FDB D150
<b>Paroc OY AB</b>	Pyrotech slab 140 – 180, Paroc Pro Roof Slab
<b>Isover</b>	Orsil T-N

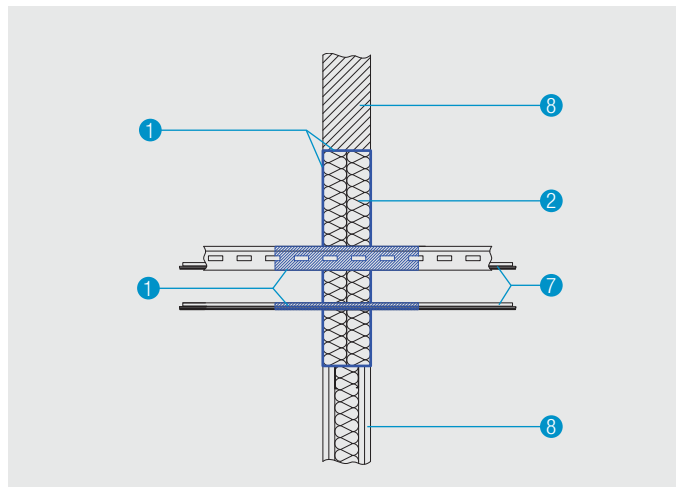
### Rigid floor constructions

(Aerated concrete, concrete, reinforced concrete,...)  
The rigid floor must have a thickness of  $\geq 150$  mm and a density of  $\geq 450$  kg/m<sup>3</sup>.

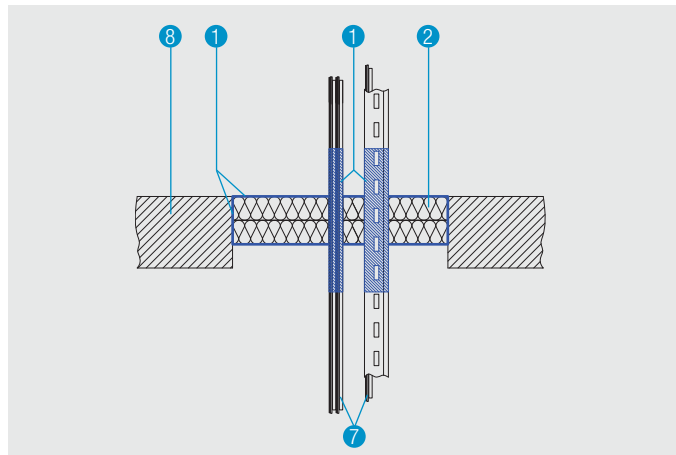
**Table 3**

The system tested and certified stone wool boards (Density  $\geq 140$  kg/m<sup>3</sup>, melting point  $\geq 1000^\circ\text{C}$ , A1 according EN 13501-1) are listed in table 3.

## 4. Cable penetration seal with PROMASTOP®-CC



**Detail E - Cable penetration seal in flexible wall and rigid wall**



**Detail F - Cable penetration seal in rigid floor**

### Detail E/F

Cables, cablebundles, conduits, bundle of conduits, empty pipes, cable trays and cable ladders may pass trough the PROMASTOP®-CC penetration seal in wall and floor. Up to a diameter of 100 mm of cable bundles, there is no need additional seal, the coating with PROMASTOP®-CC (acc. table 4) is enough.

**Table 4**

As shown in table 4, 1 mm wet film thickness shall be applied to cables of the cable group 1-5, cable trays and cable ladders. The length of the coating is 100 mm, measured from the surface of the penetration seal. Specimen of the cable group 6 need a coating thickness of 3 mm.

**Table 4 - Coating thickness and coating length**

Object	Wet film thickness (mm)	Length of the coating (mm)
<b>Cable group 1 – 5</b>	1	100
<b>Cable group 6</b>	3	
<b>Cable trays, cable ladders,...</b>	1	

### Supporting distance

The cables, cable bundles, cable trays, and cable ladders must be suspended  $\leq 250$  mm on both sides from walls or on the top of floor constructions.

**Table 5**

Table 5 shows the fire resistance classification of the cable groups, depending on the penetration seal version.

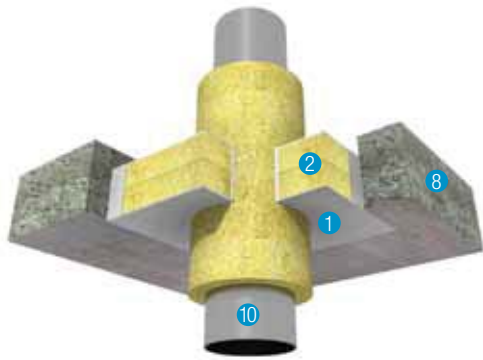
The retrospective installation in the PROMASTOP®-CC penetration seal is possible, if all application guidelines are followed.

**Table 5 - Fire resistance class of the cable groups depending on the penetration seal structure**

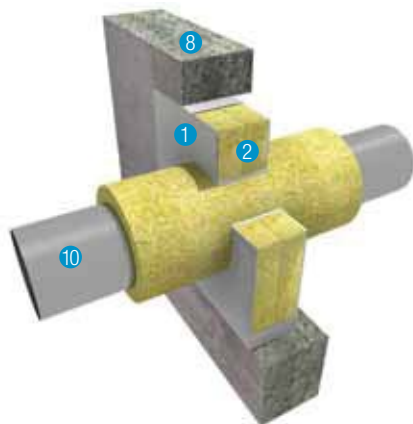
Electrical installation	Thickness and orientation of the stone wool boards					
	1 x 50 mm		1 x 80 mm		2 x 50 mm	
	Wall	Floor	Wall	Floor	Wall	Floor
<b>CG1: All sheathed cable types <math>\varnothing \leq 21</math> mm</b>	EI 60	EI 60	EI 90	EI 90	EI 90	EI 90
<b>CG2: All sheathed cable types <math>21 \leq \varnothing \leq 50</math> mm</b>			EI 60			
<b>CG3: All sheathed cable types <math>50 \leq \varnothing \leq 80</math> mm</b>			EI 90			
<b>CG4: Cable bundle made of cables of CG1 <math>\varnothing \leq 100</math> mm</b>			EI 60			
<b>CG5: Non sheathed cable types <math>\varnothing \leq 24</math> mm</b>	EI 45		EI 60	EI 60		
<b>CG6: Small conduits and tubes, made of plastic or steel with pipe end configuration U/C <math>\leq 16</math> mm</b>	EI 45-U/C	EI 45-U/C	EI 60-U/C	EI 60-U/C	EI 90-U/C	EI 90-U/C

CG ... Cable group according EN 1366-3:2009

## 5. Penetration seal of non combustible pipes with non combustible insulation



**Detail G - Metal pipe penetration seal in rigid floor**



**Detail H - Metal pipe penetration seal in rigid wall**

### Detail G

Non combustible pipes can be sealed with a section insulation made of stone wool (Melting point  $\geq 1000^\circ\text{C}$ , A2/A2<sub>L</sub> EN 13501-1 or higher rated). The required lengths and thicknesses are shown in the diagram. These are depending on the pipe diameter, the pipe wall thickness and the pipe type (steel, copper or their substitutes).

### Detail H

The insulation (case LS) shall be placed in the center of the supporting construction or the penetration seal and fixed with steel wire (minimum thickness 0,6 mm). The insulation length is shown in the table 8 and 11.

The insulation case LS covers: CI, CS, LI and LS.

Remaining gaps around the insulation are filled with stone wool and coated with fire stop coating PROMASTOP®-I paste or filled with PROMASEAL®-A.

### Supporting distance

The pipes must be suspended  $\leq 250$  mm on both sides from walls or on the top of floor constructions.