Promat

Fire Collars For Plastic Pipe Penetration

FCS **90**

FC **90**

Installation Method

Installation Method
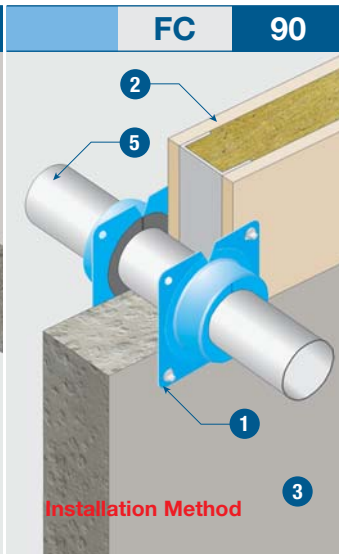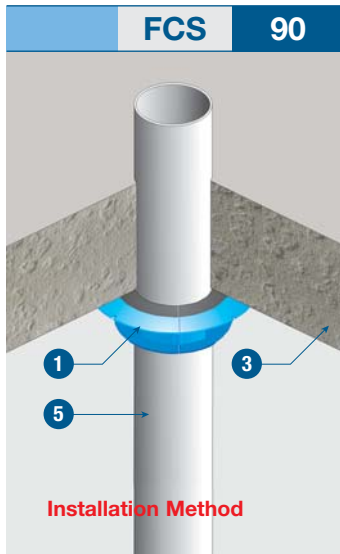
PROMASEAL® fire collars are purpose made painted steel shells with integral mounting points, containing a specially formulated intumescent material. A fastening clip is fixed to the shell at the closed position. They prevent the passage of fire through gaps in compartment walls and floors caused by the collapse and/or melting of combustible services in the event of fire.

The collars are used to maintain the fire resistance of walls and floors when they are penetrated by combustible pipework made from plastic e.g. Polyethylene PE, Polyvinylchloride PVC, Polypropylene PP and can also be used around groups of cables. They have been successfully tested and assessed to provide up to 4 hours fire resistance by independent laboratories to meet the requirements of BS 476: Part 20: 1987, AS 1530: Part 4 and prEN 1366: Part 3: 1993. Insulation criteria will vary depending up on the pipe size and type and the building element. Check with Promat or your local supplier for approvals before installing collars.

TECHNICAL DATA

Up to 4 hours fire rating, integrity and insulation in accordance with the criteria of BS 476: Part 20, AS 1530: Part 4 and prEN 1366: Part 3: 1993.

1. **PROMASEAL® Fire Collar**
2. **Concrete, masonry or other fire rated wall elements**
3. **Concrete floor or wall**
4. **Attachment with suitable anchor i.e. Steel expanding fasteners or laminating screws**
5. **Plastic piping e.g. Polyethylene PE, Polyvinylchloride PVC, Polypropylene PP**

(i)

(ii)

Elevation

Plan

Detail 1 Dimensions of FCS & FC PROMASEAL® Retrofit Collars

### Dimensions Guide of FCS PROMASEAL® Retrofit Collar

Code No.	uPVC pipe nom. (mm)	HDPE pipe nom. (mm)	ABS pipe nom. (mm)	Body (mm)			Flange (mm)
				H	D 1	D 2	D 3
FCS 40	40	50	40	43	84	56	131
FCS 50	50	56	50	43	98	70	145
FCS 65	65	75	–	43	113	84	161
FCS 80	80	90	80	43	138	98	186
FCS 100	100	100	100	53	167	127	214
FCS 150	150	150	–	70	212	172	259

NOTE: The above table measurements apply to floors only.

Dimensions Guide of FC PROMASEAL® Retrofit Collar

| Code No.	Pipe size nom. (mm)	Body (mm)			Flange (mm)
		H	D 1	D 2	L
FC 40	40	43	77	45	112
FC 50	50	43	90	58	125
FC 65	65	43	103	71	138
FC 80	80	43	123	85	158
FC 100	100	53	150	112	185
FC 125	125	63	165	127	197
FC 150	150	73	200	162	235
FC 200	200	100	264	204	330 Ø
FC 225	225	100	290	228	364 Ø
FC 250	250	120	316	254	380 Ø
FC 300	300	160	402	318	466 Ø

NOTE: FC 200 to FC 300 have circular bases.

Detail 2 FC up to 150mm diameter

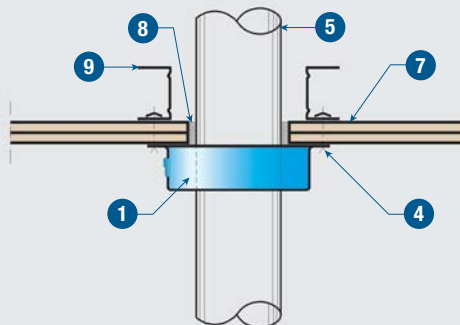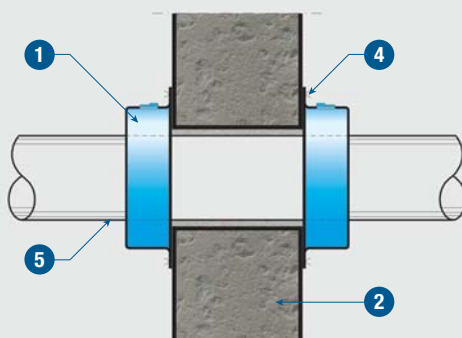**Detail 3** FCS up to 150mm & FC up to 300mm diameter
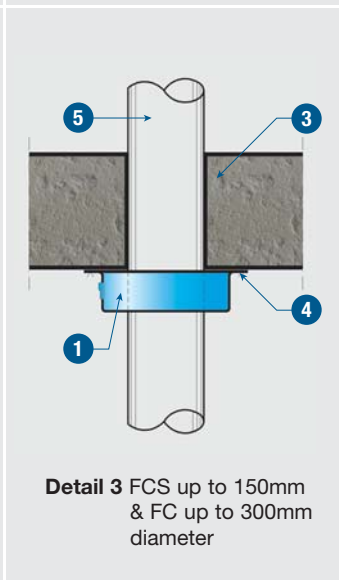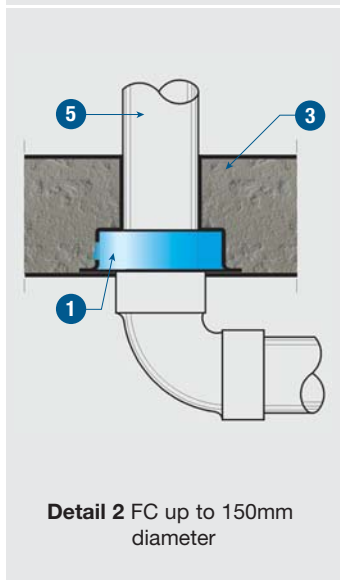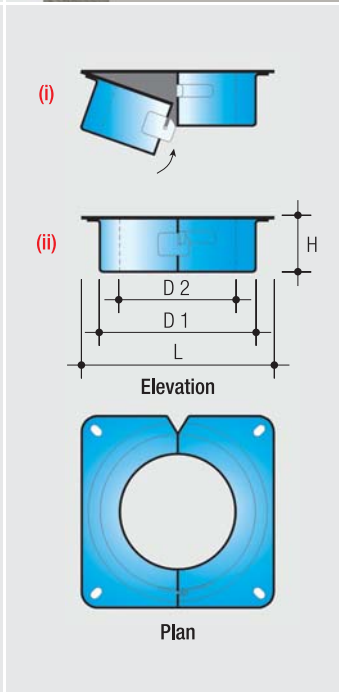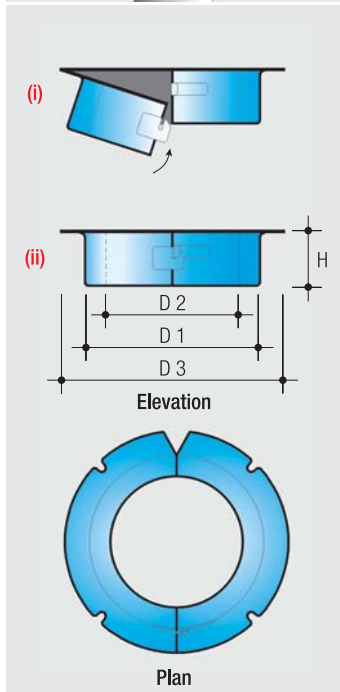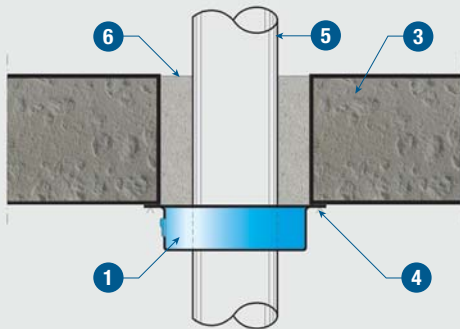
Detail 4 FCS up to 150mm & FC up to 300mm diameter
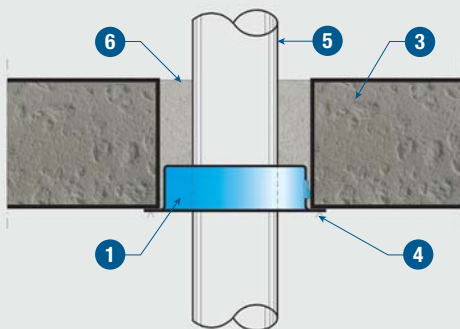
Detail 5 FC up to 150mm diameter

Detail 6 FC to 150mm diameter for ceilings up to 2 hours

Detail 7 FC up to 300mm diameter

TECHNICAL DATA

Up to 4 hours fire rating, integrity and insulation in accordance with the criteria of BS 476: Part 20, AS 1530: Part 4 and prEN 1366: Part 3: 1993.

1 PROMASEAL® Fire Collar

2 Concrete, masonry or other fire rated wall elements

3 Concrete floor

4 Attachment with suitable anchor i.e. Steel expanding fasteners or laminating screws

5 Plastic piping e.g. Polyethylene PE, Polyvinylchloride PVC, Polypropylene PP

6 PROMASEAL® Mortar

7 Fire Rated board ceilings

8 PROMASEAL® Acrylic Sealant

9 Stud at screw position

NOTE: Insulation criteria will vary depending up on the pipe size and type and the building element.

Detail 2

FC PROMASEAL® Retrofit Collars can be cast in to floor slabs for pipes up to 150mm. The collar should be installed to the soffit side of the floor. See FCC and FCCP collars for general cast in applications.

Detail 3

FC and FCS PROMASEAL® Retrofit Collars for floor slabs. The collars are to be fixed to the under side of the floor slabs. Ensure all fixing points are used. FC for up to 300mm and FCS for up to 150mm diameter.

Detail 4

If there is a gap greater than 12mm between the pipe and cored hole, backfill with PROMASEAL® Mortar. For gaps less than 12mm, seal with PROMASEAL® Acrylic Sealant. Use FC PROMASEAL® Retrofit Collar for pipes up to 300mm, or FCS PROMASEAL® Retrofit Collar for pipes up to 150mm.

Detail 5

FC PROMASEAL® Retrofit Collar can also be installed in to a core hole with PROMASEAL® Mortar backfilled for a flush fit. For pipes up to 150mm.

Detail 6

FC PROMASEAL® Retroft Collars can be installed to pipes in 1 or 2-hours fire rated ceilings. Used PROMASEAL® Acrylic Sealant to seal edges and additional framing to support. For pipes up to 150mm.

Detail 7

FC PROMASEAL® Retrofit Collar can be fixed to both sides of wall for pipes up to 300mm.

NOTE: FCS PROMASEAL® Retrofit Collars can be used on walls and floor slabs around combustible drink supply lines. Please contact your local Promat distributor for pipes up to 200mm or other further details.

FCC 90

Installation Method

Detail 1 Dimensions

Detail 2 Floor penetration
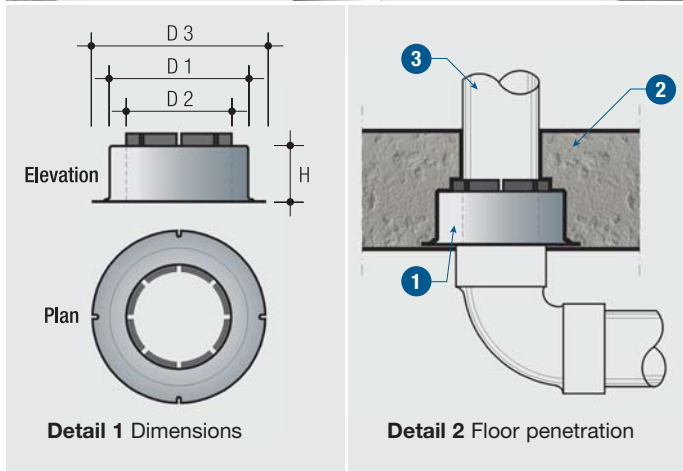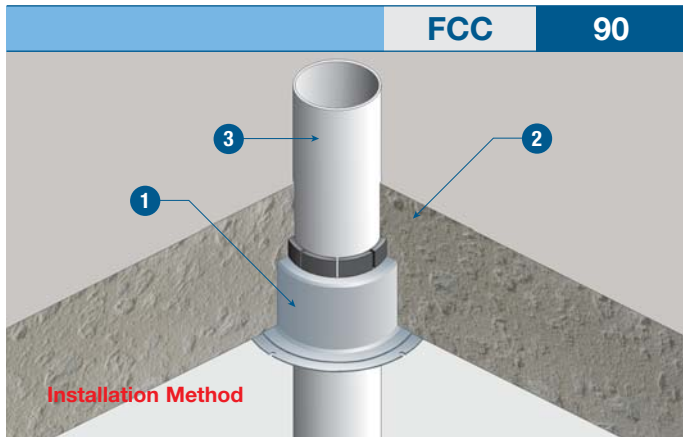
TECHNICAL DATA

Up to 4 hours fire rating for FCC and up to 3 hours fire rating for FCCP, integrity and insulation in accordance with the criteria of BS 476: Part 20, AS 1530: Part 4 and prEN 1366: Part 3: 1993 respectively.

1 PROMASEAL® Fire Collar

2 Concrete floor

3 Plastic piping e.g. Polyethylene PE, Polyvinylchloride PVC, Polypropylene PP

Detail 2 Floor penetration

Cast in as part of slab.

Dimensions Guide of FCC PROMASEAL® Cast-In Collar

Code No.	Pipe size nom. (mm)	Body (mm)			Flange (mm)
		H	D 1	D 2	D 3
FCC 40	40	60 + 15*	84	43	129
FCC 50	50	60 + 15*	98	56	143
FCC 65	65	60 + 15*	111	69	161
FCC 80	80	70 + 15*	138	82	186
FCC 100	100	70 + 15*	167	110	209

*Additional height of upright pipe grip

FCCP 90

Installation Method

Detail A Dimensions

Detail B Floor penetration
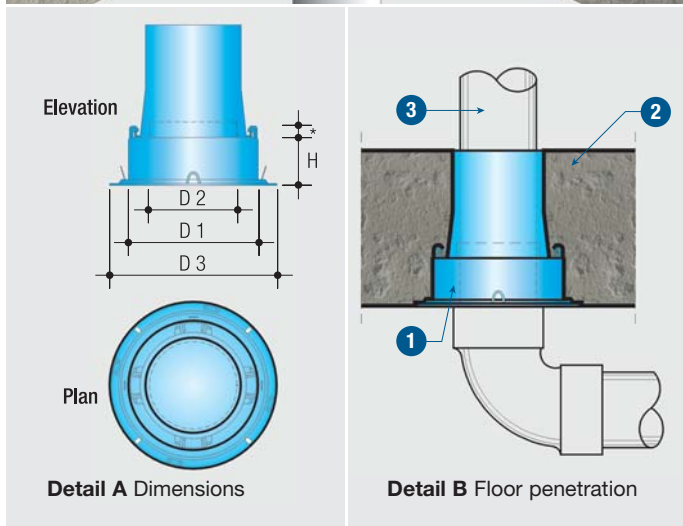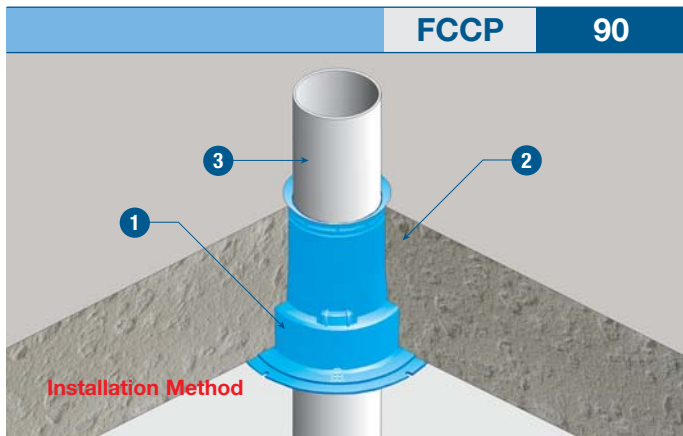
Dimensions Guide of FCCP PROMASEAL® Cast-In PolyCollar

Code No.	Pipe size nom. (mm)	Body (mm)			Flange plate
		H	D 1	D 2	D 3
FCCP 40	40	49 + 30*	115	43	160
FCCP 50	50	49 + 30*	115	56	160
FCCP 65	65	49 + 20*	115	69	160
FCCP 80	80	60 + 20*	163	83	210
FCCP 100	100	60 + 20*	163	110	210

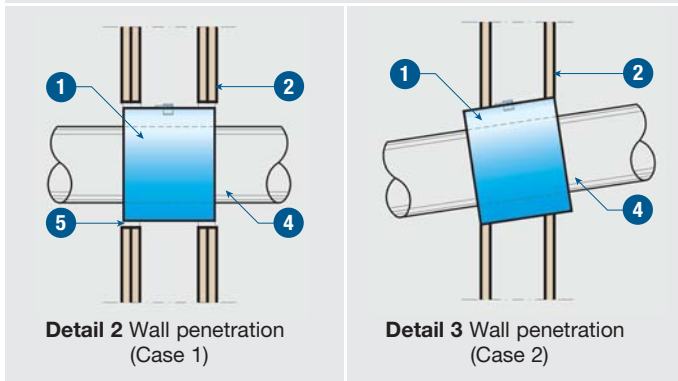*Additional height of upright pipe grip

FCCP PROMASEAL® Cast-In PolyCollars may also be fitted with smoke and water seals if required. Please contact your local supplier or nearest Promat office for details.

FCW 90

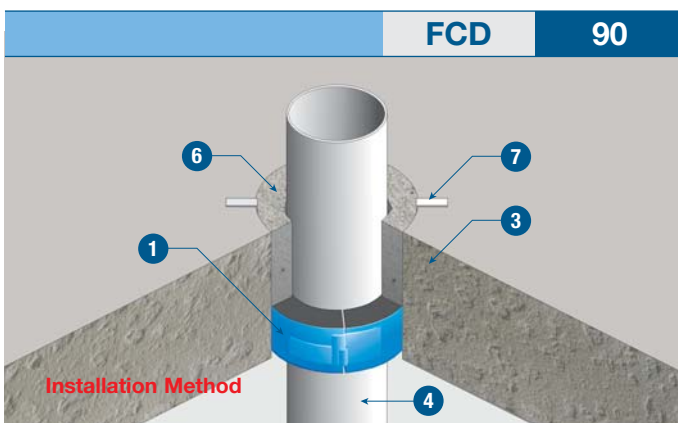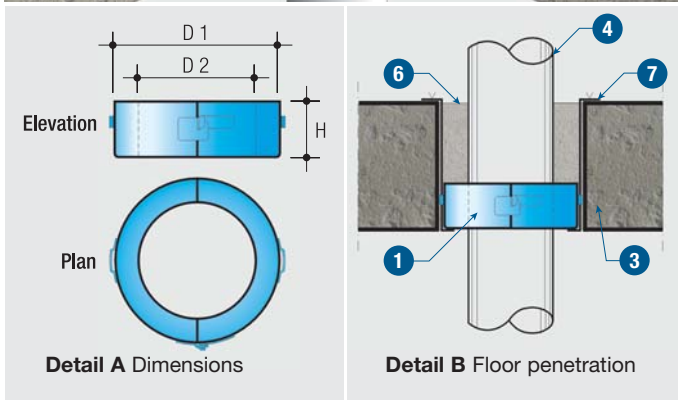**Installation Method**

Detail 1 Dimensions

Plan · Elevation

D 2 · D 1 · L

Detail 2 Wall penetration (Case 1)

Detail 3 Wall penetration (Case 2)

FCD 90

Installation Method

Detail A Dimensions

D 1 · D 2 · H · Elevation · Plan

Detail B Floor penetration

TECHNICAL DATA

Up to 2 hours fire rating for FCW and up to 4 hours fire rating for FCD, integrity and insulation in accordance with the criteria of BS 476: Part 20, AS 1530: Part 4 and prEN 1366: Part 3: 1993 respectively.

1. PROMASEAL® Fire Collar
2. Concrete, masonry or other fire rated wall elements
3. Concrete floor
4. Plastic piping e.g. Polyethylene PE, Polyvinylchloride PVC, Polypropylene PP
5. PROMASEAL® Acrylic Sealant
6. PROMASEAL® Mortar
7. Steel straps

Detail 2 Wall penetration (Case 1)

Fill any gaps between the collar and the wall with PROMASEAL® Acrylic Sealant to a depth of 32mm. This gap should not be more than 15mm wide.

Detail 3 Wall penetration (Case 2)

Collar can be positioned slanting at an angle in dry wall partition.
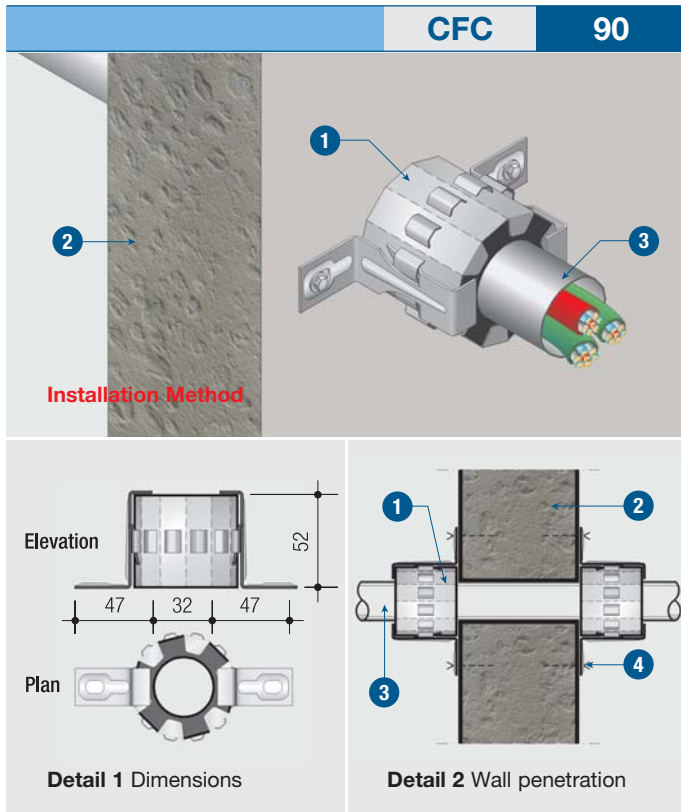
Dimensions Guide of FCW PROMASEAL® Wall Collar

Code No.	Pipe size nom. (mm)	Body (mm)		
		L	D 1	D 2
FCW 40	40	120	77	47
FCW 50	50	120	90	60
FCW 65	65	120	104	75
FCW 80	80	120	123	89
FCW 100	100	120	150	116
FCW 150	150	120	200	164

Detail B Floor penetration

Insertion into cored hole backfilled with PROMASEAL® Mortar.

Dimensions Guide of FCD PROMASEAL® Drop-In Collar

Code No.	Pipe size nom. (mm)	Body (mm)		
		H	D 1	D 2
FCD 40	40	43	77	45
FCD 50	50	43	90	58
FCD 65	65	43	103	71
FCD 80	80	43	123	85
FCD 100	100	53	150	112
FCD 150	150	73	200	162

CFC | 90

Installation Method

Elevation

52

47 | 32 | 47

Plan

Detail 1 Dimensions

Detail 2 Wall penetration

UC | 90

Detail A

Detail B

Detail C

Detail D

Detail E

Detail F

TECHNICAL DATA

Up to 4 hours fire rating, integrity and insulation in accordance with the criteria of BS 476: Part 20, AS 1530: Part 4 and prEN 1366: Part 3: 1993.

1 PROMASEAL® Conduit Collar

2 Concrete, masonry or other fire rated wall elements

3 Conduit pipe with or without cables

4 Attachment with suitable anchor
i.e. Steel expanding fasteners or laminating screws

NOTE: Insulation criteria will vary depending up on the pipe size and type and the building element.

PROMASEAL® Conduit Collar

a) The collars are attached to both sides of the wall.

b) Used for conduits up to 32mm.
One size collar does smaller pipes.

c) Gap between pipe and wall no more than 2mm, sealed with a bead of PROMASEAL® Acrylic Sealant.

PROMASTOP® UniCollar®

PROMASTOP® UniCollar® is a unique, patented method of protecting plastic pipes which pass through fire rated walls and slab floors. The system is supplied in a boxed continuous strip, 2250mm long, which is simply cut to length on site, and attached to the wall or floor using supplied clips, and suitable screws, bolts and anchors. The collar has been tested to many inernational standards (including BS 476: Part 20: 1987 and AS 1530: Part 4: 1997 and UL Certification) and has achieved FRL s up to 4 hours.

The collar is used to maintain the fire resistance of walls or slab floors when they are penetrated by combustible pipework made from uPVC, HDPE, P/P and many other materials.

Unpacking & Installation Method

Detail A

Open box at contents lid. Pull out accessories. Pull out only enough UniCollar® strip to do pipe in question.

Detail B

Lay the supplied measured tape on the Grafitex side of the collar and cut it at marked measurement of the tape according to the pipe size. The length required can also be determined using the chart provided and counting the segments or holding the strip around the pipe.

Detail C

Bend the Grafitex side of the collar by 180° 2 or 3 time until it snaps.

Detail D

Shape the collar to fit the pipe and bevel the Grafitex edge for close fit.
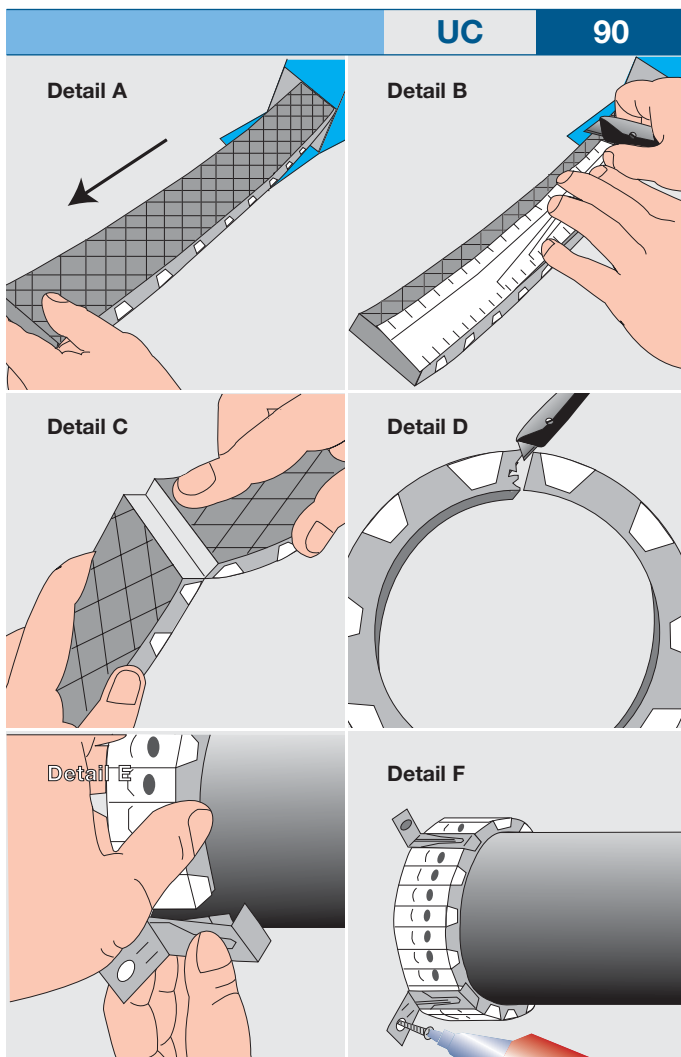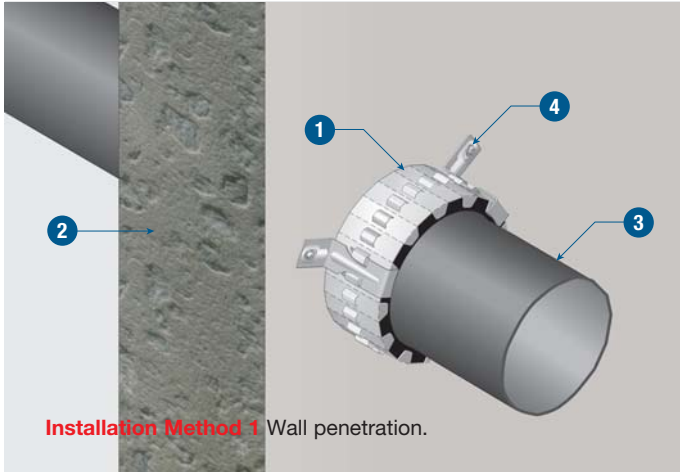
Detail E

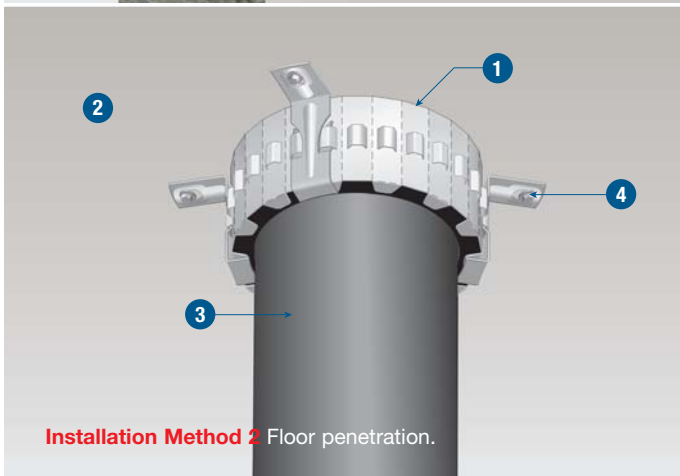Wrap the collar around the pipe and clip the first bracket into slots on both ends.

Detail F

Complete other brackets and fix the collar onto floor/wall.

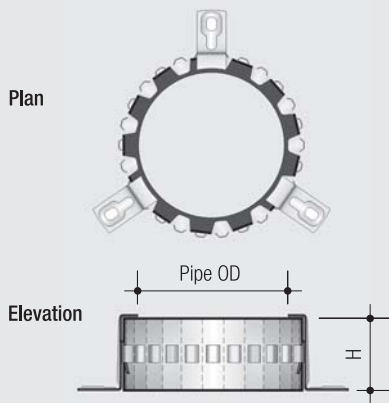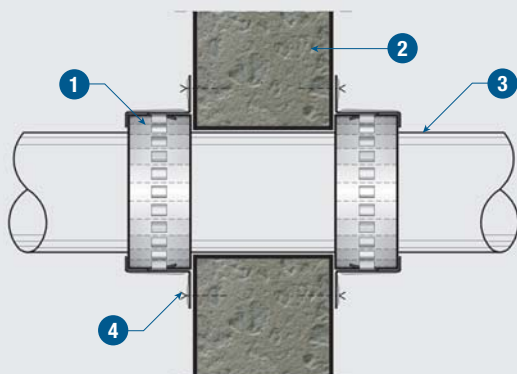**See next opposite for installation method details.**

Installation Method 1 Wall penetration.

Installation Method 2 Floor penetration.

Plan

Pipe OD

Elevation

Detail 1 Dimension

Detail 2 Wall penetration

TECHNICAL DATA

Up to 4 hours fire rating, integrity and insulation in accordance with the criteria of BS 476: Part 20, AS 1530: Part 4 and prEN 1366: Part 3: 1993.

1   **PROMASTOP® UniCollar®**

2   **Concrete wall or floor**

3   **Plastic piping e.g. Polyethylene PE, Polyvinylchloride PVC, Polypropylene PP**

4   **Attachment with suitable anchor i.e. Steel expanding fasteners or laminating screws**

NOTE: Insulation criteria will vary depending up on the pipe size and type and the building element.

The chart below shows the suggested length of strip required for each size pipe and how many brackets to use. At the time of publication test data is available for pipe sizes up to 200mm to some standards. Please contact your local Promat distributor for further details or visit **www.firecollar.com**.

Nominal pipe size (mm) (inches)	43 —	50 1.5	55 —	— 2	63 —	69 —	75 2.5	83 —
Casing segments	15	17	18	19	20	21	22	24
Approx. collars per box	10	8.5	8	7.5	7.5	7	6.5	6

Nominal pipe size (mm) (inches)	90 3	110 —	114 4	125 —	140 5	160 —	— 6	200 —
Casing segments	25	29	30	33	36	40	42	49
Approx. collars per box	6	5	5	4.5	4	3.75	3.5	3
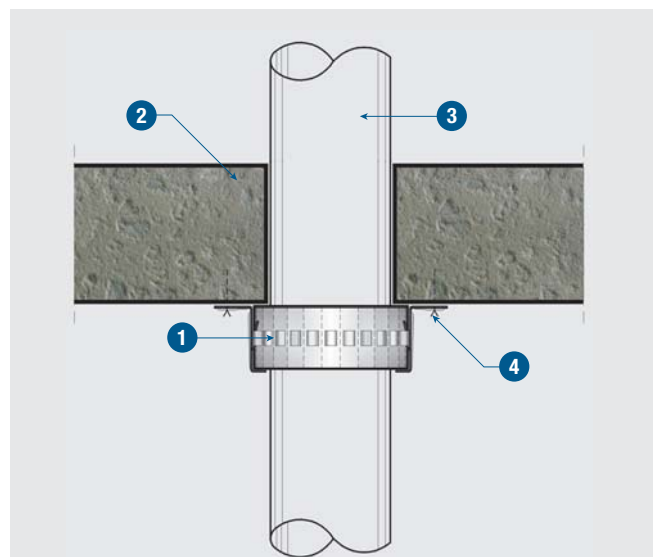
Detail 3 Wall or floor penetration

7

It has been shown that plastic pipes penetrating compartment walls or floors or other fire barriers present the potential for fire to pass from one compartment to another when the plastic melts and burns away. All Building Regulations specify that the fire rating of the separating building element between compartments must not be impaired by services that pass through them.

The acceptable methods of maintaining this fire rating will vary between Countries and Authorities, however by far the most acceptable is to install fire collars on the plastic pipes.

It is essential that the correct fire collars are specified and that they are installed in accordance with the manufacturer instructions. As a general rule there are 3 types of collars:

- Surface mounted type
- Insert-in type
- Cast-in type

Surface Mounted Type

Surface mounted collars (also known as retrofit collars) are fixed around the plastic pipe, onto the surface of the building element. For floor slabs this is on the underside of the slab. For walls, they are generally placed on both sides to protect against fire exposure from either direction.

If it can be shown that the fire can only come from the one side, then the fire collar may be placed on the fire attack side of the wall provided that test data is available to prove the application achieves the required fire rating. PROMASEAL® fire collars (with the code of FC or FCS) or PROMASTOP® UniCollar® (with the code of UC) can all be used as retrofit collars.

Insert Type

Insert collars are placed around the pipes, inside the wall or floor. Generally, only one collar is required to protect from either direction for walls.

PROMASEAL® fire collars with code FCW can be used as insert-wall collars. PROMASEAL® fire collars with code FCD can be used as insert (drop-in) collars for floors that are cored for pipes and will give protection from the underside of the slab.

These are particularly useful for work in shafts or any area where access for installation is restricted to one side. UniCollar® may also be used on some pipes for these applications.

Cast-In Type

Cast-in collars are used only in floor slabs and are placed into position, on the formwork, before a slab is poured. This method entails accurate setting out of all plumbing work.

PROMASEAL® fire collars with the code of FCC or FCCP can be used as cast-in collars.

Specification

Because of the diversity of applications and the on-going test programme, the above and the following notes on this section are of a general nature only and it is essential to confirm that the fire collar specified or being installed is approved for use on the size and type of plastic pipe, the orientation and type of service. Always contact your local Promat to confirm the specification is correct.

Important Notes

Promat product data sheets and health and safety data sheets are regularly reviewed and are available on request. The successful use of these products is dependent on a number of factors. As the information contained in this literature can only be of a general nature, it is advisable to consult our technical department if there is any doubt about the correct use of these products in a particular application. Our technical representatives and advisors are available to provide further technical and commercial assistance.

PROMASEAL® Fire Collars and PROMASTOP® UniCollar® are manufactured under a quality management system certified in accordance with ISO 9002.