

HILTI CP 670 Firestop Coated Board System

The enclosed pages are taken from the
Hilti Firestop Systems Manual
Edition April 2011
Supported by additional standard details

For Material Safety data sheets
visit the technical library at www.hilti.co.uk/cfs

<p>Hilti (Gt Britain) Ltd TECHNICAL ADVISORY SERVICE TELEPHONE 0161 886 1144</p>

Quality Management System Certification

Standard: ISO 9001:2008

Issued by: The Swiss Association for Quality and Management Systems SQS.

Registration No: 12455 (The current certificate can be downloaded from www.hilti.co.uk)

Field of activity: Market Organisation.

Note: The certificate of Hilti (Gt. Britain) Ltd. is a sub-certificate to the master certificate of Hilti Aktiengesellschaft, FL-9494 Schaan with the field of activity: Research, Development, Manufacturing, Sales and Service.

Don't just use Hilti Firestop Products, use our Hilti Accredited Firestop Contractors

It is the combination of a quality conscious and third party accredited manufacturer working in close co-operation with a selected group of third party accredited installers that can offer you the best value.



Here are some of the benefits available to you by using this co-operation:-

- Reduce your liability; liability that comes from poor or incorrect installation and performance of products.
- Efficient Project Management based on the co-operation of a specialised manufacturer with a specialist contractor
- Commercially designed, effective Fire Protection solutions
- Products that adhere to 3rd party product conformity schemes such as FM, UL and Certifire.

These approvals are an assurance of product and manufacturer quality, they can also have an influence on the building insurance premium reducing the service costs of the building.

- Solutions that have been tested for long term performance.
- Solutions that offer business continuity and protections of premises.
- Certification of conformity of work completed.
- Installation work audited by FIRAS on site to ensure compliance with manufacturers' recommendations and Building regulations.
- Installer with site based manufacturer support.
- Installer having available site based manufacturers support when needed.
- Clear and comprehensive documentation of installation.
- Comprehensive support documentation for proposed solutions.
- Clarity and assistance understanding the role of Passive Fire measures in modern building construction.

Product Accreditation

Hilti Firestop Systems have been certified by a wide variety of international bodies, such as FM, UL, Certifire and iBMB

As part of this process products are monitored on an on-going basis so you can have absolute confidence in the quality and standard of the product you are specifying.

Installation Accreditation

Hilti-Accredited Firestop Contractors are also third party certified (e.g. FIRAS or LPCB).

This means that they work to agreed industry standards, employ trained operatives and are subject to on-site audits and inspection of representative samples of the work carried out to ensure compliance with manufacturers' recommendations and Building Regulations

Further details about Hilti accredited Firestop Contractors and the support that we can offer you can be obtained by telephoning Freephone 0800 083 8889 (GB only).



Association for Specialist Fire Protection

Hilti is proud to support and be a member of The Association for Specialist Fire Protection (ASFP)

ASFP Vision

To offer the industry it serves with:

- Knowledge / guidance on all aspects of 'built-in' fire protection
- Technical support / impartial advice
- Direction through industry authority

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DS 686 issue 01	CP 670 Insulation and Integrity tables
Data summary	Additional Properties of CP 670 seals
Data summary	CP 670 - Firestop Coated Board System – BREEAM Criteria summary
Data summary	CP 670 - Firestop Coated Board System - NBS specification clauses

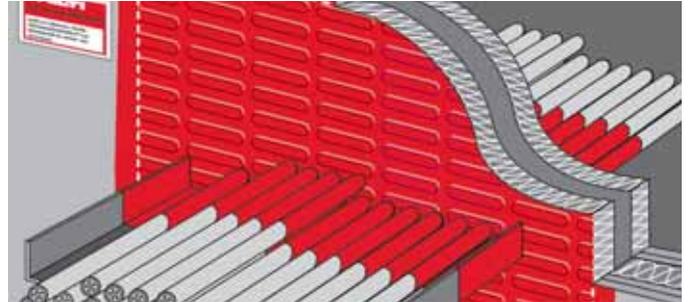
Material Safety Data Sheets and CAD files of the standard details FS ***-** can be downloaded from the technical library at www.hilti.co.uk/cfs

Revision History

May 2011	First release
July 2011	Data summaries added, FS 120 - 01 standard details added, FS 050 updated
October 2011	FS 047, FS 050, FS 079 & FS 102 all revised, DS 686 added
August 2012	FS 118 revised
January 2013	FS 118 Schedule of material added.
May 2013	Update

Firestop coated board system CP 670

Hilti CP 670 is an innovative system for fast, reliable and cost effective firestopping of wall and floor openings - especially large ones. Tested to both BS476 Part 20 and EN 1366-3



Applications

- Extended approvals for large diameter cables, damped penetrations and double board usage
- Single cables, cable bundles, cable tray, air ducts and pipes
- Non combustible pipes (in conjunction with other products)
- Large penetrations possible up to 5 metres high or with an unrestricted length
- Detail for wall dampers available

Advantages

- Pre-coated board
- Odourless and solvent free
- Less prone to damage due to pliancy of the material and the resilient elastic coating
- Approved for a wide range of applications
- Fast tight seal, less sealant required for gap filling
- Tested for face-fixed applications

Technical data

CP 670	
Fire rating	Up to 4 hours
Base materials	Concrete, Masonry, Drywall
Application temperature range	5°C - 40°C
Acoustics performance	Up to 62dB
Density (coating)	1470 kg/m ³
Colour	White
Skin forming time (at 23°C/50% r.H)	7 hours (CP 670 Coating)

Maximum area of CP 670 Type B (Penetrations) in different rated substrates. Estimated sound reduction values.

Concrete (details also available for drywall)

Substrate value Rw	Area of wall m ²	Area of CP 670 m ²	Total area m ²	Required value Rw	
35	8.8	0.2	9	35	
40	8.0	1.0	9		
45	7.6	1.4	9		
50	7.5	1.5	9		
55	7.5	1.5	9		
40	8.95	.05	9	40	
45	8.7	0.3	9		
50	8.6	0.4	9		
55	8.6	0.4	9		
45	8.99	.01	9		45
50	8.9	0.1	9		
55	8.87	.13	9		
50	9.0	0	9	50	
55	8.97	.03	9		
55	9.0	0	9		55

All calculations are based on DIN 4109 Supplement 1 - Sound control in buildings, design examples and calculation procedure. 11 - Resulting sound insulation R_{w, R, res.} for a component made from elements with differing degrees of sound insulation, e.g. a wall with a door or window.

British Standard
BS 476



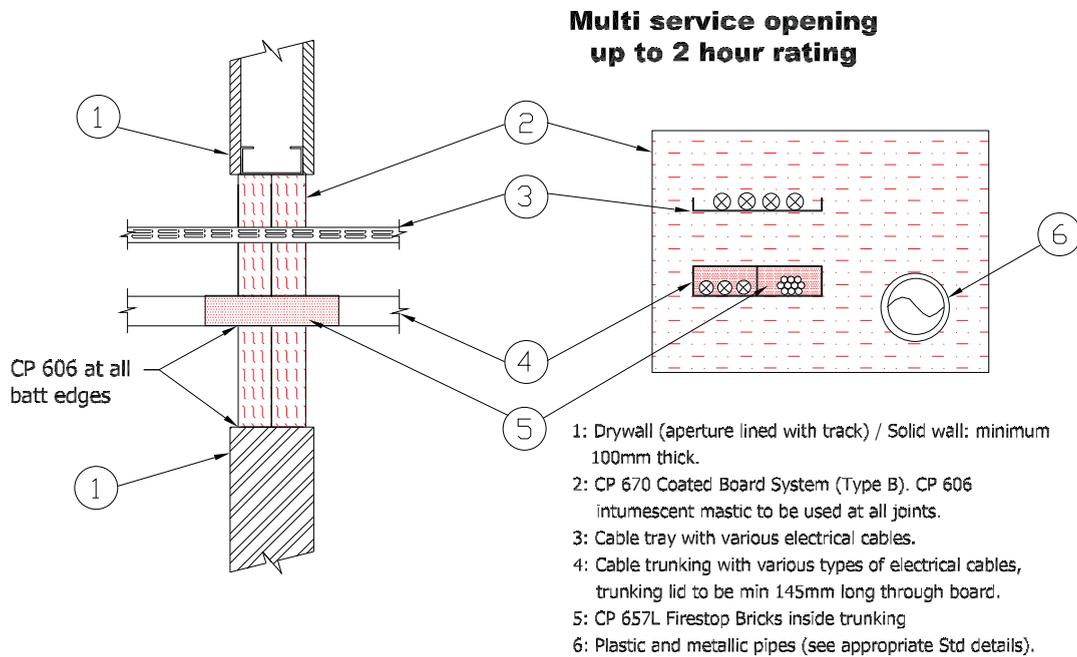
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min



Ordering

Order description	Package Contents	Package Quantity	Item number
Firestop board CP 670 (4)	4 x CP 670 firestop acoustic board	4 pc	00284225
Firestop board CP 670 (20)	20 x CP 670 firestop acoustic board	20 pc	00284301
Firestop board CP 670 (40)	40 x CP 670 firestop acoustic board	40 pc	00376024
Firestop coating CP 670 6kg	flexi coating (6kg)	1 pc	00376023

Technical Information



For more standard details and technical information register online at the Hilti Firestop Design Centre at www.hilti.co.uk/cfs

Installation instructions for CP 670 coated board system

Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Instructions below are general guidelines

Application of Fire Blocks

1. Clean the opening. Do not pre-moisten opening surfaces. Cables and cable supporting structures must be dry and clean from dust, grease or oil, and installed in compliance with local building and electrical standards.
2. Cut the Hilti CP 670 Firestop board to size. In case of services cut out required space. Coat cut edges with Hilti CP 606 Firestop Sealant.
3. Coat the surface of the opening with Hilti CP 606

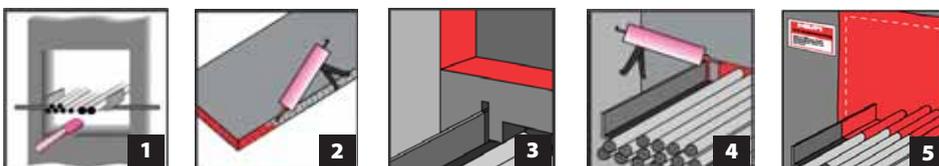
- Firestop Sealant (refer to relevant BS reports for specific details).
Insert the mineral wool panel flush with the opening edge.
4. Pack any larger gaps with loose mineral wool. Seal between cables with Hilti CP 606 Firestop Sealant (BS: respectively CP 611A). Fill gaps with Hilti CP 606 Firestop Sealant (BS: respectively CP 611A).
 5. Thoroughly stir Hilti CP 670 Fire Safety Coating. Apply Hilti CP 670 Fire Safety Coating to the cables and cable trays on all surfaces over the required length. It can be applied using a brush, roller or airless spray gun (recommendation: a nozzle 0.029" diameter, spray angle 40°). To achieve the dry coating of 0.7 mm, a wet film thickness of ca. 1.1 mm is required. Fasten installation plate (if required)

Note

Instead of using a Hilti CP 670 Firestop board Hilti CP 670 Fire Safety Coating can be either sprayed or painted on the jobsite prior or during installation, respectively in advance. To achieve the dry coating of 0.7 mm, a wet film thickness of ca. 1.1 mm is required. Hilti CP 670 Fire Safety Coating can be used where cutting has caused exposed mineral wool to appear. In addition, the coating can be applied if mineral wool is used to pack gaps.

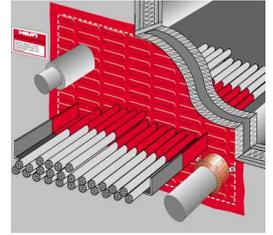
Storage

- Store only in the original packaging in a location protected from moisture and direct sunlight



Hilti CP 670 Firestop acoustic board - Type A

APPLICATION

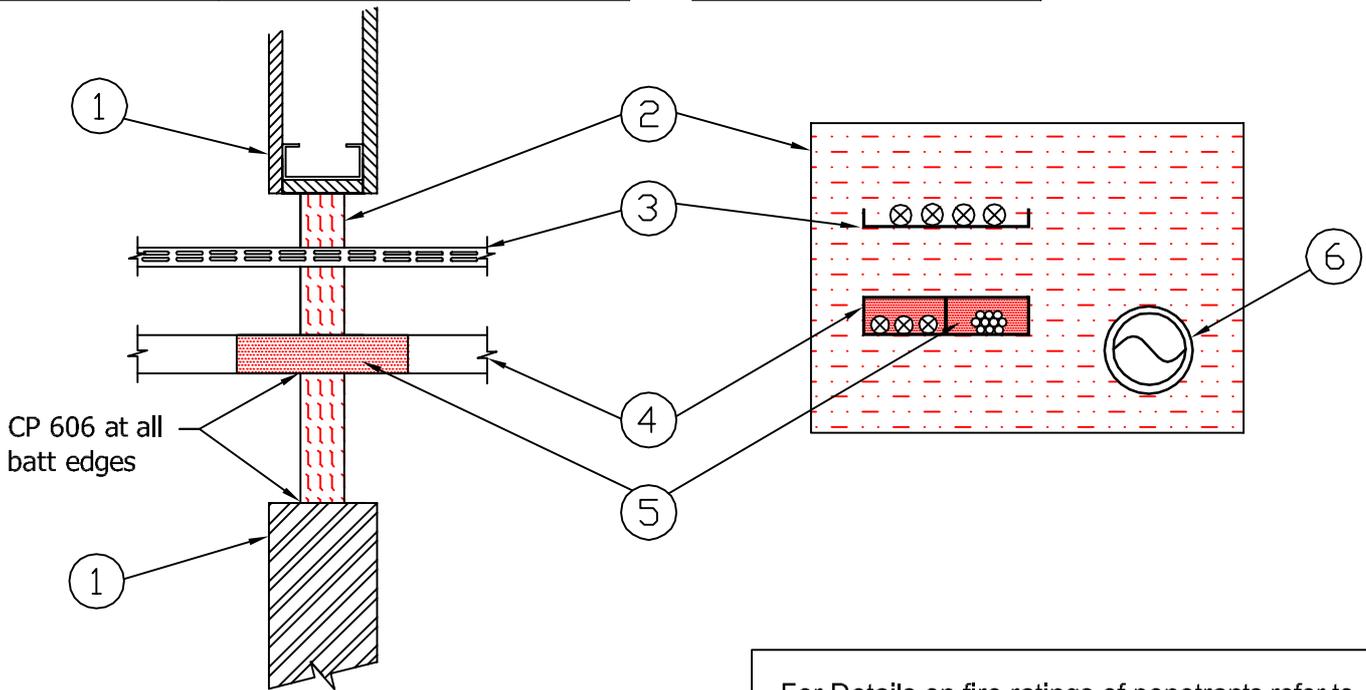


Mixed services
passing through

Solid wall or Drywall

Test	Up to
Fire Integrity	2 hr
Insulation	90 minutes
Acoustics	39 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3



- 1: Drywall (lined out) / Solid wall: minimum 100mm thick.
- 2: CP 670 Coated Board System (Type A). CP 606 intumescent mastic to be used at all joints.
- 3: Cable tray with various electrical cables.
- 4: Cable trunking with various types of electrical cables, trunking lid to be min 145mm long through board.
- 5: CP 651N Firestop Cushions inside trunking. CP 657 Bricks may be substituted
- 6: Plastic and metallic pipes (see appropriate Std details).

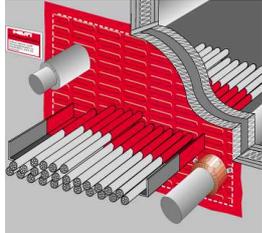
For Details on fire ratings of penetrants refer to data sheet DS 686 Issue 1

The above applications are not exhaustive. For further details please contact

- 1. The application limits on this detail are for guidance purposes only. For more detailed information on the full range of available test results please contact a Hilti Firestop Specialist on 0800 886100.
- 2. The product and application has been fire tested as a minimum to BS 476. It may have additional European and worldwide testing. Please contact Hilti for further information.
- 3. All installations should be carried out in accordance with Hilti's installation instructions, by competent, experienced installers using Hilti branded products.

Hilti CP 670 Firestop acoustic board - Type B

APPLICATION

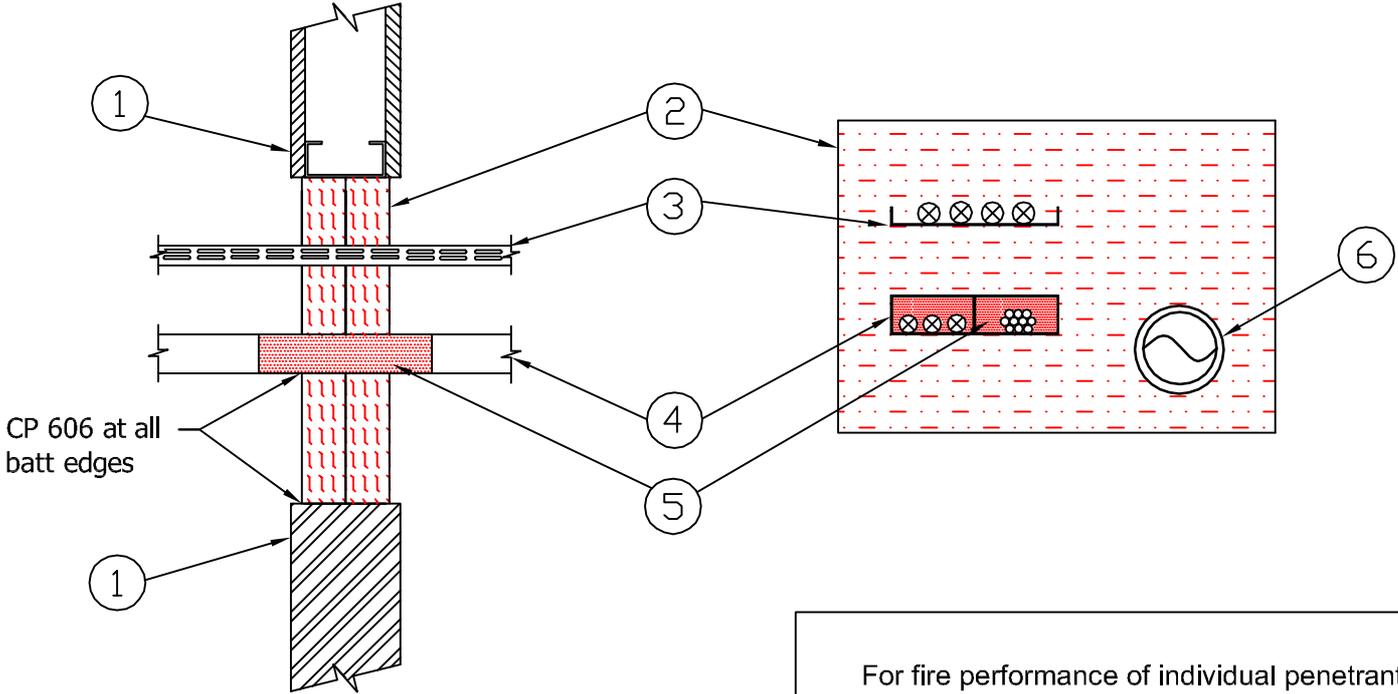


Mixed services passing through

Solid wall or Drywall

Test	Up to
Fire Integrity	3 hr
Insulation	2 hr
Acoustics	52 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3



For fire performance of individual penetrants consult data sheet DS 686 Issue 1

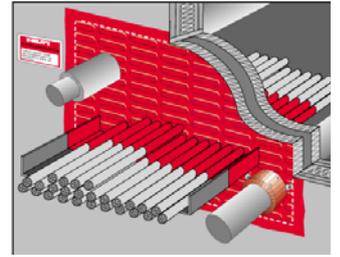
- 1: Drywall (aperture lined with track) / Solid wall: minimum 100mm thick.
- 2: CP 670 Coated Board System (Type B). CP 606 intumescent mastic to be used at all joints.
- 3: Cable tray with various electrical cables.
- 4: Cable trunking with various types of electrical cables, trunking lid to be min 145mm long through board.
- 5: CP 651N Firestop Cushions inside trunking. CP 657 Bricks may be substituted.
- 6: Plastic and metallic pipes (see appropriate Std details).

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Hilti CP 670 Firestop acoustic board and CP 643N collar

APPLICATION

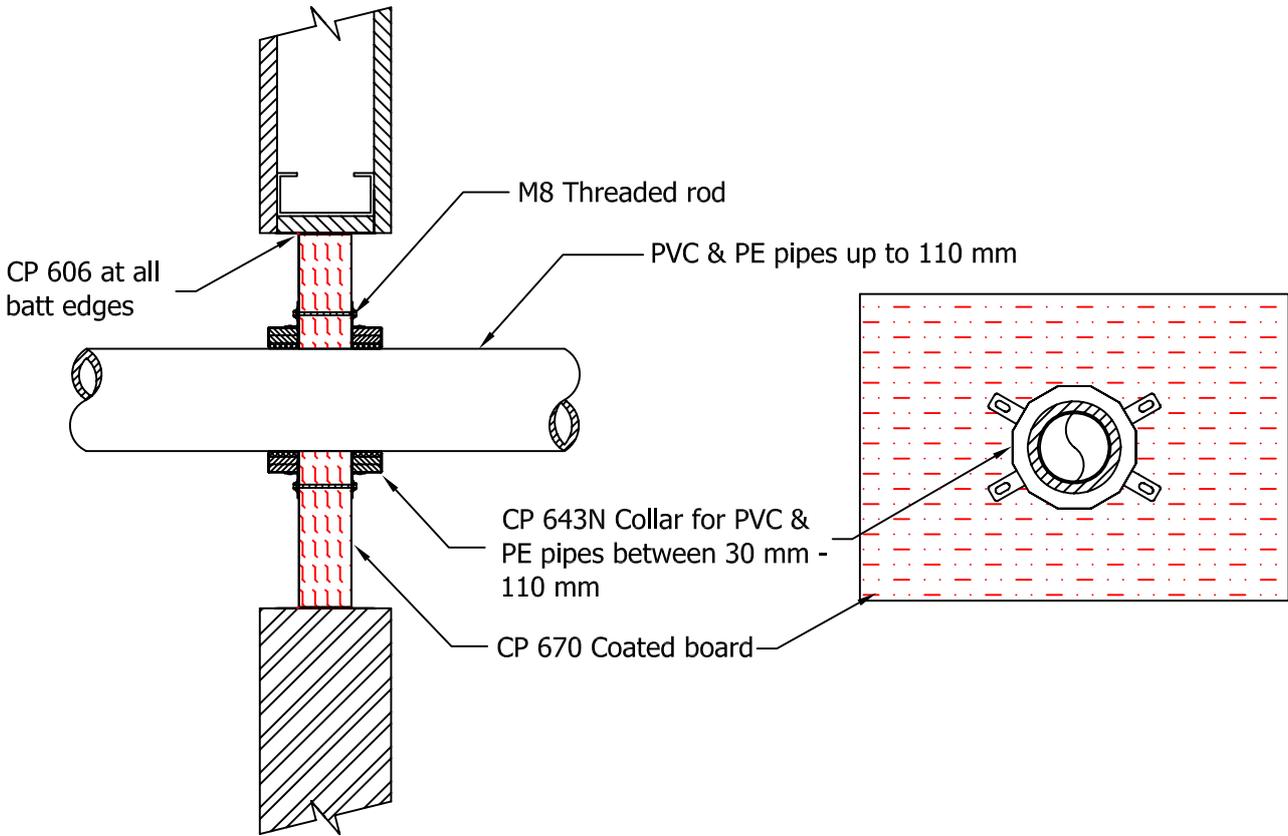


Plastic pipe
passing through

Solid wall or Drywall

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	39 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3



The CP 643N collars should be secured either side of the batt using M8 threaded rod fitted through the fixing hooks. The CP 670 coated board should be installed tightly around the service pipe. CP 606 Intumescent mastic must be used at all batt edges in accordance with the installation guidelines.

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R Wakefield

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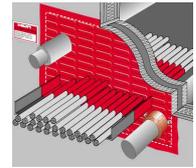
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Issue

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Hilti CP670 Firestop acoustic board - Type A

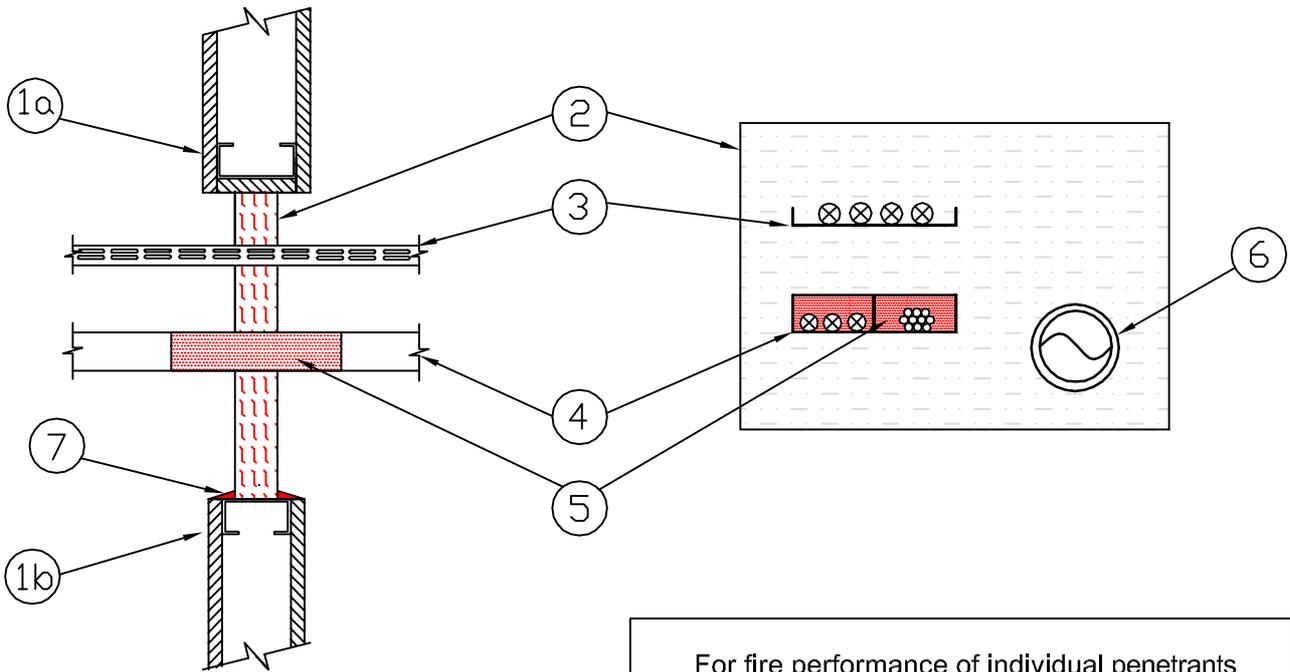
APPLICATION



Test	Up to
Fire Integrity	90 Minutes
Insulation	90 Minutes
Acoustics	39 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS 476 pt 20
BS EN 1366-3

Service Items
Passing through
Drywall

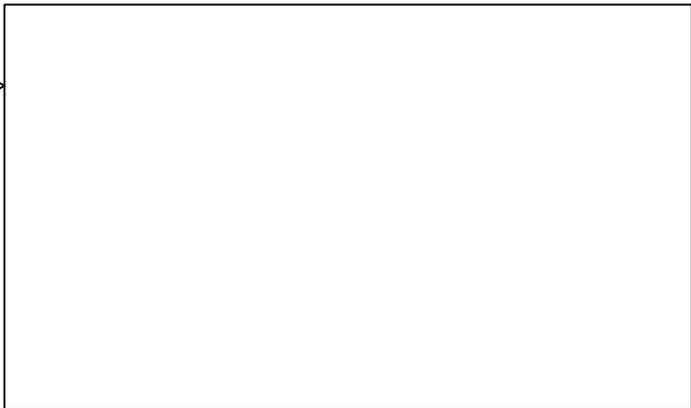


For fire performance of individual penetrants consult data sheet DS 686 Issue 1

- 1a: Drywall (lined out): minimum 100 mm thick.
- 1b: Drywall (framed out): minimum 100 mm thick
- 2: CP 670 Coated Board System (Type A). CP606 intumescent mastic to be used at all joints.
- 3: Cable tray or basket with various electrical cables.
- 4: Cable trunking with various types of electrical cables, trunking lid to be min 145 mm long through board.
- 5: CP651N Firestop Cushions inside trunking. CP 657 Fire Bricks may be substituted.
- 6: Plastic and metallic pipes (see table for details).
- 7: CP 606 fillet to cover exposed track and board edge

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- 2. The product and application has been fire tested as a minimum to BS 476. It may have additional European and worldwide testing. Please contact Hilti for further information.
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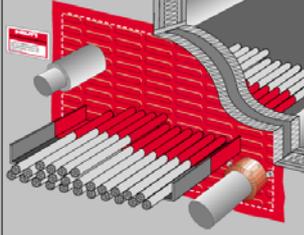


Hilti CP 670 type B Firestop acoustic board

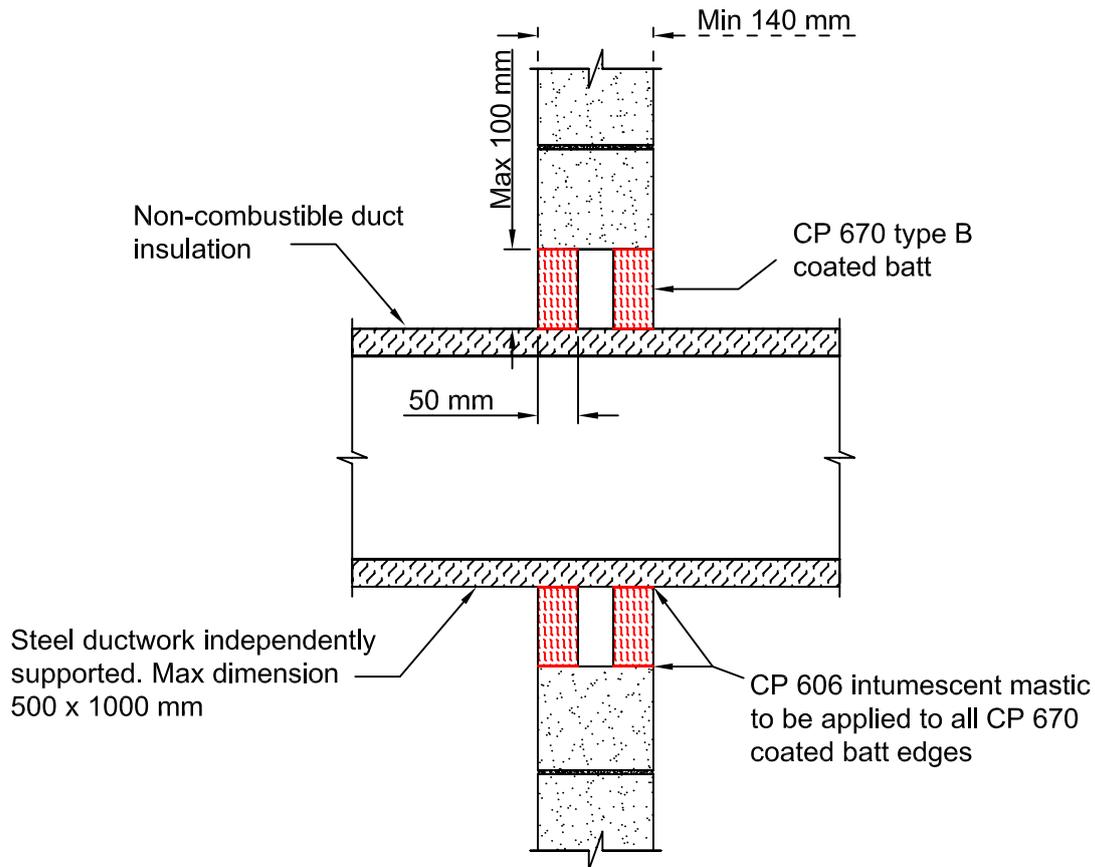
Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Air Tightness	✓
Age Testing	30 years

Approvals
EN 1366-3
BS 476 pt 20

APPLICATION



Insulated Steel duct
passing through
Solid wall



The performance of the Fire Rated Duct system must be proven by test to be capable of achieving the required fire rating of the seal system - up to 120 minutes Fire Performance. The CP 670 coated board should be installed tightly around the duct with CP 606 Intumescent mastic used at all batt edges in accordance with the product installation guidelines.

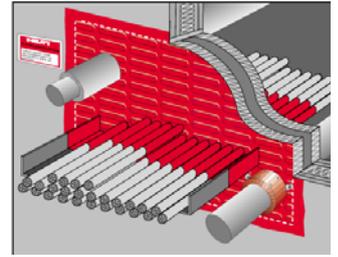
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Hilti CP 670 Firestop acoustic board and CP 644 collar

APPLICATION

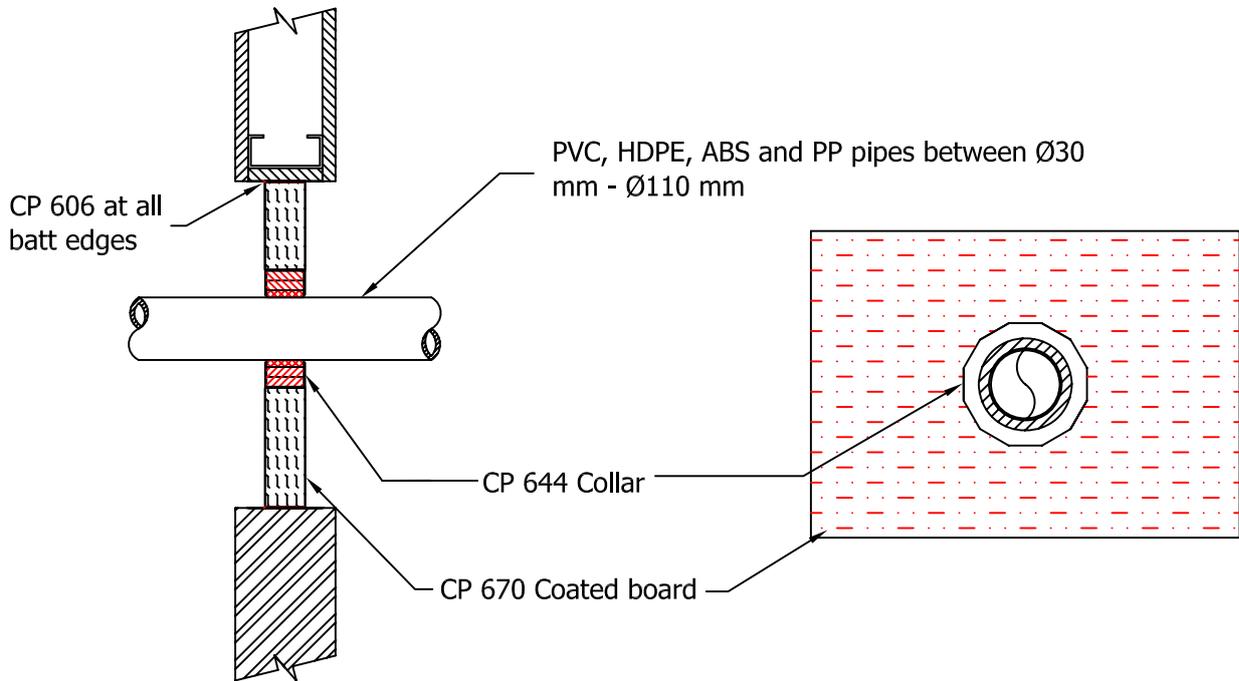


Plastic pipe
passing through

CP 670 coated batt

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	39 dB
Air Tightness	✓
Age Testing	30 years

Approvals
EN 1366-3



The CP 670 coated board should be installed tightly around the service pipe. CP 606 Intumescent mastic must be used at all batt edges in accordance with the installation guidelines.

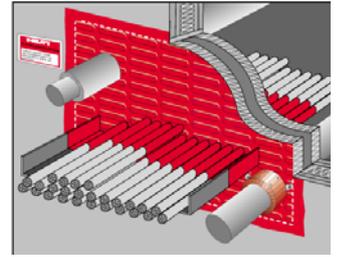
Care must be taken to ensure that the service pipe is supported either side of the seal system

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Hilti CP 670 Firestop acoustic board and CP 648 wrap

APPLICATION

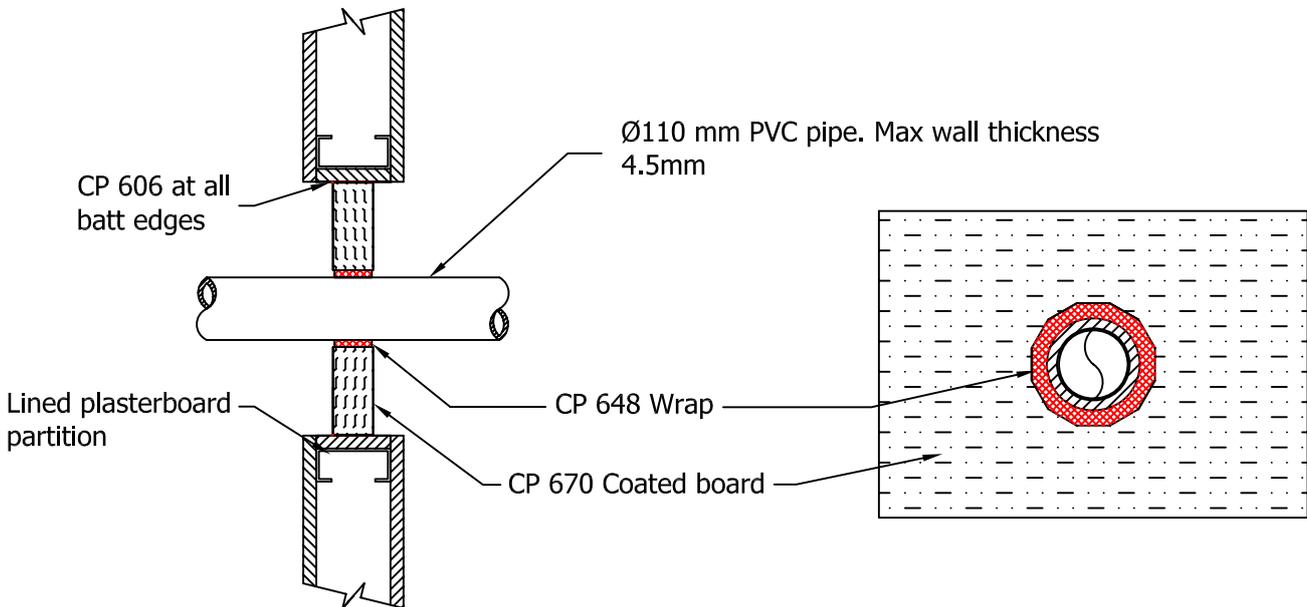


Plastic pipe
passing through

CP 670 coated batt

Test	Up to
Fire Integrity	90 minutes
Insulation	60 minutes
Acoustics	39 dB
Air Tightness	✓
Age Testing	30 years

Approvals
EN 1366-3



The CP 670 coated board should be installed tightly around the service pipe. CP 606 Intumescent mastic must be used at all batt edges in accordance with the installation guidelines. Any gap between the wrap and the batt must be sealed using CP 611A pressure exerting intumescent mastic,

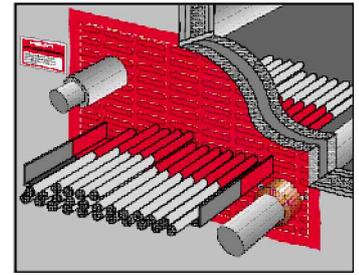
Care must be taken to ensure that the service pipe is supported either side of the seal system

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Hilti CP 670 Firestop acoustic board. Head of Wall application

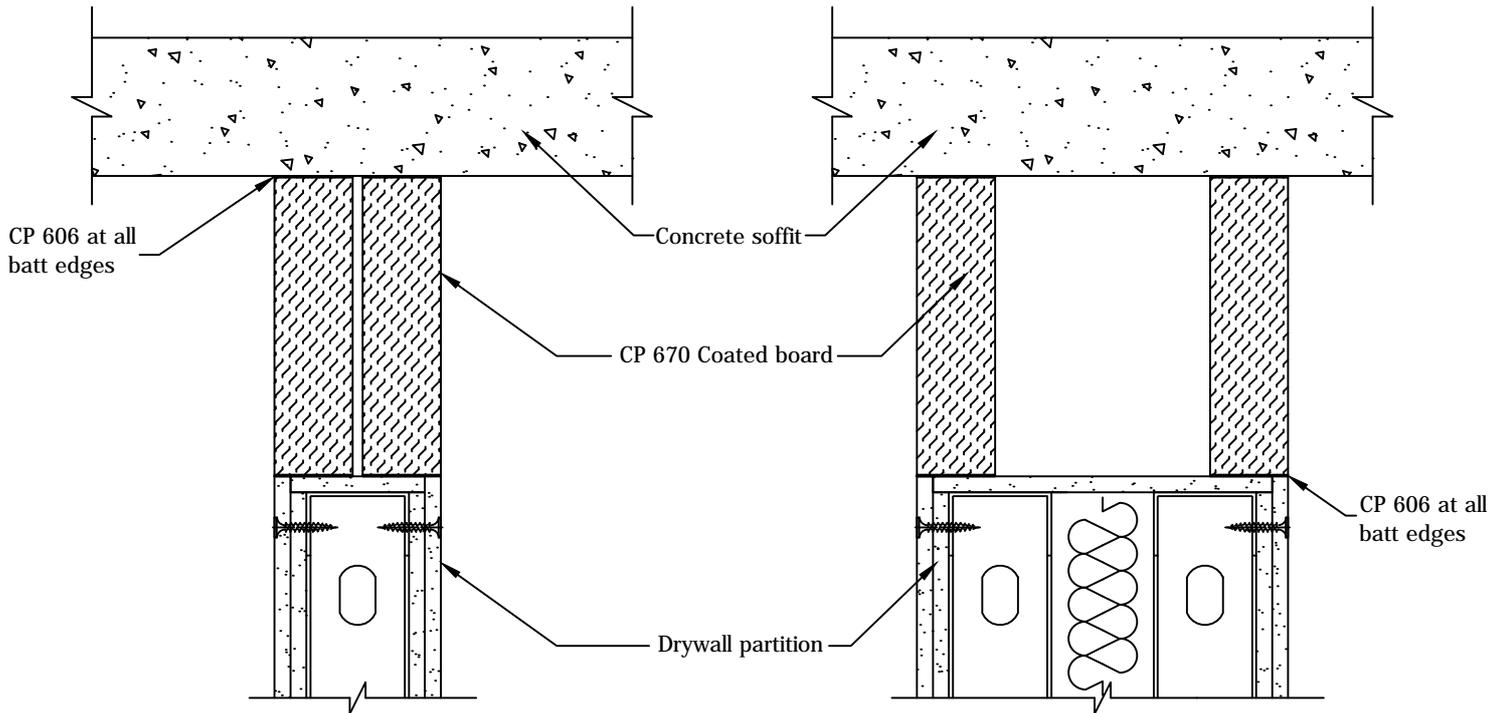
APPLICATION



Head of Wall joint

Test	Up to
Fire Integrity	120 minutes
Insulation	120 minutes
Air Tightness	J
Age Testing	30 years

Approvals
EN 1366-3
BS 476: Part 20
BS EN ISO 140-3



Gap	Test Ref	Rw
Full wall test	BTC16288A	52
CP 670 100mm head of wall single layer	BTC16246A	39
CP 670 100mm head of wall double layer	BTC16283A	49
CP 670 200mm head of wall single layer	BTC16284A	38
CP 670 200mm head of wall double layer	BTC16285A	50
CP 670 300mm head of wall single layer	BTC16286A	35
CP 670 300mm head of wall double layer	BTC16287A	49

Gap	Test Ref	Rw
Full wall test	BTC16289A	70
CP 670 100mm head of wall double layer	BTC16290A	62
CP 670 300mm head of wall double layer	BTC16291A	50
CP 670 300mm head of wall double layer with batts in the head to act as braces	BTC16291A	52

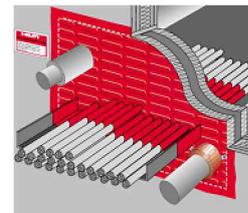
CP 670 coated batt must be installed in accordance with manufacturer's guidelines, utilising CP 606 fire rated acoustic mastic at all batt to batt and batt to substrate junctions.

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Hilti CP 670 Firestop acoustic board - Type A Horizontal detail

APPLICATION

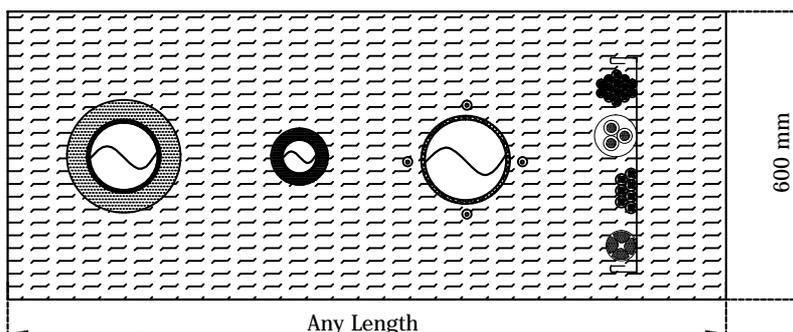


Mixed services
passing through

Solid floor

Test	Up to
Fire Integrity	60 Minutes
Insulation	60 Minutes
Acoustics	39 dB
Age Testing	30 Years

Approvals
BS476 pt 20
EN 1366-3

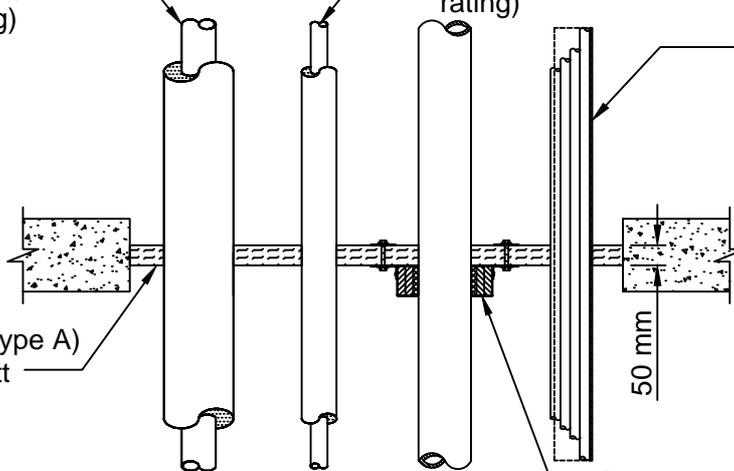


Max dia 168 mm Mineral wool lagged steel pipe (to provide the required T rating)

Max dia 89 mm, Mineral wool lagged copper pipe (to provide the required T rating)

Cables max dia 78mm /cable trays max 500mm

CP 670 (Type A) coated batt



CP 643N collar for PVC & PE pipes between 20 mm - 110 mm dia.

CP 606 Intumescent mastic **must** be used at **all** batt edges in accordance with the installation guidelines.

The CP 643N collars should be secured to the underside of the batt using M8 threaded rod through the fixing hooks and secured with oversized washers on the upper face of the batt. The CP 670 coated board should be installed tightly around the service pipe.

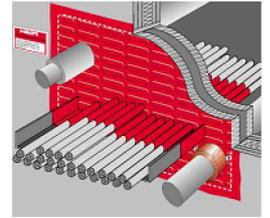
All service items must be secured either side of the batt seal system.

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Hilti CP 670 Firestop acoustic board - Type B Horizontal detail

APPLICATION



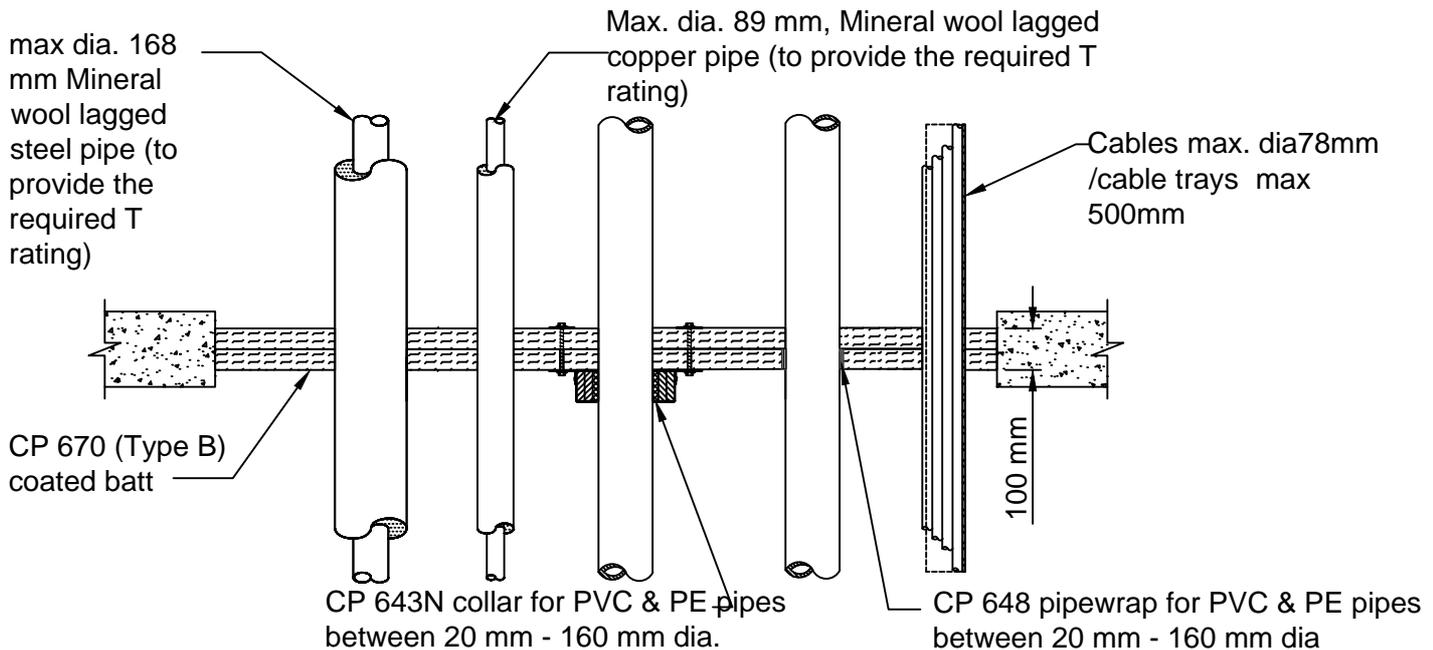
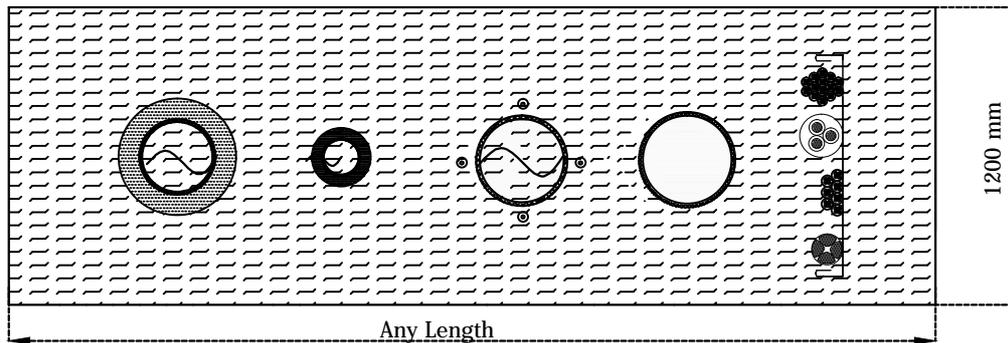
Mixed services

passing through

Solid floor

Test	Up to
Fire Integrity	60 Minutes
Insulation	60 Minutes
Acoustics	52 dB
Age Testing	30 Years

Approvals
BS476 pt 20
EN 1366-3



CP 606 Intumescent mastic **must** be used at **all** batt edges in accordance with the installation guidelines. All joints to be staggered

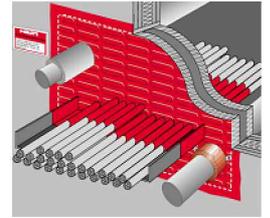
The CP 643N collars should be secured to the underside of the batt using M8 threaded rod through the fixing hooks and secured with oversized washers on the upper face of the batt. The CP 670 coated board should be installed tightly around the service pipe.

All service items must be secured either side of the batt seal system.

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2. The product and application has been fire tested as a minimum to BS 476. It may have additional European and worldwide testing. Please contact Hilti for further information.
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Hilti CP 670 Firestop acoustic board - Type B Horizontal detail (2hr)

APPLICATION



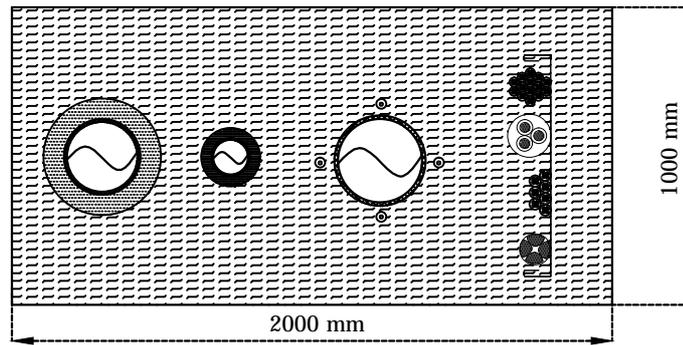
Mixed services

passing through

Solid floor

Test	Up to
Fire Integrity	120 Minutes (90 minutes-CP 648)
Insulation	120 Minutes (90 minutes -CP 648)
Acoustics	52 dB
Age Testing	30 Years

Approvals
EN 1366-3



max. dia. 168 mm Mineral wool lagged steel pipe (to provide the required T rating)

Max. dia. 89 mm Mineral wool lagged copper pipe (to provide the required T rating)

Cables max dia.80mm /cable trays max. 500mm

150 mm CP 670 C Coatback on each face of cables/cable tray

CP 670C Coatback

CP 670 (Type B) coated batt

100 mm

150 mm

CP 644 collar for PVC & HDPE pipes between 20 mm - 160 mm dia.

Alternative solution for combustible pipes:

CP 648 Pipe Wrap for 20 -160 mm dia. PVC and HDPE pipes
NB: 90 minutes fire rating only

CP 606 Intumescent mastic **must** be used at **all** batt edges in accordance with the installation guidelines. All joints between layers to be staggered.

The CP 644 collars should be secured to the underside of the batt using M8 threaded rod through the fixing hooks and secured with oversized washers on the upper face of the batt. The CP 670 coated board should be installed tightly around the service pipe.

All service items must be secured either side of the batt seal system.

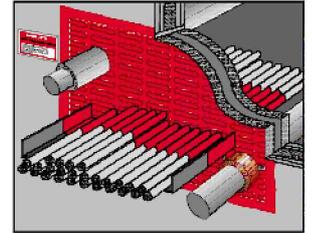
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Hilti CP 670 Firestop acoustic board - Face Fix detail

Test	Up to
Fire Integrity	120 minutes
Insulation	120 minutes
Air Tightness	J
Age Testing	30 years

Approvals
BS 476: Part 20

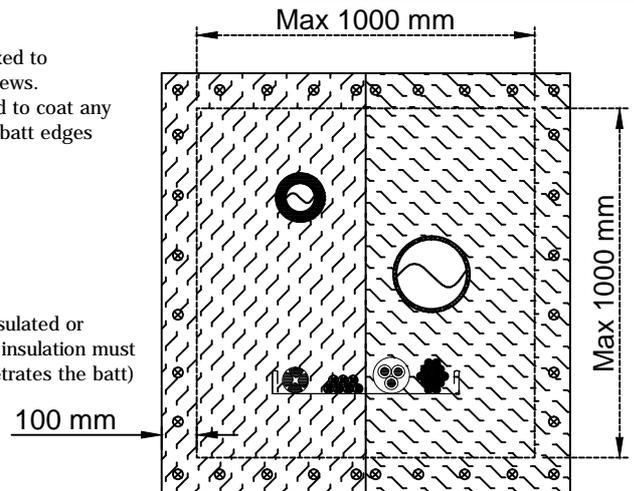
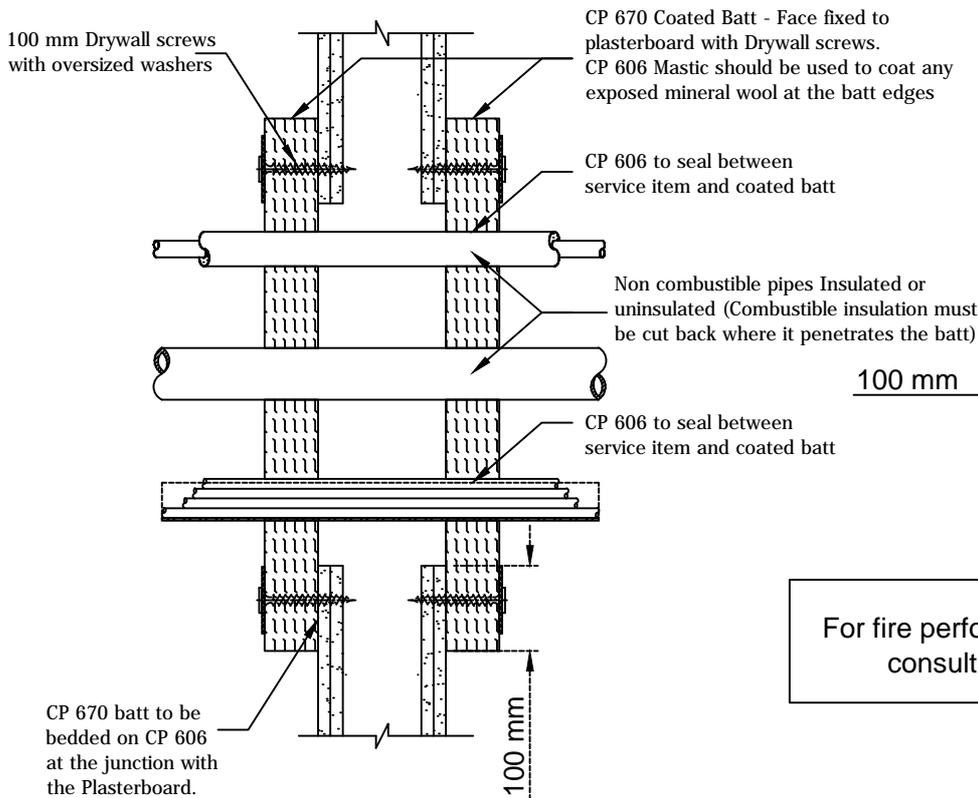
APPLICATION



Mixed services

passing through

Unlined Drywall



For fire performance of individual penetrants consult data sheet DS 686 Issue 1

For combustible pipes please refer to detail FS103

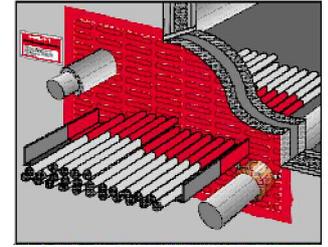
- CP 670 coated batt must be installed in accordance with manufacturer's guidelines, utilising CP 606 fire rated acoustic mastic at all batt to batt and batt to substrate junctions. The batt should overlap the plasterboard by a minimum of 100 mm on all edges.
- CP 670 coated batt must be fixed back to the plasterboard partition utilising min 100 mm long drywall screws and oversized washers. The fixings must be at nom 150 mm ctrs on the horizontal and 200 mm ctrs on vertical edges.
- Butt joints between coated batts are permitted provided that each section of batt is fixed on 3 sides. Joints within the batt should be staggered from face to face such that no direct through gap exists between the two layers i.e. horizontal joints on one face and vertical joints on the other.
- All service items must be supported either side of the proposed seal system. The fire performance of the seal is only good as that of the supporting construction and as such the structural adequacy of the partition must be guaranteed.

The above applications are not exhaustive. For further details please contact

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Hilti CP 670 Firestop board - Face Fix detail for plastic pipes with a CP 645 Firesleeve

APPLICATION



Plastic pipes

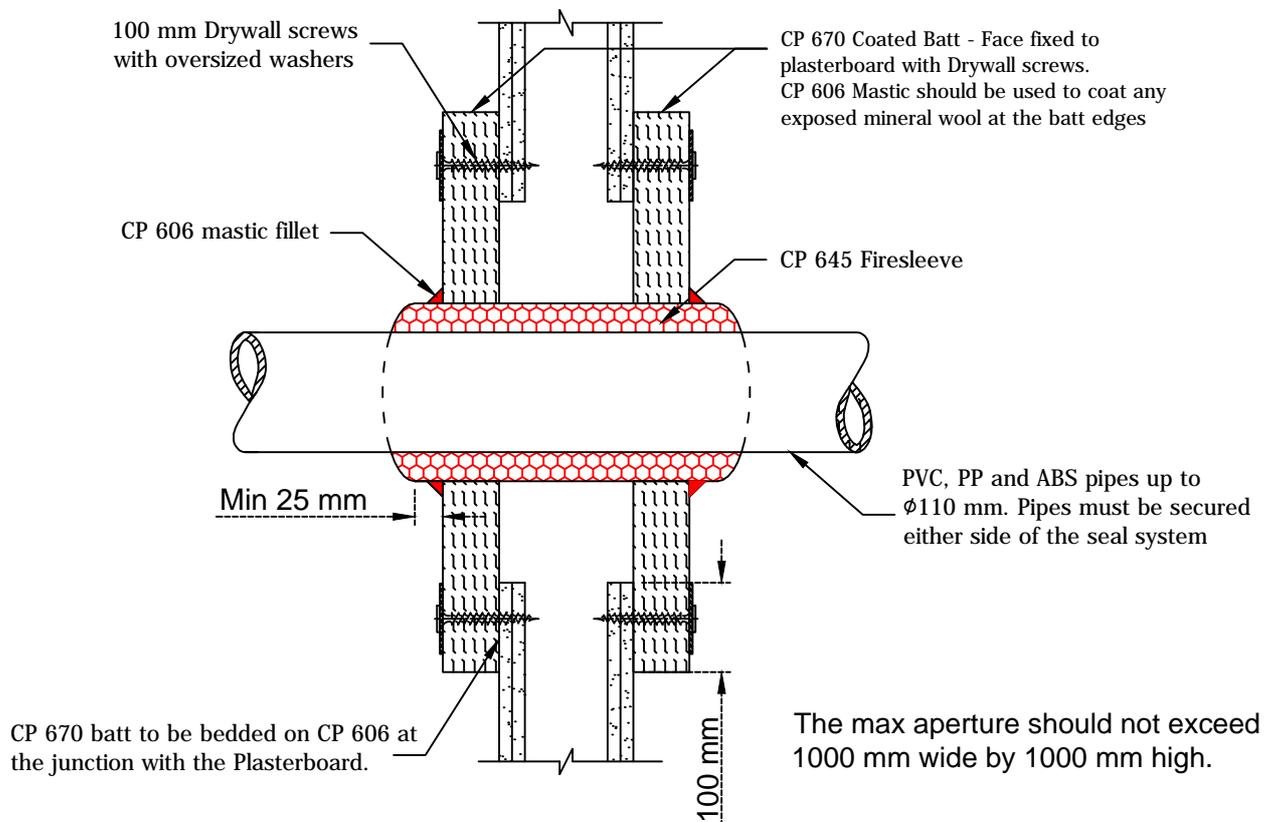
passing through

Unlined Drywall

Test	Up to
Fire Integrity	120 minutes
Insulation	120 minutes
Air Tightness	J
Age Testing	30 years

Approvals
BS 476: Part 20

This application requires a formal engineering judgement. Please contact your local firestop specialist for further details.



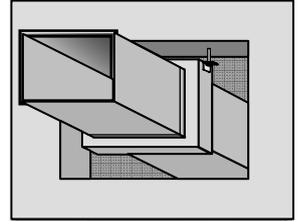
- CP 670 coated batt must be installed in accordance with manufacturer's guidelines, utilising CP 606 fire rated acoustic mastic at all batt to batt and batt to substrate junctions. The batt should overlap the plasterboard by a minimum of 100 mm on all edges.
- CP 670 coated batt must be fixed back to the plasterboard partition utilising min 100 mm long drywall screws and oversized washers. The fixings must be at nom 150 mm ctrs on the horizontal and 200 mm ctrs on vertical edges.
- Butt joints between coated batts are permitted provided that each section of batt is fixed on 3 sides. Joints within the batt should be staggered from face to face such that no direct through gap exists between the two layers i.e. horizontal joints on one face and vertical joints on the other.
- All service items must be supported either side of the proposed seal system. The fire performance of the seal is only good as that of the supporting construction.
- The CP 645 Firesleeve must be installed in accordance with the manufacturer's guidelines and ensuring that it projects by a minimum of 25 mm on each face of the seal. The CP 670 coated batt must be installed tightly around the CP 645 such that the sleeve is secured under a slight compression.

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CP 670 Type B Firestop seal to Fire Damper

APPLICATION



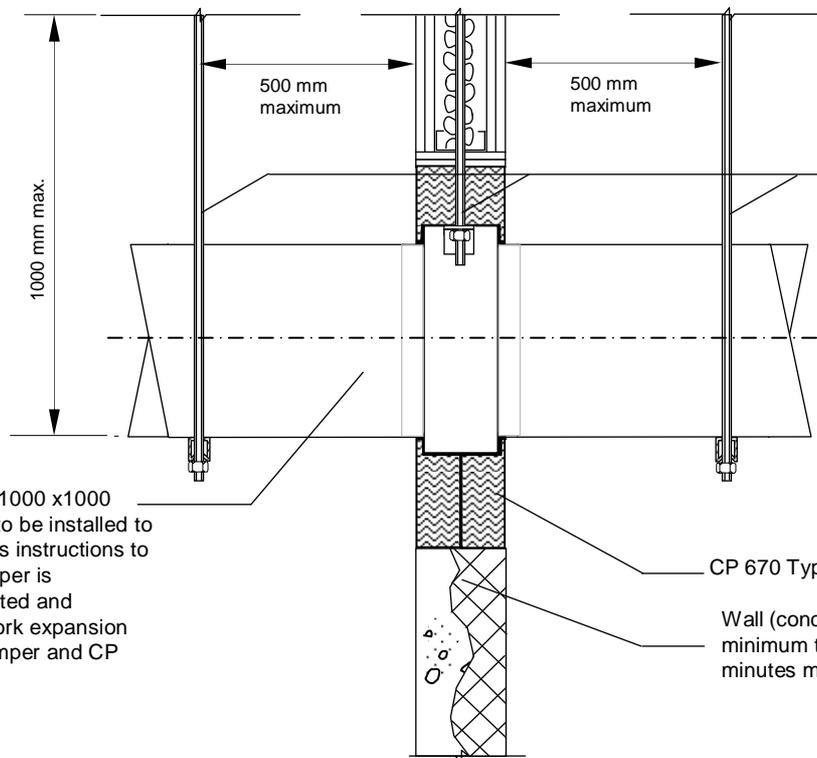
Damper

installed within

Solid or partition wall

Test	Up to
Fire Integrity	60 minutes
Insulation	n/a
Acoustics	52 dB
Air Tightness	√
Age Testing	30 years

Approvals
BS 476 Pt 20
EN 1366-3



M10 drop rods anchored to soffit with fire rated anchors capable of providing load resistance. Support in solid wall to be in wall using suitable anchors

Note: rods to be insulated for drops to support greater than 1000 mm

Metal ductwork (max 1000 x1000 mm) c/w fire damper to be installed to damper manufacturers instructions to ensure weight of damper is independently supported and restrained and ductwork expansion does not displace damper and CP 670 seal

CP 670 Type B
Wall (concrete, masonry, partition, 100 mm minimum thickness) capable of providing 60 minutes minimum fire resistance

This detail is site specific and requires an engineering judgement.

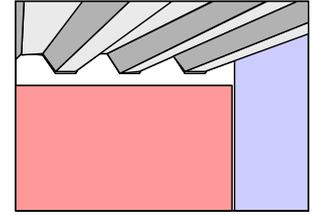
The above applications are not exhaustive. For further details please contact

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Date: 22/7/10	Drawn By	A Brockett	FS	105	Iss	01
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Hilti CP 670 Fire Safety Board

APPLICATION

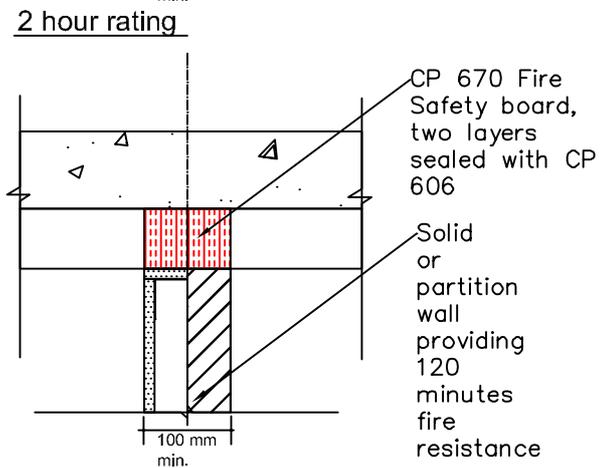
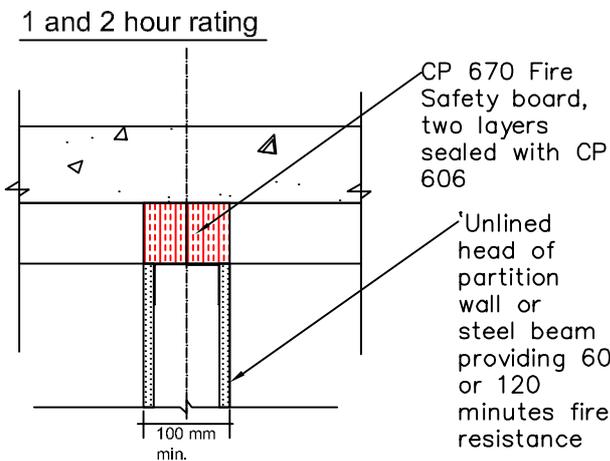
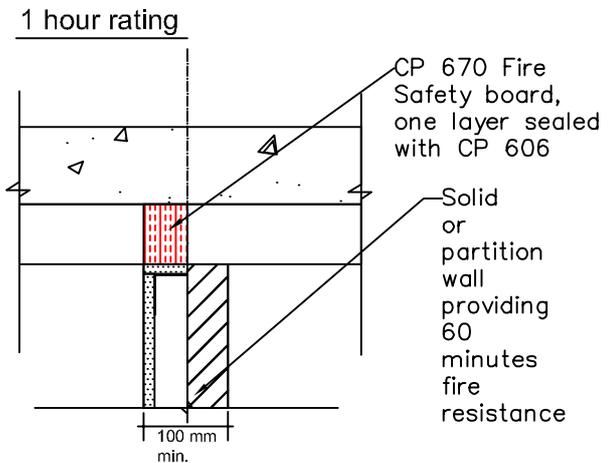
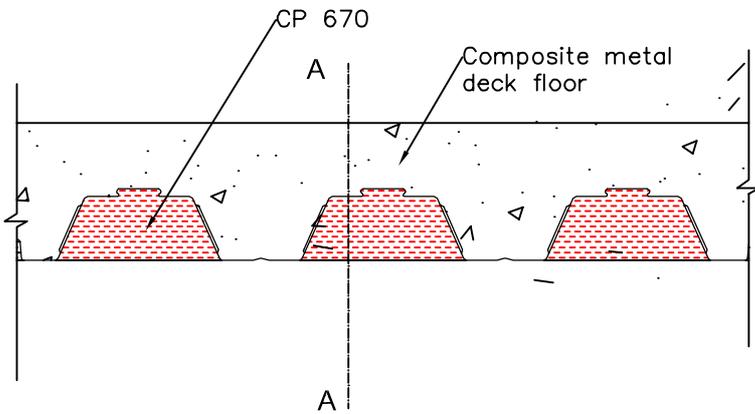


Head of wall joint
beneath
composite deck

Test	Up to
Fire Integrity	1 hr or 2 hr
Insulation	1 hr or 2 hr
Acoustics	39 dB and 49dB*
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3

* For further acoustic data contact Hilti Technical Advisory Service



The above applications are not exhaustive. For further details please contact

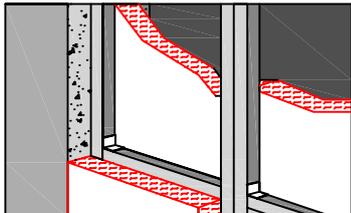
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Hilti CP 670 Fire Safety Board-Type C Details (1 of 6)

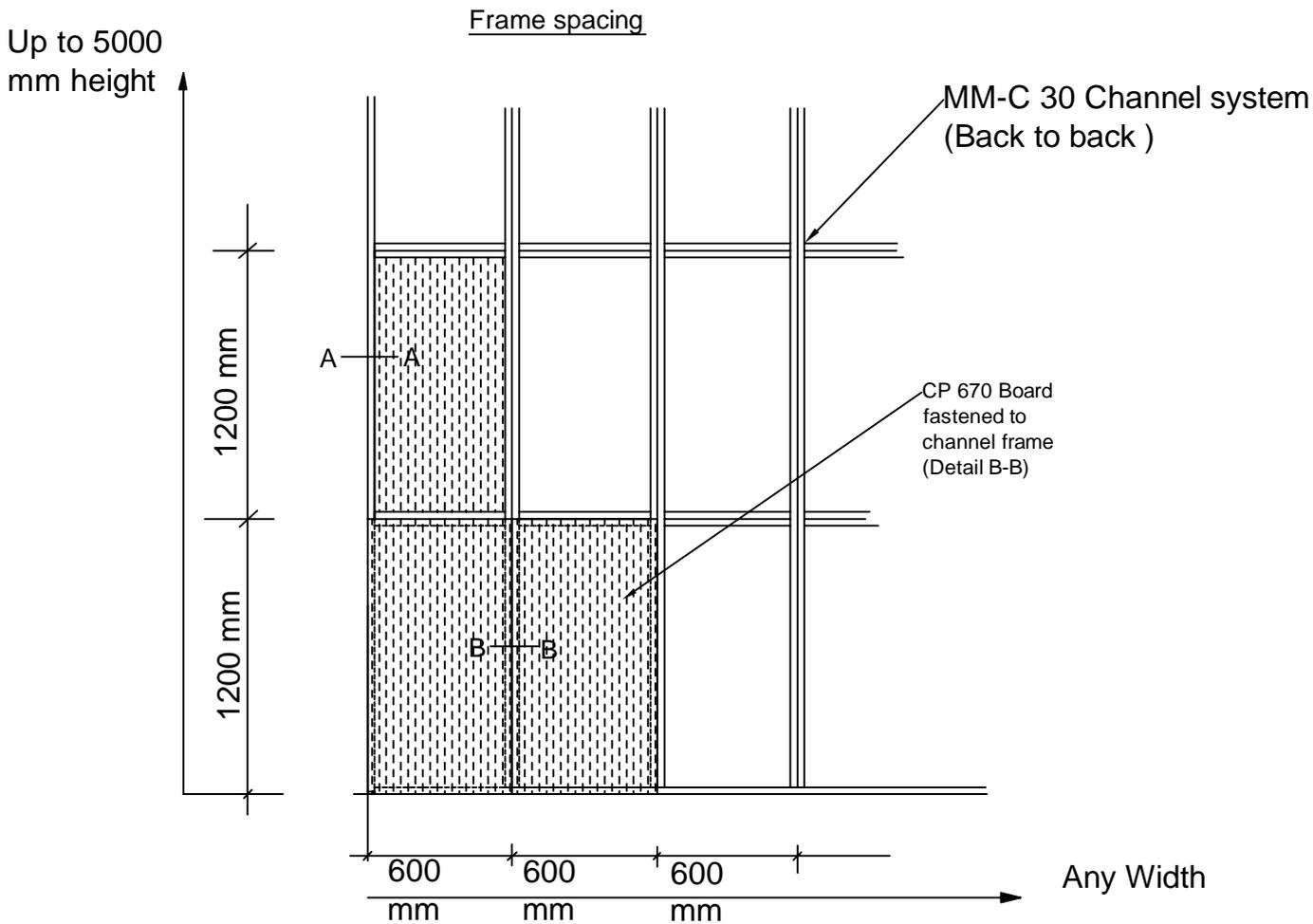
Test	Up to
Fire Integrity	4 hr
Insulation	3 hr
Acoustics	52 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3

APPLICATION



Firestopping
large
service openings



The above applications are not exhaustive. For further details please contact

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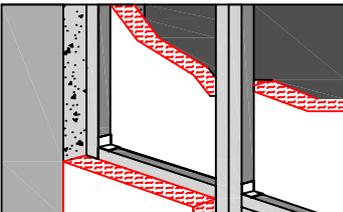


Hilti CP 670 Fire Safety Board-Type C Details(2 of 6)

Test	Up to
Fire Integrity	4 hr
Insulation	3 hr
Acoustics	52 dB
Air Tightness	✓
Age Testing	30 years

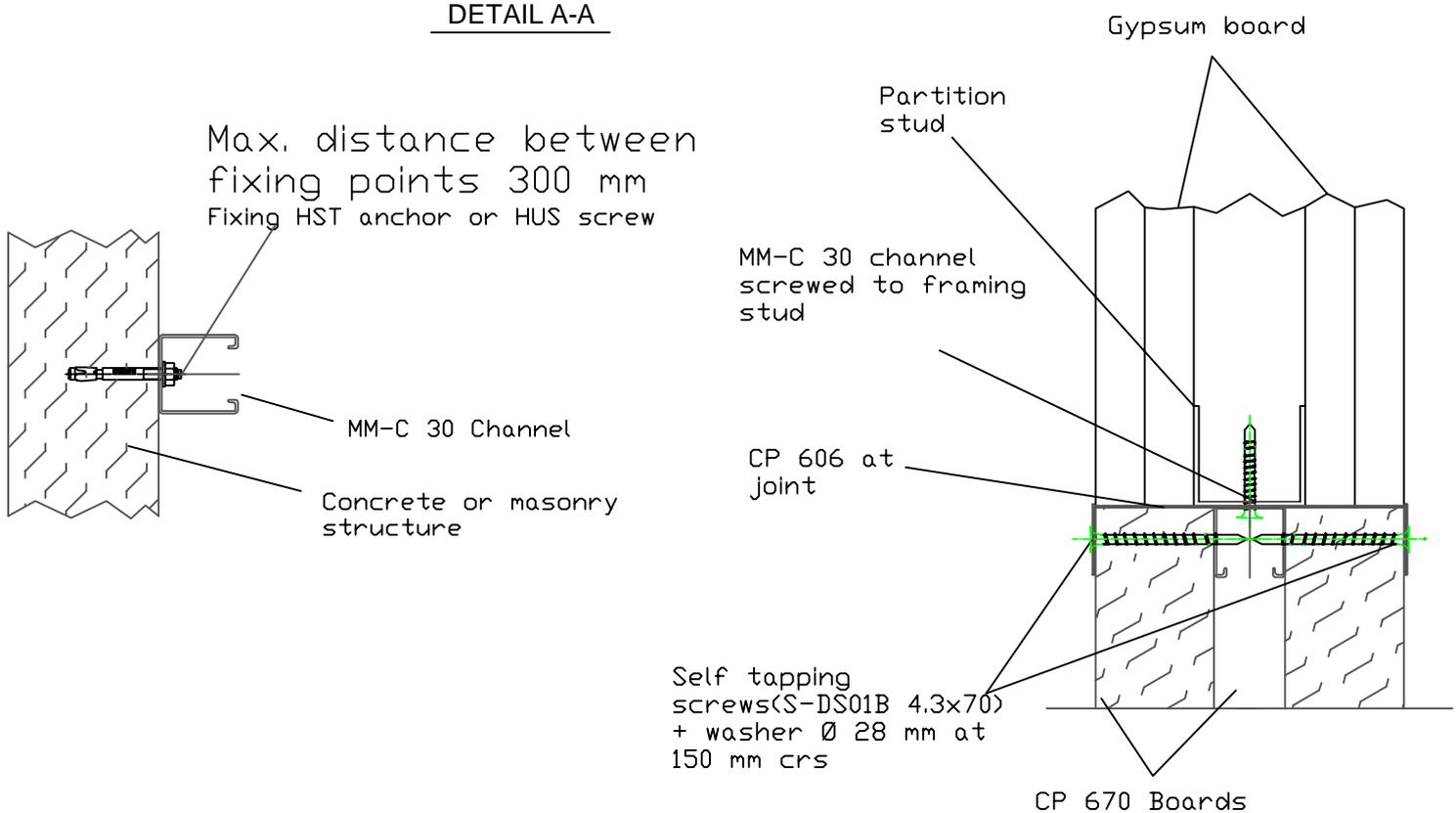
Approvals
BS476 pt 20
EN 1366-3

APPLICATION



Firestopping
large
service openings

DETAIL A-A



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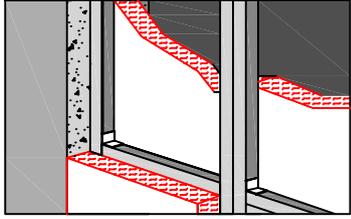


Hilti CP 670 Fire Safety Board-Type C Details (3 of 6)

Test	Up to
Fire Integrity	4 hr
Insulation	3 hr
Acoustics	52 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3

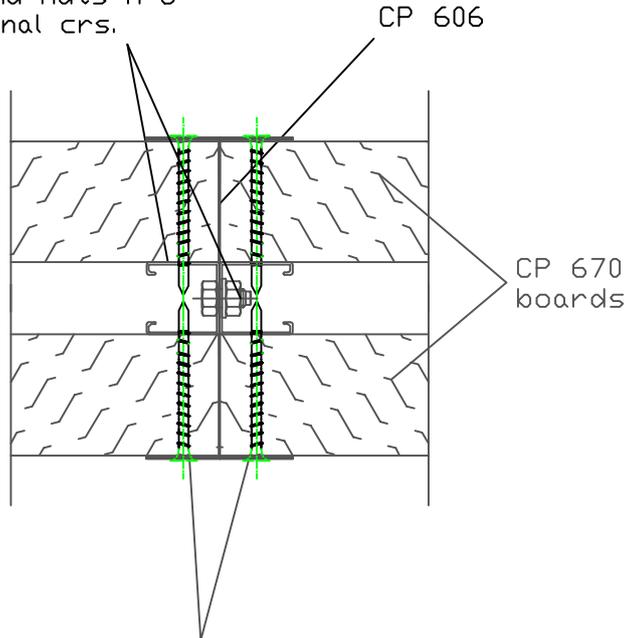
APPLICATION



Firestopping
large
service openings

DETAIL B-B

MM-C 30 channels, back to back, connected with screws and nuts M 8 at 300 mm nominal crs.



Self tapping screws (S-DS01B 4.3x70) + washer Ø 28 mm at 150 mm crs

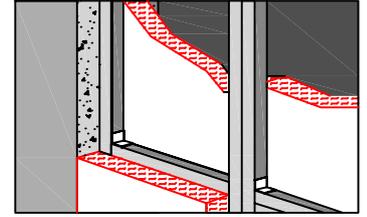
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Hilti CP 670 Fire Safety Board-Type C Details (4 of 6)

APPLICATION



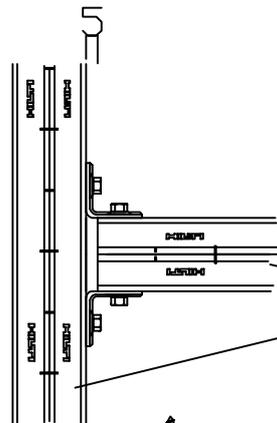
Firestopping

large

service openings

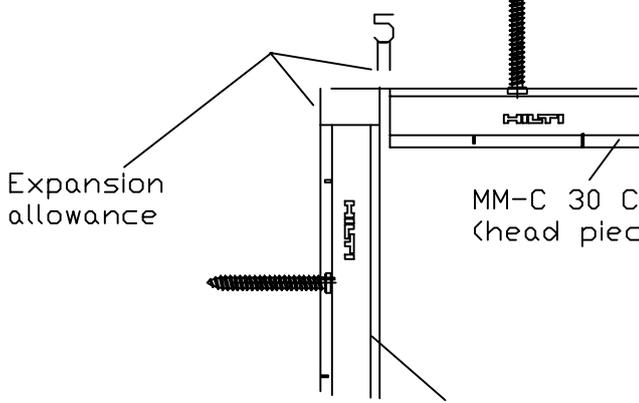
Test	Up to
Fire Integrity	4 hr
Insulation	3 hr
Acoustics	52 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3



Mullion
Transom
Detail

MM-C 30 Channel



Expansion allowance

MM-C 30 Channel
(head piece)

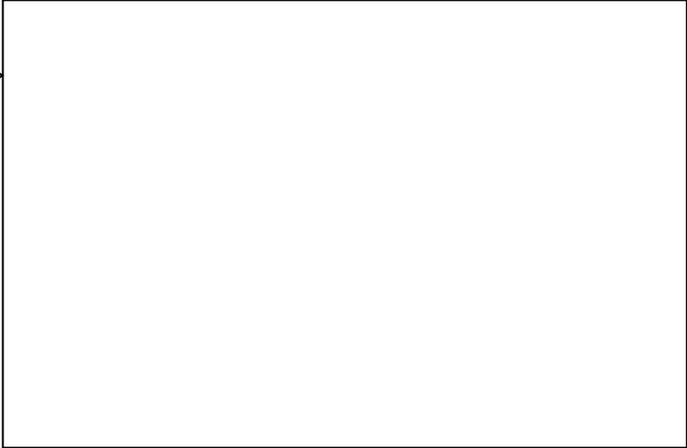
Head Fixing
(Base detail similar)

MM-C 30 Channel
(vertical)

Height (m)	Required expansion allowance in mm for specified FR period					
	30 mins	60 mins	90 mins	120 mins	180 mins	240 mins
Up to 3	0	0	7	13	22	25
3.0 to 3.5	0	1	10.5	18.5	29	32.5
3.5 to 4.0	0	4	14	24	36	40
4.0 to 4.5	0	7	17.5	29.5	43	47.5
4.5 to 5.0	0	10	21	35	50	55

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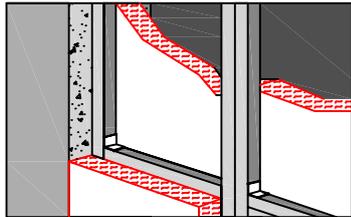


Hilti CP 670 Fire Safety Board-Type C Details (5 of 6)

Test	Up to
Fire Integrity	4 hr
Insulation	3 hr
Acoustics	52 dB
Air Tightness	✓
Age Testing	30 years

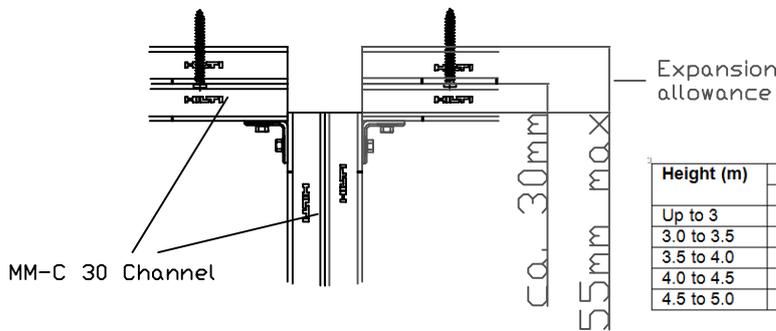
Approvals
BS476 pt 20
EN 1366-3

APPLICATION



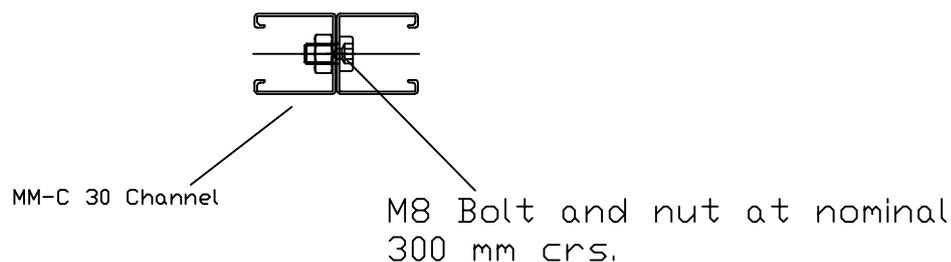
Firestopping
large
service openings

Head Expansion Detail



Height (m)	Required expansion allowance in mm for specified FR period					
	30 mins	60 mins	90 mins	120 mins	180 mins	240 mins
Up to 3	0	0	7	13	22	25
3.0 to 3.5	0	1	10.5	18.5	29	32.5
3.5 to 4.0	0	4	14	24	36	40
4.0 to 4.5	0	7	17.5	29.5	43	47.5
4.5 to 5.0	0	10	21	35	50	55

Double Channel Detail (Back to Back)



The above applications are not exhaustive. For further details please contact

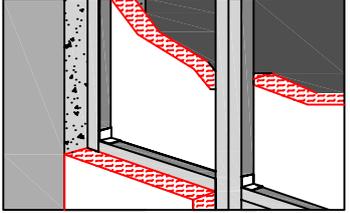
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Hilti CP 670 Fire Safety Board-Type C Details (6 of 6)

Test	Up to
Fire Integrity	4 hr
Insulation	3 hr*
Acoustics	52 dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3

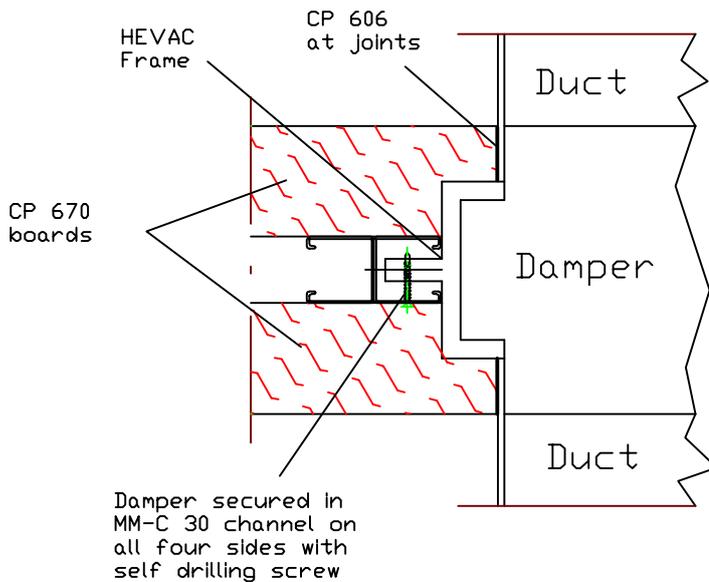
APPLICATION



Firestopping
large
service openings

*duct to be insulated

HEVAC Frame Installation
MMC-30 frame Detail



Note:
Duct to be fixed with steel fixings to damper

The above applications are not exhaustive. For further details please contact

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9.8.12	Drawn by	A Brockett		FS	118	Issue	04
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CP 670 Type C schedule of materials

This schedule itemises enough material for the initial construction of a 25m² Type C seal in accordance with Standard firestop detail FS118.

Notes; The quantities may be used pro rata as an indicator for other size of openings
 Other materials may be required but exact items will depend on the size and type of penetrations and the rating required. Please see below for possible additions.
 Quantities are approximate

ITEM	CODE	QUANTITY	COMMENTS
MM C 30 x 3m	418776	40 lengths	
MM A 90	418757	150	Pre-assembled right angled connector
M8 X 16 set screw	216446	200	For assembling back to back channels
M8 nuts	216465	200	
M8 washers	282850	200	
CP 670 (40)	376024	2 PC	(40 boards per PC)
CP 606	310638	200* approx.	
CP 670 coating	376023	4 tubs approx.	
Screws S-DS01B 4.2 x 70 (single)	386578	1500 no. approx.	Attaching board to frame Washer under the head of screw
M6 x 28mm washers	282860	1500 no. approx.	
S-NSD 13L Drive socket (for fixing to substrate)	318364	1	(hex drive for 3 jaw chuck or direct to SID 121-A driver)
SW 13 Drive socket	423767	1	(1/2" drive for direct fitting to SIW 121-A driver)

* Note that the number of pieces of CP 606 may need to be increased due to number and type of penetrants.

Fixing the MM-30 frame to the substrate will depend on the substrate itself

Substrate	recommended type of fixing
Concrete	HUS H 6 x 35 or HST M8/10
Brick/block	HUS H 6 x 35
Steel	M8 DX stud

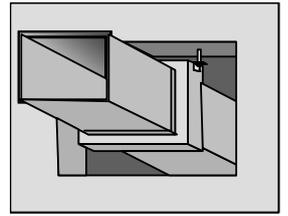
Possible additions to schedule – check Hilti Product Catalogue for or contact Firestop Specialist for item numbers.

- M8 threaded rod
- M8 saddles for fixing rod holding pipe clamps etc.
- M6 saddles for taking roofing bolts for fixing tray
- M6 roofing bolts
- Pipe rings for holding pipes integral to framed system
- MM Channel bases

For ease of installation we recommend the use of;
 SID or SIW impact screwdriver, Assembly of the frame
 WSR 36-A reciprocating saw. Cutting materials to size
 TE7A + drill bits, drilling for HUS or HST fixings for attaching to concrete and masonry substrates
 DX 460, for fixing to steel components
 Threaded Rod Cutter, cutting drop rods to support services.

Hilti CP 670 Fire Safety Board- Out of line damper

APPLICATION



Out of line damper

to

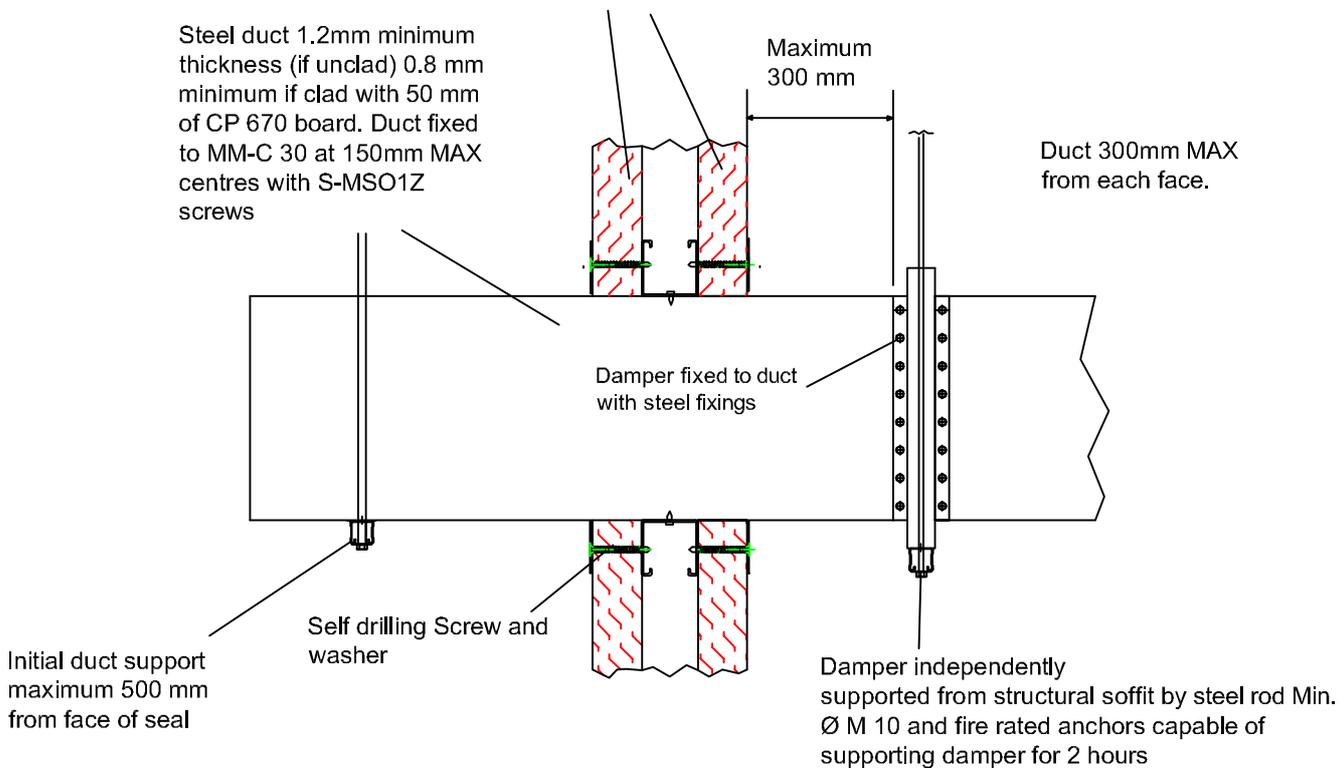
wall penetration

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr*
Acoustics	53 dB*
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20

* Only for insulated duct

CP 670 boards



Note:

Damper to be no more than 1 m from soffit.

Detail to be part of full Type C system for penetration. See appropriate Hilti detail FS 118

The above applications are not exhaustive. For further details please contact

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10.6.11	Drawn by	A Brockett	FS	120	Issue	01
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DS	686	Iss	2
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CP 670 Integrity and insulation tables

	30		60		90		120		180		240	
	Int	Ins	Int	Ins	Int	Ins	Int	Ins	Int	Ins	Int	Ins
Type A												
- Single 50 mm layer of pre coated CP 670 with services independently supported on either side of seal												
- For use in apertures up to 2400 mm high by 1200 mm wide or 1200 mm high by 5000 mm wide												
- Fire Resistance: Integrity & Insulation (See Standard detail FS 047-05 Hilti CP670 Firestop acoustic board type A)												
Blank Seals	✓	✓	✓	✓	✓		✓					
Small Diameter Individual Cables (<20mm)	✓	✓	✓	✓	✓							
Medium Diameter Individual Cables (21 to 40 mm)	✓	✓	✓	✓ _c	✓ ₁							
Large Diameter Individual Cables (41 to 75 mm)	✓	✓	✓	✓	✓ ₁							
Small diameter bunched cables (<20 mm)	✓	✓	✓	✓	✓							
Medium Diameter Bunched Cables (21 to 40 mm)	✓	✓	✓	✓ _c	✓ ₁							
Large Diameter bunched Cables (41 to 75 mm)	✓	✓	✓	✓	✓ ₁							
Cable trays/ladders	✓	✓	✓	✓	✓		✓					
Trunking up to 250 x 250 mm*	✓	✓	✓	✓ ₂	✓	✓ ₂	✓	✓ ₂				
Steel/cast iron pipes up to 250 mm diameter	✓	✓ ₂	✓	✓ ₂	✓	✓ ₂	✓					
PVC pipes up to 110 mm dia using CP 643	✓	✓ _s	✓	✓ _s	✓		✓					
PP,ABS Plastic Pipes Up to 110 mm dia CP645	✓	✓	✓									
Copper pipes up to 108 mm diameter	✓	✓ ₂	✓	✓ ₂	✓	✓ ₂	✓	✓ ₂				
PVC Pipes Up to 168 mm diameter CP645	✓	✓	✓	✓								

✓₁ = requires CP 611A (See Standard detail FS080-02 Hilti CP611A High pressure intumescent sealant)

✓₂ = Insulation ratings can be achieved on Steel & Copper pipes by using CP645 Fire Sleeves with a projection of 500 mm or 25 mm from each face and taped to existing fire resistant pipe insulation(See Standard detail "FS005-02 Hilti CP645 intumescent firesleeve")

*= Inside of Trunking to be sealed with CP 651N cushions

✓_c = Requires Coatback (Coat service items as required for either 100mm(90mins insulation) or 150mm (120mins insulation value)on either side of the seal with CP670C fire safety coating.

✓_s = surface mounted and fixed with M8 threaded rod nuts and washers

Insulation ratings can be achieved on trunking by using appropriate insulation

Ensure All services are adequately supported within 500mm of both faces of the seal See "DS 0676 Iss 1 Fireseals and supports for Building Services"

	Compiled: RBL	Approved:	Revised: ABrockett 26.2.13	Item No.
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DS	686	Iss	2
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Type B

- Multi Layer CP 670 of 100 mm minimum overall Board thickness
- No internal framing.
- For use in apertures up to **1200 mm high by any length wide.**

Fire Resistance: Integrity & Insulation

(See Standard detail FS 050-05 Hilti CP670 Firestop acoustic board type B)

	30		60		90		120		180		240	
	Int	Ins	Int	Ins	Int	Ins	Int	Ins	Int	Ins	Ins	Int
Blank Seals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Small Diameter Individual Cables (<20mm)	✓ _c		✓ _c		✓							
Medium Diameter Individual Cables (21 to 40 mm)	✓ _c		✓ _c		✓ _c							
Large Diameter Individual Cables (41 to 75 mm)	✓ _c		✓ _c		✓ _c							
Small diameter bunched cables (<20 mm)	✓ _c		✓ _c		✓ _c							
Medium Diameter Bunched Cables (21 to 40 mm)	✓ _c		✓ _c		✓							
Cable trays/ladders	✓ _c		✓ _c		✓							
Trunking up to 250 x 250 mm*	✓ _c	✓ _c	✓ _c		✓ _c		✓ _c		✓ _c		✓ _c	
Duct and Damper up to 1000 mm Square												
Steel/cast iron pipes up to 200 mm diameter (insulated)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UPVC Pipe up to 110 mm With CP643	✓	✓	✓	✓	✓	✓ ₂	✓	✓ ₂				
Copper pipes up to 108 mm diameter	✓		✓		✓		✓					

✓₁ = requires CP 611A (See Standard detail FS080-02 Hilti CP611A High pressure intumescent sealant)

✓₂ = Surface mounted only

✓_c = Requires Coatback (Coat service items as required for either 100mm(90mins insulation) or 150mm (120mins insulation value) on either side of the seal with CP670C fire safety coating.

*= Inside of Trunking to be sealed with CP 651N cushions

Ensure All services are adequately supported within 500mm of both faces of the seal See "DS 0676 Iss 1 Fireseals and supports for Building Services"

Type C

- Multi Layer CP 670 of 100 mm minimum overall Board thickness
 - Internal profiled steel support frame of MMC30
 - For use in apertures up to 5000 mm high by any length wide.
 Fire Resistance: Integrity & Insulation
 (See Standard detail FS118-02)

	30		60		90		120		180		240	
	Int	Ins	Int	Ins	Int	Ins	Int	Ins	Int	Ins	Int	Ins
Blank Seals	✓	✓	✓	✓	✓	✓	✓		✓			✓
Small Diameter Individual Cables (<20mm)	✓	✓	✓	✓	✓	✓	✓	✓ _c	✓			
Medium Diameter Individual Cables (21 to 40 mm)	✓	✓	✓	✓	✓	✓	✓	✓ _c	✓			
Large Diameter Individual Cables (41 to 75 mm)	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Small diameter bunched cables (<20 mm)	✓	✓	✓	✓	✓	✓	✓	✓ _c	✓			
Medium Diameter Bunched Cables (21 to 40 mm)	✓	✓	✓	✓	✓	✓	✓	✓ _c	✓			
Cable trays/ladders	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Trunking up to 250 x 250 mm*	✓	✓	✓		✓		✓		✓			✓
Duct and Damper up to 1000 mm Square	✓	✓	✓		✓		✓		✓			✓
Steel/cast iron pipes up to 200 mm diameter	✓	✓	✓		✓		✓		✓			✓
UPVC Pipe up to 110 mm With CP643	✓	✓	✓	✓	✓	✓ ₂	✓	✓ ₂				
Copper pipes up to 108 mm diameter	✓		✓		✓		✓					

✓1 = requires CP 611A

✓2 = Surface mounted only

*= Inside of Trunking to be sealed with CP 651N cushions

✓_c= = Requires Coatback (Coat service items 150mm (120mins insulation value) on either side of the seal with CP670C fire safety coating

Ensure All services are adequately supported within 500mm of both faces of the seal See "DS 0676 Iss 1 Fireseals and supports for Building Services

HILTI TECHNICAL ADVISORY SERVICE
TELEPHONE 0161 886 1144

IMPORTANT NOTES

1. The information and recommendations given herein are believed to be correct at the time of writing. The data has been obtained from tests done under laboratory, or other controlled, conditions and it is the users' responsibility to use the data given in the light of conditions on site and taking account of the intended use of the products concerned. Whilst Hilti (Gt. Britain) Limited can give general guidance and advice, the nature of Hilti products means that the ultimate responsibility for selecting the correct product for a particular application must lie with the customer.
2. All products must be used, handled and applied in accordance with current instructions for use published by Hilti (Gt. Britain) Limited.
3. All products are supplied, and advice given, subject to Hilti (Gt. Britain) Limited terms of business.
4. Hilti's policy is one of continuous development. We therefore reserve the right to alter specifications etc. without notice.
5. Construction materials and conditions vary on different sites. If it is suspected that the base material has insufficient strength to achieve a suitable fixing, contact the Hilti Technical Advisory Service.

Additional Properties of CP 670 Firestop Coated Board System			
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Property	Test regime	Notes	
Fire	BS 476 - 20		✓
	BS EN 1366-3		✓
	Certifire		663
Acoustic	EN ISO 20 140-10: 1992	Type A	39 dB
	EN ISO 20 140-10: 1992	Type B&C	52 dB
	BS EN ISO 140-3:1995	Head of wall	62 dB
	ISO 140-9 & BS EN ISO 10848		Dn,f,w, 46 dB
	ISO 140-9 & BS EN ISO 10848		Dn,f,w, 50 dB
Ageing	DIBT		✓
	DAfSTB		✓
	Fire test after ageing		✓
Air sealing	DIN 1026		✓
	Pressure difference 50Pa		✓
	Pressure difference 200Pa		✓
Electrical resistance	Surface resistance		✓
	Volume resistivity		✓
	Insulator		Yes
Water resistance	Rain Resistance		N.R
	Mold and Mildew resistance	ISO 846	Class 0-1
	Water tightness	UL 1479	✓
VOC	LEED 2009	LEED 3.0	38 g/l
Chemical Resistance	Contact Hilti Technical Advisory Service with details of type, concentration, duration and ambient temperature of exposure conditions		

N.R Not relevant
 ✓ Meets standard

CP 670 Firestop Coated Board System - BREEAM criteria

BREEAM Section

Management construction site impact	No power tools required for installation (no energy source required)	✓
	Dust free installation	✗
Health and wellbeing	Saves water during application	✓
	No water pollution	✓
	Low VOC* (air quality)	✓
	No ozone depletion potential (ODP)	✓
	Low global warming potential (GWP)	✓
	Smoke and gas tightness	✓
	Noise reduction	✓
Energy	Air tightness	✓
	Avoidance of air infiltration	✓
	Product Carbon Footprint or LCA Data	✓
Materials	Thermal insulation	✓
	Recycling of packaging	✓
	Reuse of materials	✗
Waste	Re-penetration in existing opening (No waste)	NA
Product contributes to Green Building under this clause	✓	
Not applicable for this product	NA	
Product makes No contribution to green Building under this clause	✗	

CP 670 Firestop Coated Board System - NBS specification clauses

This page is to be used in conjunction with the NBS Specification clauses in the introduction to the Hilti Firestop Specifiers Binder.

Application: Imperfections of fit of building components and Service penetrations through fire rated walls and floors requiring treatment to reinstate the fire performance of said walls and floors

P12 FIRE STOPPING SYSTEMS

PRODUCTS

360 MINERAL WOOL RIGID BATTS

- Ready to use fire resistant ablative paint coated mineral wool panels to seal service penetration openings and voids in solid walls and floors and partition walls and to provide an acoustic seal where required
 - i. Type A single batt for openings up to 2400 high or 5000mm wide for fire resistance up to 90 minutes
 - ii. Type B double layered batt for openings for openings 2400mm high or 5000mm wide for fire resistance up to 120 minutes
 - iii. Type C Framed double batt for openings 5000 mm high by any width for fire rating up to 240 minutes

Consult Hilti for appropriate system.

- Tested to BS 476 Pt 20:1987 and BS EN 1366-3:2004
 - Age tested as defined in the DafStb guidelines, with subsequent fire testing.
 - Manufacturer: Hilti (Gt Britain) Ltd, 1Trafford Wharf Road, Manchester M17 1BY, Tel no 0800 886 100, Fax 0800 886 200. Website www.hilti.co.uk
- Product reference: **CP 670 Fire Safety Board**

EXECUTION

710 INSTALLING BATTS

- Installing Batts: Fit tight into void between the floor or wall and the penetrating services. All cut edges to be coated with appropriate mastic before jointing
- Supporting of batts and services: refer to manufacturer's instruction for suitable support frame where required and fixing details for support of batt and services where required (eg dampers)
- Face of batts: Flush with surface of wall, floor or soffit
- Joints: Seal and close butt joints with appropriate fire resisting sealant, kept to minimum
- Gaps between services and bulkhead: For non-combustible services seal with appropriate fire resisting sealant. Combustible services to be sealed with appropriate Intumescent sealing product as per manufacturer 's recommendations and supporting test evidence

Visit our web site at www.Hilti.co.uk/cfs to access our **Firestop Design Centre**

Penetration product selector	Other product features	Joints product selector
		
<p>Interactive product selector for firestopping openings through walls and floors</p>	<p>Find out more about the benefits of using Hilti firestop systems</p>	<p>Interactive product selector for wall to wall, top of wall, curtain wall, floor to floor and floor to wall applications.</p>

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- may be subject to a handling charge of £10 or 20% Hilti Gt. Britain Ltd) of the value of the Goods, whichever amount is the greater; and
- Must be in the same condition as originally supplied to the Buyer.
- The Buyer may not cancel an order of the Goods including but without limitation, any Goods that involve special requirements of the Buyer once the order has been inputted onto the Company's ordering system, without the prior written consent of the Company.

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