

## **HILTI CP 648 Firestop Wrap**

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](http://www.hilti.co.uk/cfs)

<p><b>Hilti (Gt Britain) Ltd</b> <b>TECHNICAL ADVISORY SERVICE</b> <b>TELEPHONE 0161 886 1144</b></p>
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### **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](http://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 3<sup>rd</sup> 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

## Contents

### Hilti Firestop Systems Manual Pages for Hilti CP 648

FS 004 - 02	Hilti CP 648 Plastic pipe – Solid Wall, Floor
FS 048 - 01	Hilti CP 648 Flat Channel Duct - Drywall
FS 049 - 01	Hilti CP 648 Flat Channel Duct – Solid wall
FS 072 - 02	Hilti CP 648 Plastic Pipe – Metal Deck Floor
FS 091 - 01	Hilti CP 670 & CP 648 PVC pipe - Drywall

Data summary	Additional Properties of CP 648 seals
Data summary	CP 648 - Firestop wrap – BREEAM Criteria summary
Data summary	CP 648 - Firestop wrap - 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](http://www.hilti.co.uk/cfs)

### Revision History

May 2011	First release
July 2011	Data summaries added, inappropriate standard details removed.
May 2013	Update

## Firestop wrap CP 648

Sealing flammable plastic pipes for fire resistance up to 4 hours



### Applications

- Sealing flammable plastic pipes from 50-160mm with high and low wall thickness
- Pipes include: UPVC, ABS, PP, PE and HDPE

### Advantages

- Special elastic material for good pliability
- Halogen and plasticiser free, water resistant
- Can be installed into single or double layer CP 670
- High performance fire expansion rate (40:1)
- Seal with CP611A or appropriate compound (CP636, CP637 or CP368)

### Technical data

CP 648-S	
Fire rating	Up to 4 hours
Base materials	Concrete, Drywall, Masonry
Density	1.35 g/cm <sup>3</sup>
Colour	Black with foil backing

CP 648-E	
Technical Data*	
Density	Approx. 1.35 g/cm <sup>3</sup>
Dimensions (approximate)	4.5 x 45mm (Thickness x Width)
Colour	Black with foil backing
Temperature resistance	-40°C to +100°C
Intumescent activation	Approx. 160°C
Expansion ratio (unrestricted)	1:40

\*At 73°F (23°C) and 50% relative humidity

British Standard  
BS 476

EN 1366-3



30  
years



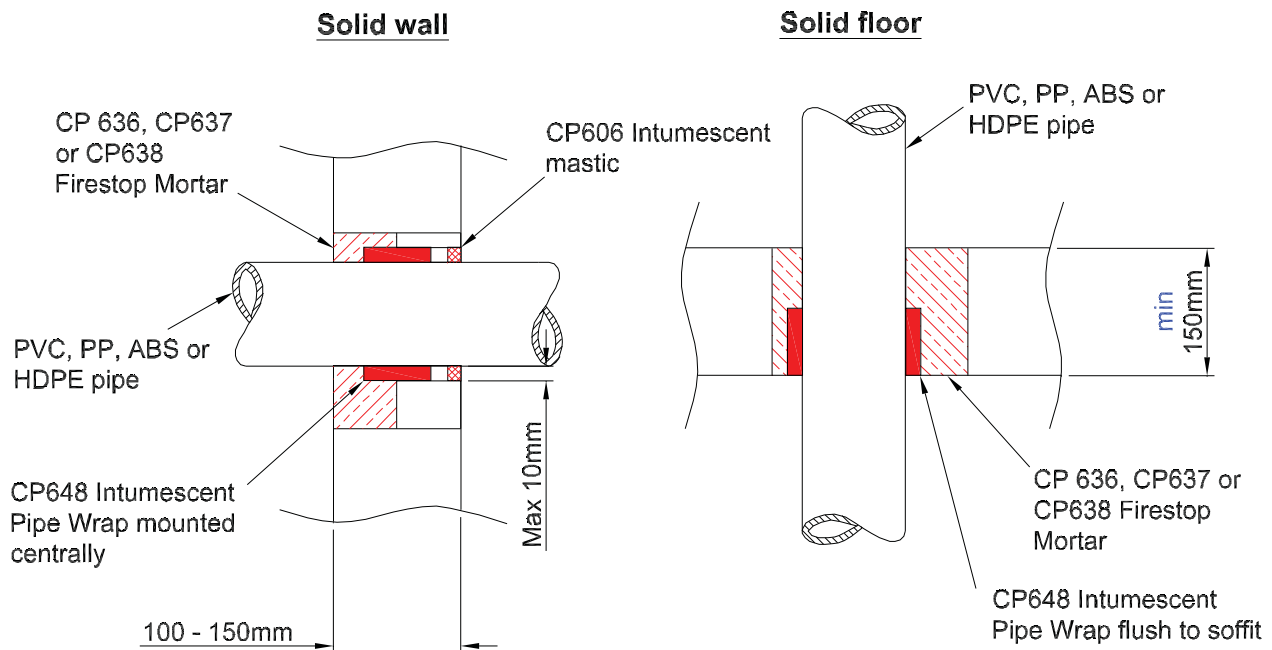
Pipe dimension (mm)	No. Layers	Wrap length (cm)	Applications with a 10m roll (No.)	Recommended drill hole dia. (mm)
50	1	17	58	67*
63	1	21	47	77*
75	1	25	40	92*
90	2	64	15	112*
110	2	75.5	13	132*
125	2	85.5	11	152*
160	3	166	6	202*

\*or bigger

### Ordering

Order description	Package Contents	Package Quantity	Item number
Firestop wrap strip CP 648-S-50/1.5" GB	CP 648-S firestop single wrap (50mm 1.5")	2 pc	00286076
Firestop wrap strip CP 648-S-63/2" GB	CP 648-S firestop single wrap (63mm 2")	2 pc	00286077
Firestop wrap strip CP 648-S-90/3" GB	CP 648-S firestop single wrap (90mm 3")	2 pc	00286079
Firestop wrap strip CP 648-S-110/4" GB	CP 648-S firestop single wrap (110mm 4")	2 pc	00286080
Firestop wrap strip CP 648-S-125/5" GB	CP 648-S firestop single wrap (125mm 5")	2 pc	00286081
Firestop wrap strip CP 648-S-160/6" GB	CP 648-S firestop single wrap (160mm 6")	2 pc	00286082
Firestop wrap strip CP 648-E-W45/1.8"	CP 648-E firestop endless wrap	1 pc	00286083

**Technical Information**



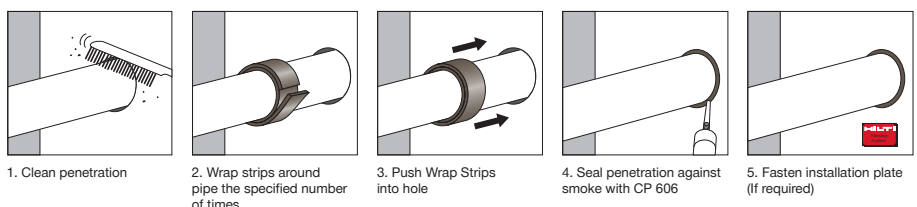
**For more standard details and technical information register online at the Hilti Firestop Design Centre at [www.hilti.co.uk/cfs](http://www.hilti.co.uk/cfs)**

	Wall		Floor
Pipe dia.	Drywall*	Cellular concrete, concrete and masonry	Cellular concrete concrete and masonry
50-110mm	100mm	150mm	150mm
125-60mm	-	100/150	32mm
CP 644 N	One Wrap Strip on each side (with required number of layers)		One Wrap Strip underside (with required number of layers)

\* Drywall containing rigid mineral wool insulation.

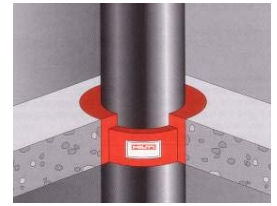
**Installation instructions for CP 648**

- Notice**
- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.
- Opening**
1. Clean the plastic or insulated pipe penetration. Expansion of the intumescent material during a fire closes the plastic or insulated pipe penetration. Very dirty pipes (ie: with remains of mortar) may lead to a delay in this closing action. Soiled plastic pipes or insulated pipe penetrations should, therefore, be cleaned in the area where the CP 648-E Firestop Wrap Strip is to be installed.
- Application of firestop system**
2. Tightly wrap the required number of strips continuously around the penetrant, and hold in place with tape.
  3. Push the Hilti Firestop Wrap Strip into the opening until it is flush with the substrate surface. It may be required to clamp, wire or use a Hilti Retaining Collar to secure the wrap strip in place for some applications.
  4. If the system requires a cold smoke seal, then apply the proper amount of Hilti CP 606 sealant in the opening over the wrap strip.
  5. For maintenance reasons, a penetration seal can be permanently marked with an identification plate and fastened in a visible position next to the seal.
- Not for use**
- In highly corrosive surroundings
  - With unapproved retaining collars, anchors/fasteners
  - Outdoors
- Storage**
- Store only in the original packaging in a location protected from moisture at temperatures between 23°F and 86°F (-5°C and 30°C).



# Hilti CP 648 Intumescent Pipe Wrap

### APPLICATION



Plastic pipe  
passing through

Solid wall

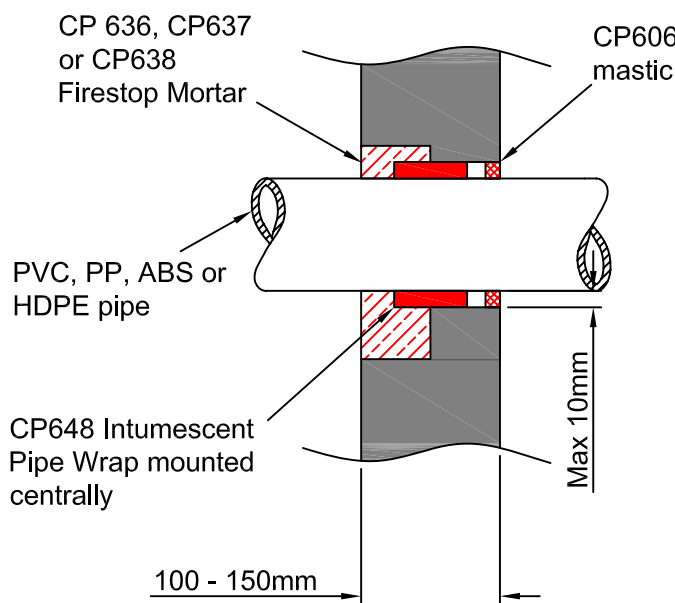
Solid floor

Test	Up to
Fire Integrity	4 hr
Insulation	4 hr
Acoustics	Fill remaining annulus with fire rated mortar or CP606 Intumescent Mastic
Air Tightness	✓
Age Testing	30 years

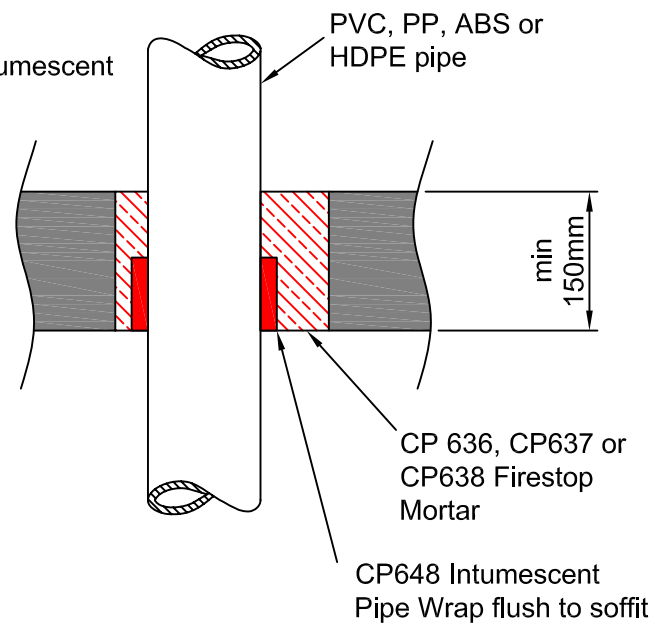
Approvals
BS EN 1366-3
Factory Mutual
BS476: Pt 20

Plastic pipes from Ø 20mm - 160mm

### Solid wall



### Solid floor



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.

03.07.07	Drawn by	R Wakefield	FS	004	Issue	02
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# Hilti CP 648-E Intumescent Pipe Wrap

**APPLICATION**



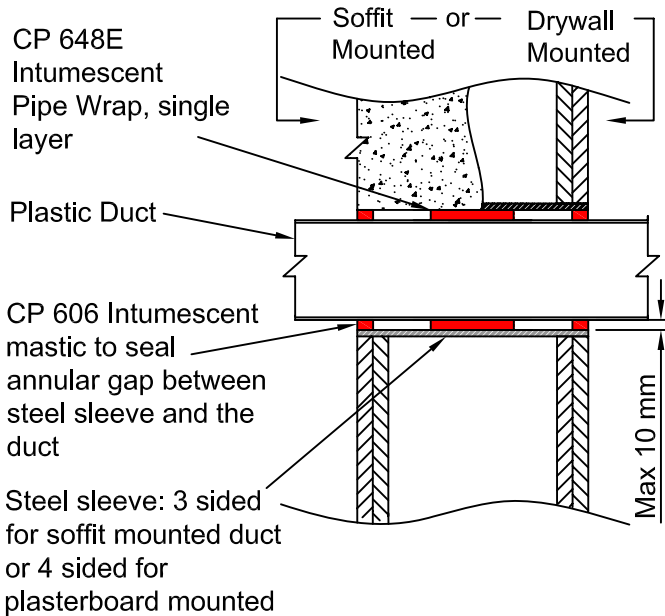
Flat Channel Duct  
passing through

Drywall

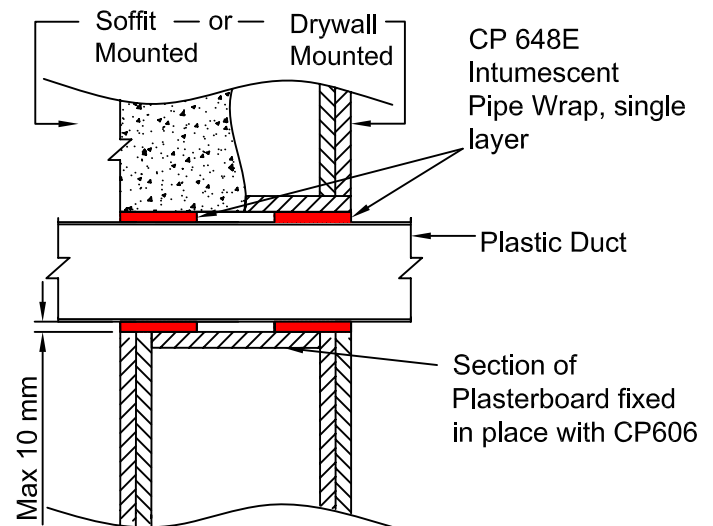
Test	Up to
Fire Integrity	1 hr
Insulation	Up to 1hr
Acoustics	
Air Tightness	
Age Testing	30 years

Approvals
BS EN 1366-3
FM Approved

## Steel Sleeved



## Plasterboard Framed

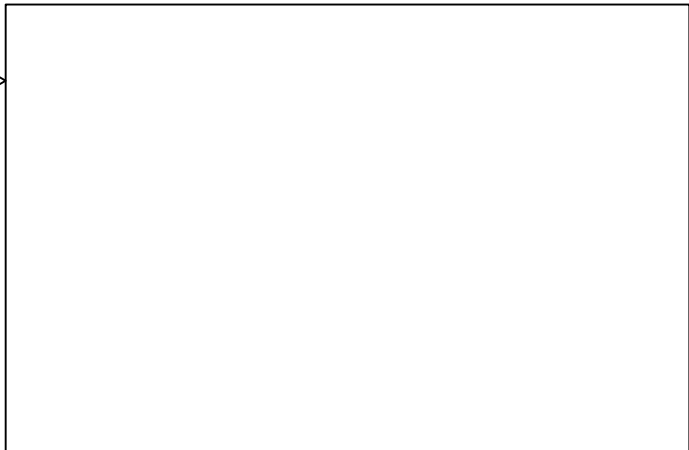


Any gaps between the CP648 wrap and the duct/surrounding substrate should be sealed with CP611A

Suitable for PVC plastic ducts up to a maximum width of 309 mm or a maximum height of 90 mm.

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

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# Hilti CP 648-E Intumescent Pipe Wrap

**APPLICATION**



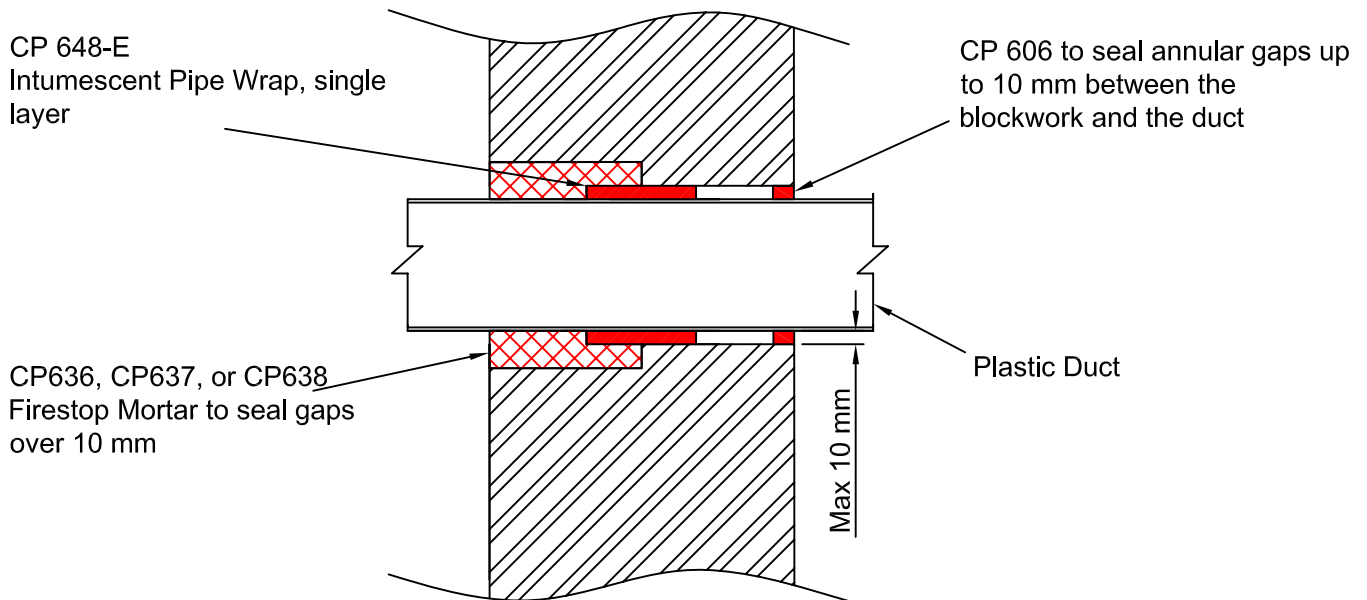
Flat Channel Duct

passing through

Solid Wall

Test	Up to
Fire Integrity	2 hr
Insulation	Up to 1hr
Acoustics	
Air Tightness	
Age Testing	30 years

Approvals
BS EN 1366-3
FM Approved



Any gaps between the CP648 wrap and the duct/surrounding substrate should be sealed with CP611A

Suitable for PVC plastic ducts up to a maximum width of 309 mm or a maximum height of 90 mm.

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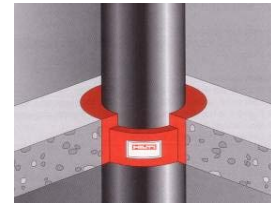
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# Hilti CP 648 Intumescent Pipe Wrap

**APPLICATION**



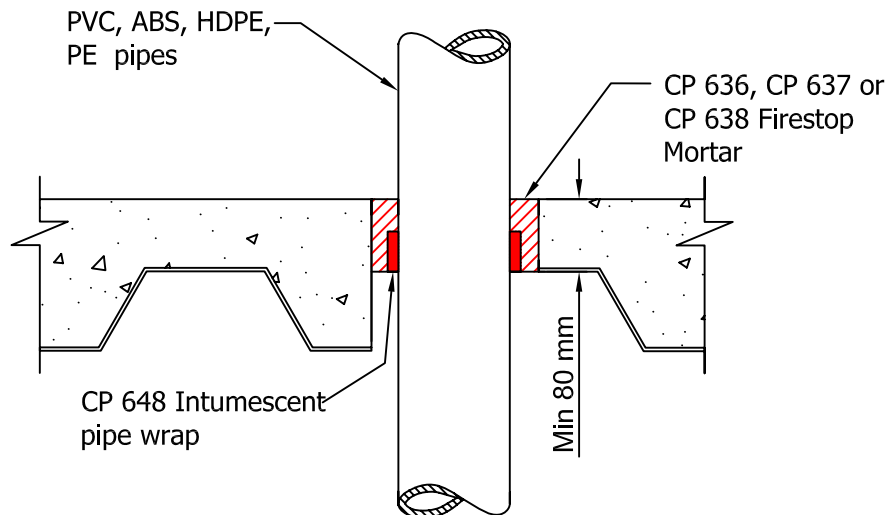
Plastic pipe  
passing through

Metal Deck

Test	Up to
Fire Integrity	2 hr
Acoustics	Cast into fire rated mortar
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
BSEN 1366-3
Factory Mutual

Plastic pipes from Ø 50mm - 110mm



This application requires a job-specific engineering judgement.  
Please contact Hilti for advice

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

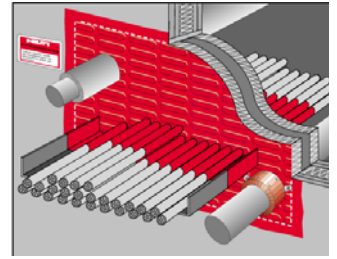
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# Hilti CP 670 Firestop acoustic board and CP 648 wrap

**APPLICATION**

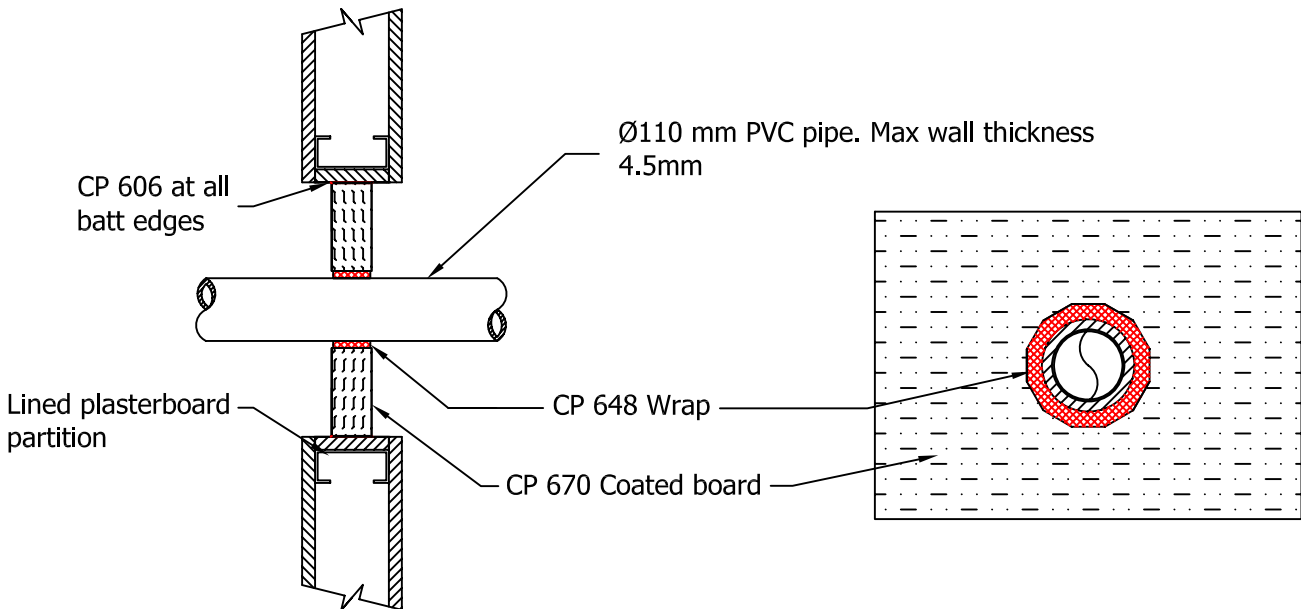


Plastic pipe  
passing through

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

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

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**Additional Properties of CP 648 – Firestop wrap**

<b>Property</b>	<b>Test regime</b>	<b>Notes</b>	
Fire	BS 476 - 20		✓
	BS EN 1366-3		✓
	FM approval (Class 4990)		✓
	ETA		
Acoustic	EN ISO 20 140-10: 1992	Dnw	60 dB
Ageing	DIBT		✓
	DAfSTB		✓
	Fire test after ageing		✓
VOC	LEED 2009 (LEED 3.0)		3.1 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 648 –Firestop wrap - BREEAM criteria**

BREEAM Section

Management construction site impact	No power tools required for installation (no energy source required)	✓
	Dust free installation	✓
	Saves water during application	✓
	No water pollution	✓
	Low VOC* (air quality)	✓
Health and wellbeing	No ozone depletion potential (ODP)	✓
	Low global warming potential (GWP)	✓
	Smoke and gas tightness	✓
	Noise reduction	✓
Energy	Air tightness	✓
	Avoidance of air infiltration	✓
Materials	Product Carbon Footprint or LCA Data	✓
	Thermal insulation	NA
Waste	Recycling of packaging	✓
	Reuse of materials	✓
	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	x	

## **CP 648 –Firestop wrap - 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**

##### **370 PIPE COLLARS-CONCEALED INTUMESCENT**

- Flexible Intumescent graphite impregnated band for sealing PVC, PP, HDPE and ABS pipes from 32 mm to 160 mm diameter in event of fire where they penetrate solid walls and floors and insulated partition walls.
  - Tested to BS 476: Part 20: 1987. and BS EN 1366-3:2004
  - Fire resistance : up to 4 hours
  - 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](http://www.hilti.co.uk)
- Product reference: **CP 648 Pipe Wrap**

Visit our web site at [www.Hilti.co.uk/cfs](http://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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