

## **HILTI CP 645 Intumescent Fire Sleeve**

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 645

FS 005 - 02	Hilti CP 645 Plastic pipe - Drywall, Batt – (Firesleeve)
FS 007 - 02	Hilti CP 645 Insulated pipe – Solid wall, Drywall (Firesleeve)
FS 055 - 01	Hilti CP 645 Plastic, Insulated pipe – Solid floor (Firesleeve)
FS 056 - 01	Hilti CP 645 Plastic, Insulated pipe – Metal deck (Firesleeve)
FS 068 - 01	Hilti CP 645 Plastic, Insulated pipe – Hollow core slab (Firesleeve)

Data summary    Additional Properties of CP 645 seals

Data summary    CP 645 Intumescent Fire Sleeve 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
May 2013	Update

## Intumescent fire sleeve

### CP 645

Sealing of insulated metal pipes and combustible pipes up to 2 hours



#### Applications

- Combustible pipes (PVC, PP and ABS up to 168mm)
- Steel pipes up to 168mm
- Copper pipes up to 75mm
- Off-cuts tested taped together
- Single cables up to 50mm and bunched cables

#### Advantages

- Can be used as cable transit
- Simple to install, No fixings - no special tools
- Allows thermal movement of pipes
- Can be fitted flush to solid walls
- Maintains vapour seal of existing insulation
- One sleeve can replace up to 6 collars

#### Technical data

CP 645	
Fire rating	Up to 2 hours
Density	250 kg/m <sup>3</sup>
Acoustics performance	Up to 63 dB
Thickness mineral wool	27.5 mm
Thermal insulation	0.035 at 10°C
Moisture vapour permeability	<1g/m <sup>2</sup> /24 hrs
Spread of flame	Category I as per BS476, p.7

British Standard  
BS 476

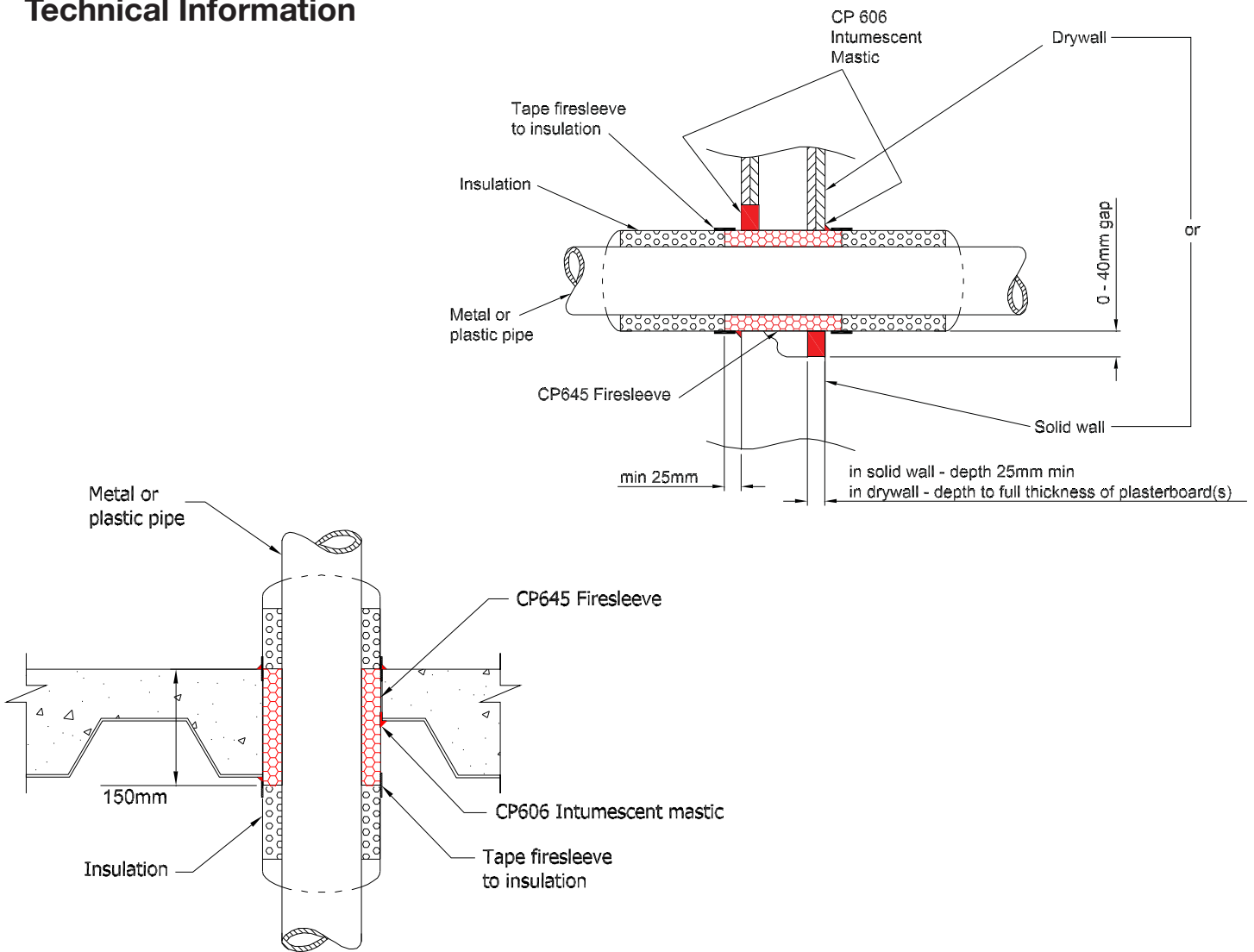
EN 1366-3



#### Ordering

Order description	Package Contents	Package Quantity	Item number
Firestop sleeve CP 645-17	fire sleeve-17 mm bore	6 pc	00284690
Firestop sleeve CP 645-21	fire sleeve-21 mm bore	6 pc	00284691
Firestop sleeve CP 645-27	fire sleeve-27 mm bore	6 pc	00284692
Firestop sleeve CP 645-34	fire sleeve-34 mm bore	6 pc	00284693
Firestop sleeve CP 645-42	fire sleeve 42-mm bore	6 pc	00284694
Firestop sleeve CP 645-48	fire sleeve 48-mm bore	6 pc	00284695
Firestop sleeve CP 645-54	fire sleeve-54 mm bore	6 pc	00284696
Firestop sleeve CP 645-60	fire sleeve-60 mm bore	6 pc	00284697
Firestop sleeve CP 645-67	fire sleeve-67 mm bore	6 pc	00284698
Firestop sleeve CP 645-76	fire sleeve-76 mm bore	6 pc	00284699
Firestop sleeve CP 645-80	fire sleeve-80 mm bore	6 pc	00284700
Firestop sleeve CP 645-89	fire sleeve-89 mm bore	6 pc	00284701
Firestop sleeve CP 645-102	fire sleeve-102 mm bore	6 pc	00284702
Firestop sleeve CP 645-108	fire sleeve-108 mm bore	6 pc	00284703
Firestop sleeve CP 645-114	fire sleeve-114 mm bore	6 pc	00284704
Firestop sleeve CP 645-127	fire sleeve-127 mm bore	6 pc	00284705
Firestop sleeve CP 645-140	fire sleeve-140 mm bore	6 pc	00284706
Firestop sleeve CP 645-159	fire sleeve-159 mm bore	6 pc	00284707
Firestop sleeve CP 645-169	fire sleeve-169 mm bore	6 pc	00284708

# 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)

## Installation instructions for CP 645

### Notice

- Before handling, read Material Safety Data Sheet and product label for safe usage and health information.

### Application of firestop system

1. Cut CP 645 Fire Sleeve to the required length, based on the wall or floor thickness. (For drywall a 25 mm overhang is required; for masonry and concrete CP 645 Fire Sleeve can be fitted flush if required.)
2. Make a single cut along Sleeve length to allow fitting around pipe.
3. Fit Sleeve around pipe and seal the cut with repair tape supplied.
4. Slide CP 645 Fire Sleeve along pipe and into cavity. For wall applications ensure the section of the sleeve that has been cut and taped is positioned

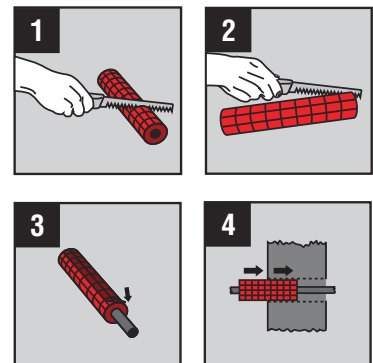
at the bottom of the hole. Tape Sleeve to existing insulation if required. Mark with identification plate supplied – if required.

### Note

- N.B.: For irregular holes or gaps of greater than 35 mm around the CP 645 Fire Sleeve fill with either:
- CP 636, CP 637 or CP 638 Firestop Mortar.
  - CP 606 Intumescent Firestop Sealant.
  - CP 611A can be used to reinstate any internal annular space.

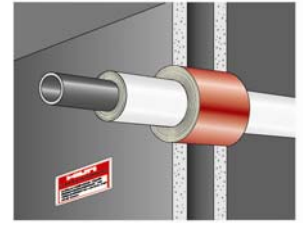
### Storage

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



# Hilti CP 645 Intumescent firesleeve

**APPLICATION**



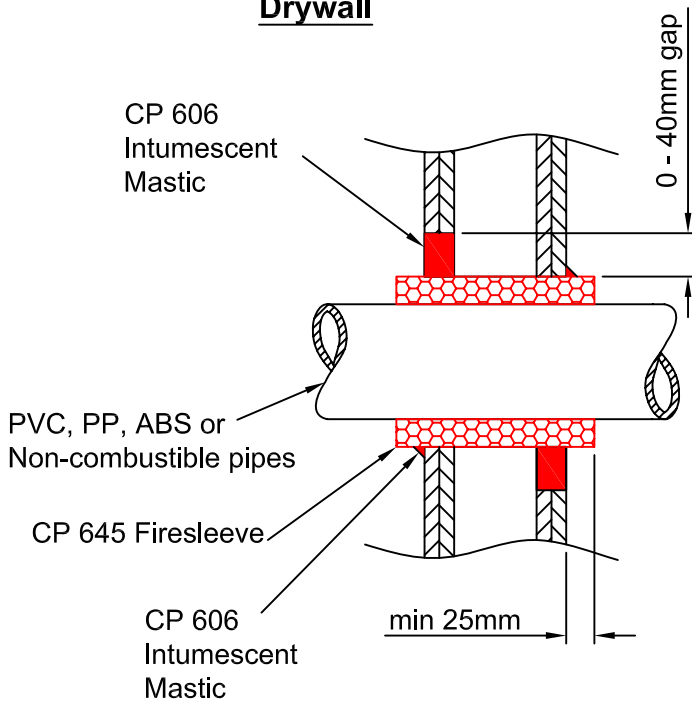
Plastic / Metal pipes  
passing through  
Drywall  
Batt

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	63dB
Air Tightness	✓
Age Testing	30 years

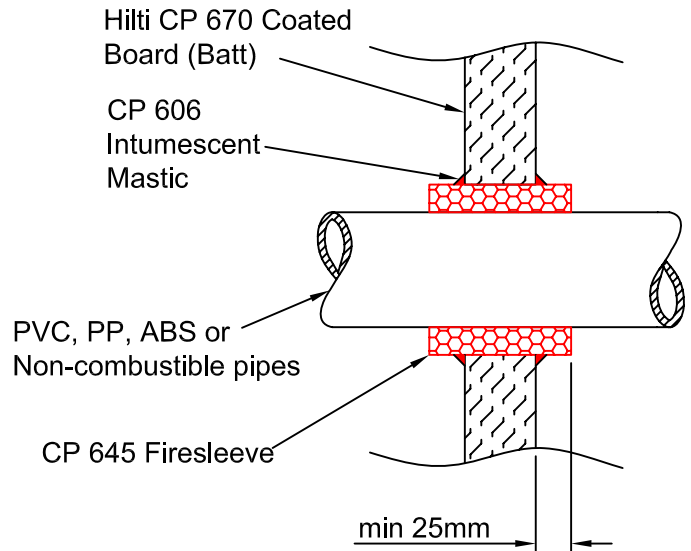
Approvals
BS476 pt 20
EN 1366-3

Plastic pipes from Ø 17mm - 169mm

**Drywall**



**Coated Board (Batt)**



Lateral movement of the pipe through the sleeve can be accommodated because there is no bond between the pipe and the sleeve.

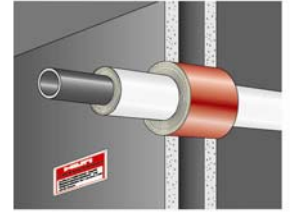
Where non-combustible pipes of up to Ø50 mm pass through the sleeve then a thermal expansion of up to 50% can be accommodated by the compressibility of the mineral wool sleeve.

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 645 Intumescent Firesleeve

**APPLICATION**



Insulated pipe  
passing through

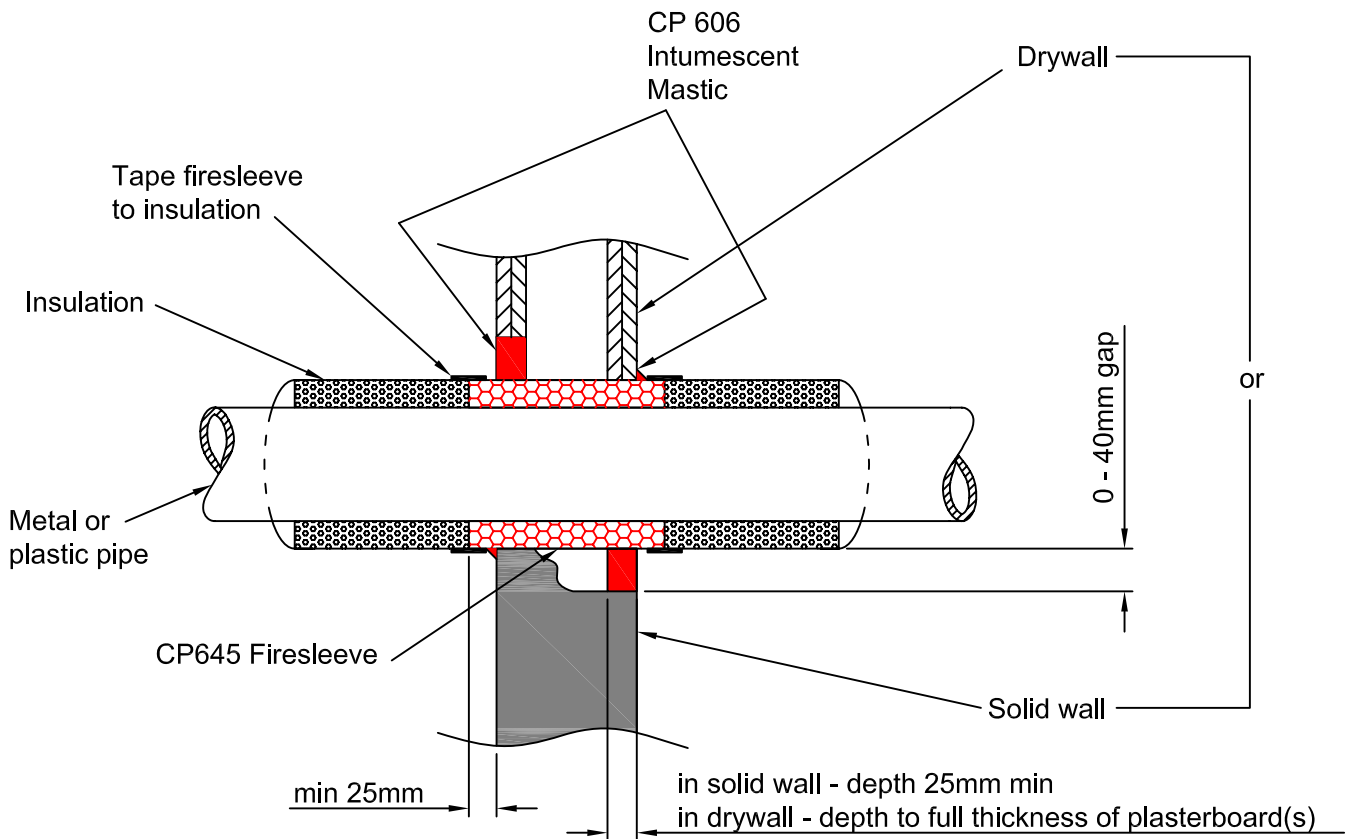
Drywall

Solid wall

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	60dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
BSEN 1366-3

Insulated metal or plastic pipes from Ø17 - 169mm

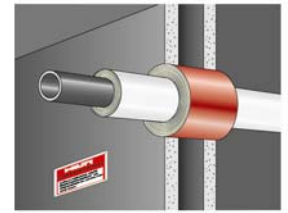


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# Hilti CP 645 Intumescent Firesleeve

**APPLICATION**

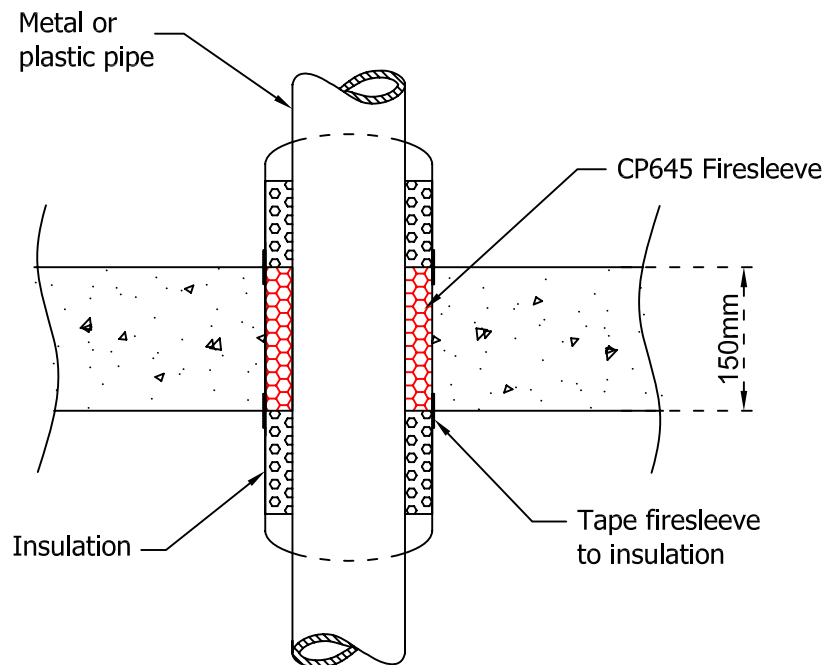


Insulated/Plastic pipe  
passing through  
Solid floor

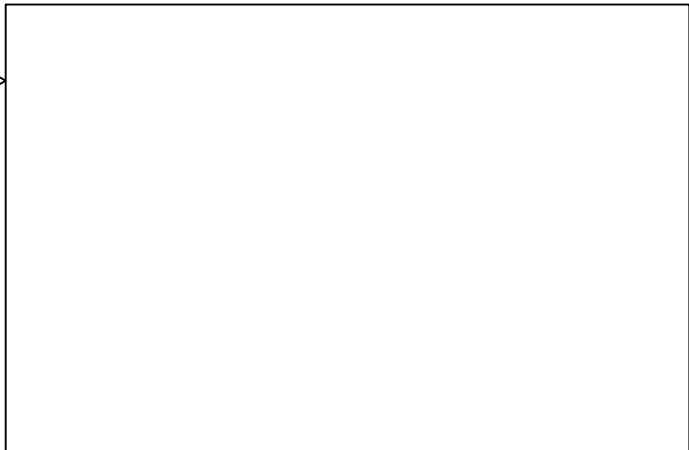
Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	60dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
BSEN 1366-3

Insulated metal or plastic pipes from Ø17 - 169mm



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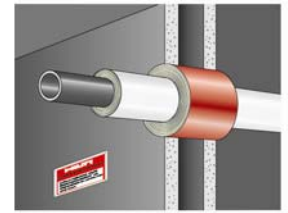


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**APPLICATION**



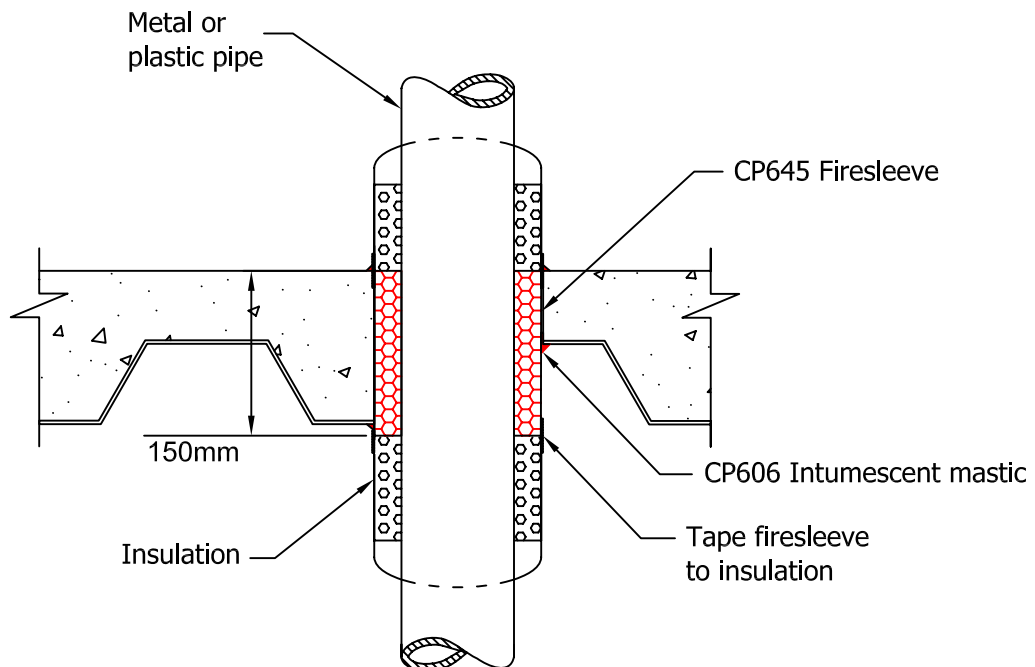
Insulated pipe  
passing through

Metal deck

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	60dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
BSEN 1366-3

Insulated metal or plastic pipes from Ø17 - 169mm



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

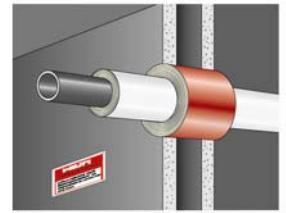
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**APPLICATION**



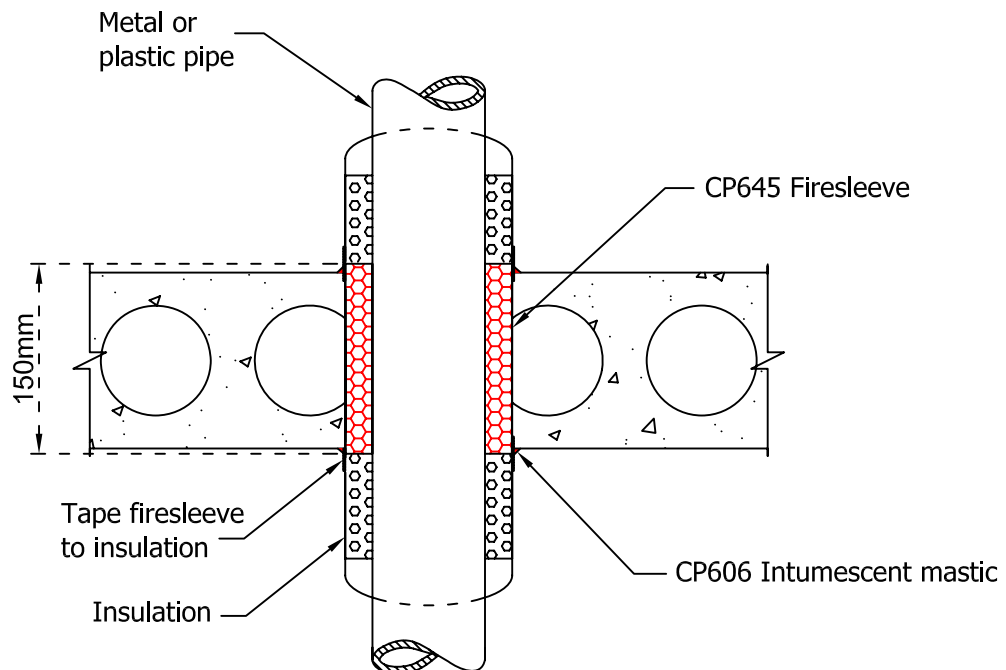
Insulated pipe  
passing through

Hollow core slab

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	60dB
Air Tightness	✓
Age Testing	30 years

Approvals
BS476 pt 20
BSEN 1366-3

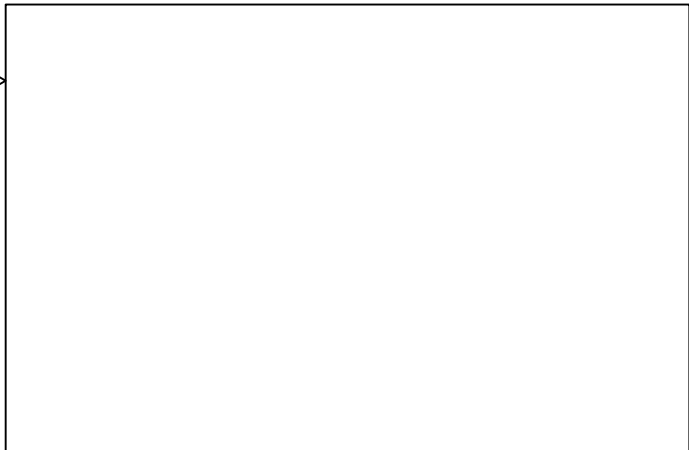
Insulated metal or plastic pipes from Ø17 - 169mm



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## Additional Properties of CP 645 Intumescent Fire Sleeve

Property	Test regime	Notes	
Fire	BS 476 - 20 BS EN 1366-3		✓ pr EN
Acoustic	EN ISO 20 140-10: 1992	Dnw	63 dB
Ageing	DIBT DAfSTB Fire test after ageing		✓ ✓ ✓
Water resistance	Rain Resistance		N.R
	Mold and Mildew resistance	ISO 846	Class 0-1
	Water tightness	UL 1479	N.R
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 645 Intumescent Fire Sleeve - 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

375

##### PIPE COLLARS-INSULATED WRAP

- Fire rated insulation sleeve for firestopping insulated metal pipes, plastic pipes where they penetrate solid walls and floors and partitions and Hilti CP 670 fire safety board. CP 645 is cut to fit service and wall thickness to manufacturer's instructions.
  - Tested to BS 476 Pt 20:1987 and EN 1366:3
  - Fire resistance: up to 2 hours
  - 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](http://www.hilti.co.uk)
- Product reference: **CP 645 Firesleeve**

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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- shall be sent to the Company's premises at the Buyer's expense;
- 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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