

HILTI CP 643N Firestop collar

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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FS 001 - 03	Hilti CP 643N Plastic pipe - Solid wall, Floor (Surface mounted)
FS 002 - 02	Hilti CP 643N Plastic pipe - Solid wall, Floor (Recessed Collar)
FS 111 - 01	Hilti CP 643N Plastic pipe – Drywall – (Surface mounted Collar)
FS 058 - 01	Hilti CP 643N Plastic pipe – Metal Deck
FS 069 - 01	Hilti CP 643N Plastic pipe – Hollow core slab
FS 077 - 02	Hilti CP 670 & CP 643N - Surface mounted
FS 128 - 01	Hilti CP 643N Plastic pipe – Composite deck floor

Data summary	Additional Properties of CP 643N seals
Data summary	CP 643N - Firestop Collar – BREEAM Criteria summary

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

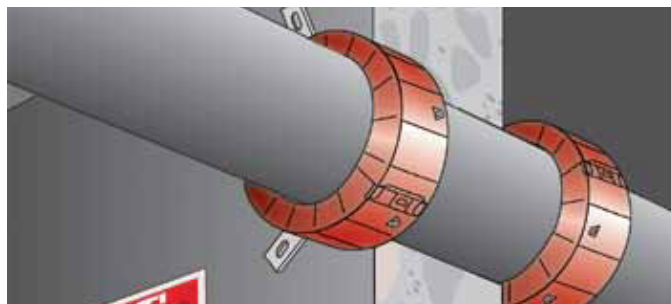
Revision History

May 2011	First release
July 2011	Data summaries added
March 2012	FS 128 – 01 added
May 2013	Update

Firestop collar

CP 643 N

Ready-to-use, fast-to-install, galvanised collar containing sections of intumescent materials



Applications

- n PVC, HDPE, PP ABS Pipes
- n Sealing flammable pipes from 32 mm to 170 mm in diameter with pipe wall thicknesses from 1.9 to 15.4 mm in penetrations through fire compartment walls and floors
- n Concrete, masonry, porous concrete and drywall
- n Walls from 100 mm and floors from 150 mm

Advantages

- n Quick and easy closure without use of a tool
- n Great in tight corners (bracket repositionable)
- n Reduces noise transmission from pipes to structure (foam insert)
- n Collar stays in place whilst fixing (foam insert grips pipe)
- n Fixing brackets can be moved
- n Can be flush fitted, surface mounted or cast centrally

British Standard
BS 476

EN1366-3



Technical data

CP 643 N	
Fire rating	Up to 4 hours
Base materials	Concrete, Drywall, Masonry
Colour	Metallic grey

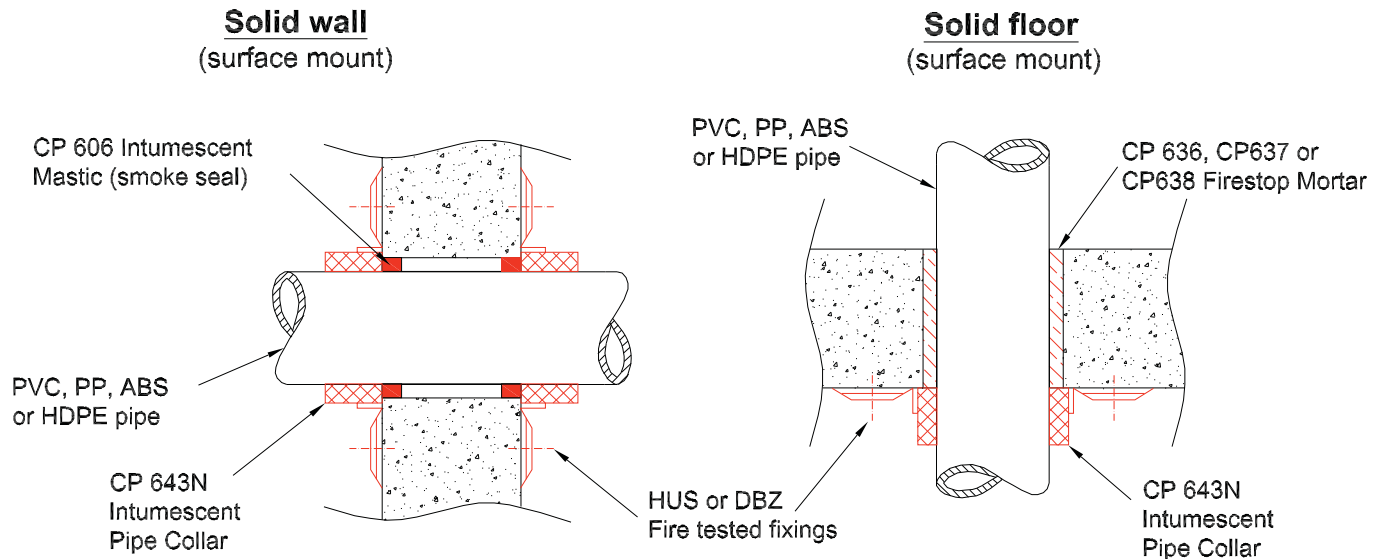
CP 643 N				
Description	Pipe outside dia. (mm.)	Collar outside dia. (mm.)	Collar Height (mm.)	No. of hooks and fasteners
CP 643-50/1.5"N	32-51mm	71mm	22mm	2
CP 643-63/2"N	52-64mm	86mm	33mm	2
CP 643-90/3"N	65-91mm	125mm	43mm	3
CP 643-110/4"N	92-115mm	150mm	48mm	3
CP 643-160/6"N	126-170mm	250mm	48mm	4
Temperature resistance	-40°C to 60°C			
Intumescent activation	Approx. 200°C			
Expansion ratio (unrestricted)	Up to 1:10			

	Wall	Floor
Material	Cellular concrete masonry solid concrete	Cellular concrete solid concrete
Min thickness of building component for pipes	100mm	150mm
Min pipe dia.	32mm	32mm
Max pipe dia.	170mm	170mm
CP 643 N	two mounted, one on each side	one mounted on the underside

Ordering

Order description	Pipe diameter - range	Package Quantity	Item number
Firestop collar CP 643-50/1.5"N	32 - 51mm	1 pc	00304325
Firestop collar CP 643-63/2"N	52 - 64mm	1 pc	00304326
Firestop collar CP 643-90/3"N	65 - 91mm	1 pc	00304328
Firestop collar CP 643-110/4"N	92 - 115mm	1 pc	00304329
Firestop collar CP 643-125/5"N	116 - 125mm	1 pc	00304330
Firestop collar CP 643-160/6"N	126 - 170mm	1 pc	00304331

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 643 N

Notice

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

Opening

- Clean the plastic pipes. Expansion of the intumescent material during a fire acts to close the plastic pipe. Very dirty pipes (ie: with remains of mortar) may lead to a delay in this closing action. Soiled plastic pipes should, therefore, be cleaned in the area where the CP 643N Firestop Collar is to be installed.

Application of firestop system

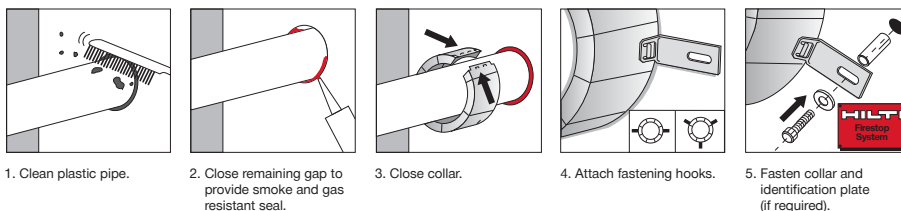
- Seal the opening if required. Gaps may be closed with CP 606. The approved methods vary.
- Close the CP 643 N Firestop Collar. Place the CP 643 N Firestop Collar around the plastic pipe and lock the closure by applying firm pressure until it latches.
- Attach fastening hooks. The fastening hooks can be attached to various points on the metal housing. This allows the fastening points to be made to suit the space available in each case. The hooks must be positioned as symmetrically as possible. The required number of fastening hooks is indicated on the packaging.
- Fastening the CP 643 N Firestop Collar. Only when fastened properly can CP 643 N offer protection against fire.
 - Mark the fastening points.
 - Drill holes with a Hilti rotary hammer drill (i.e. TE 4-A22) or, depending on base material, fasten using Hilti powder-actuated tool.
 - To secure the CP 643 N Firestop Collar, use Hilti anchors/fasteners.
 - For maintenance reasons, a penetration can be permanently marked with an identification plate and fastened in a visible position next to the seal.

Not for use

- With metal pipes
- In highly corrosive surroundings
- With unapproved anchors/fasteners

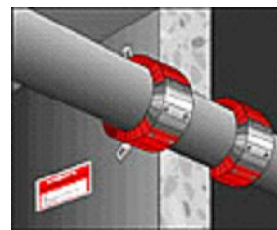
Storage

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



Hilti CP 643N Intumescent pipe collar

APPLICATION



Plastic pipe

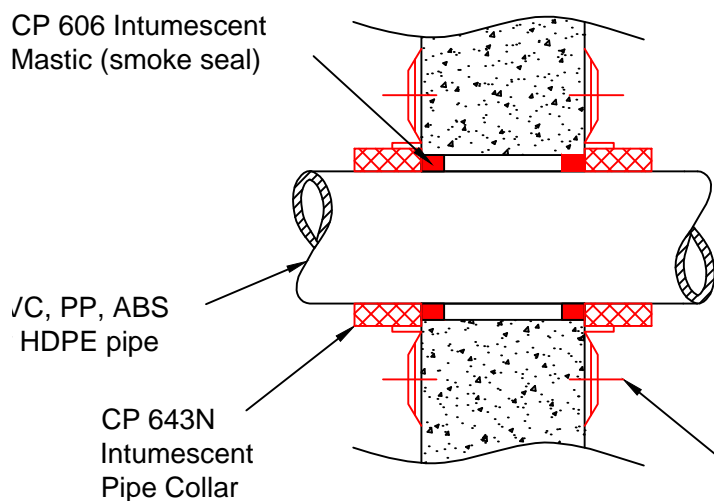
passing through

Solid wall / floor

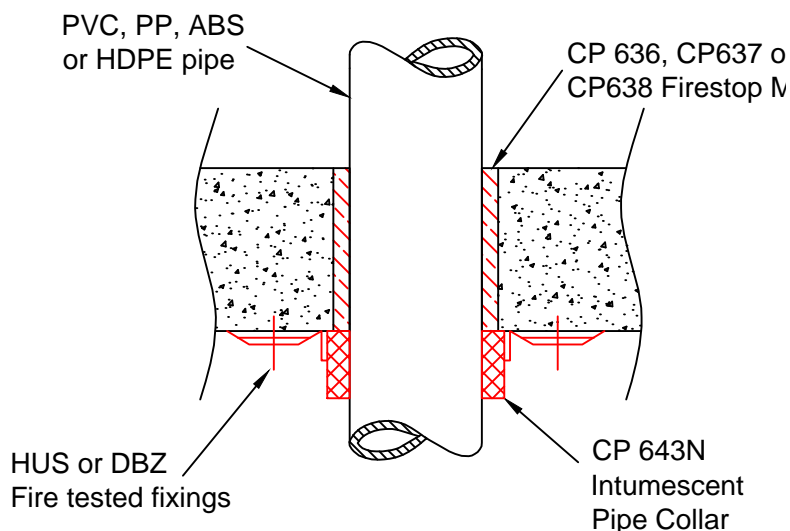
Test	Up to
Fire Integrity	4 hr
Insulation	4 hr
Acoustics	Fill remaining annulus with fire rated mortar or CP 606
Air Tightness	J
Age Testing	30 years

Approvals
BS476 pt 20
EN 1366-3
FM Approval

Solid wall (surface mount)



Solid floor (surface mount)

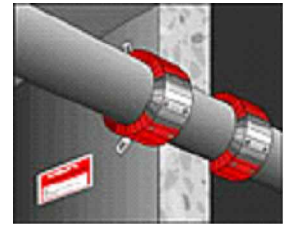


The above applications are not exhaustive. For further details please contact

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 643N Intumescent Pipe Collar

APPLICATION



Plastic pipe
passing through

Solid wall

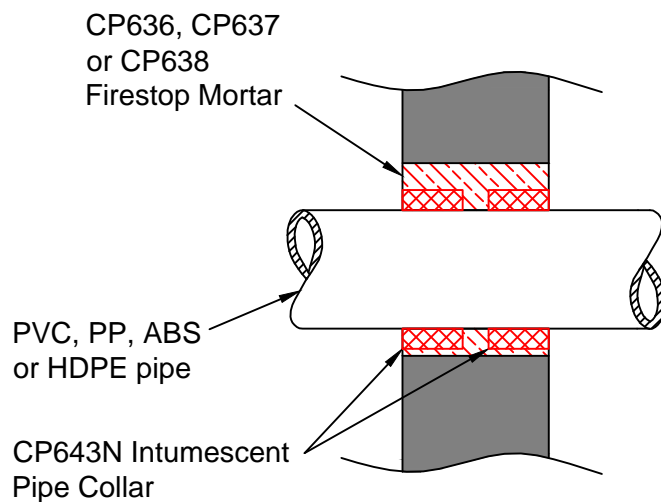
Solid floor

Test	Up to
Fire Integrity	4 hr
Insulation	4 hr
Acoustics	Cast into Hilti fire rated mortar
Air Tightness	J
Age Testing	30 years

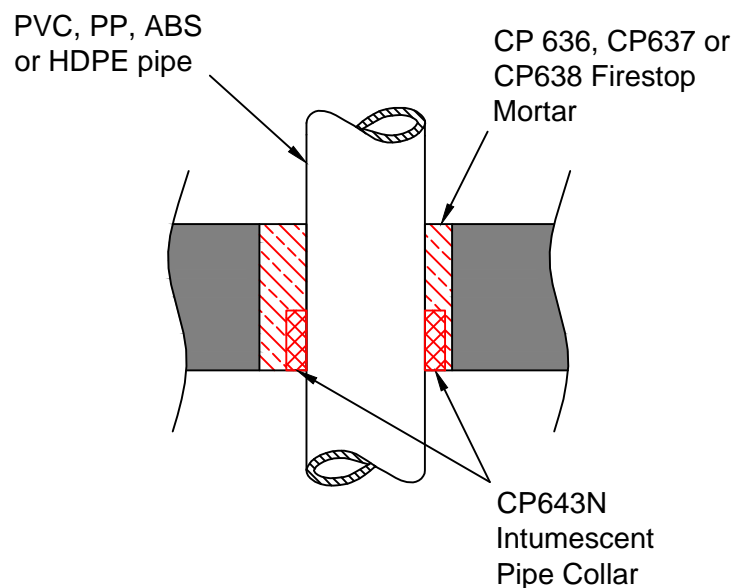
Approvals
BS476 pt 20
Factory Mutual
BSEN 1366-3

Plastic pipes 32mm - 170mm diameter

Solid wall (flush mount)



Solid floor (flush mount)

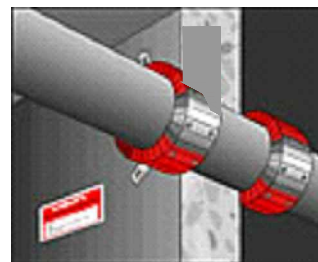


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Hilti CP 643N intumescent firestop collar

APPLICATION



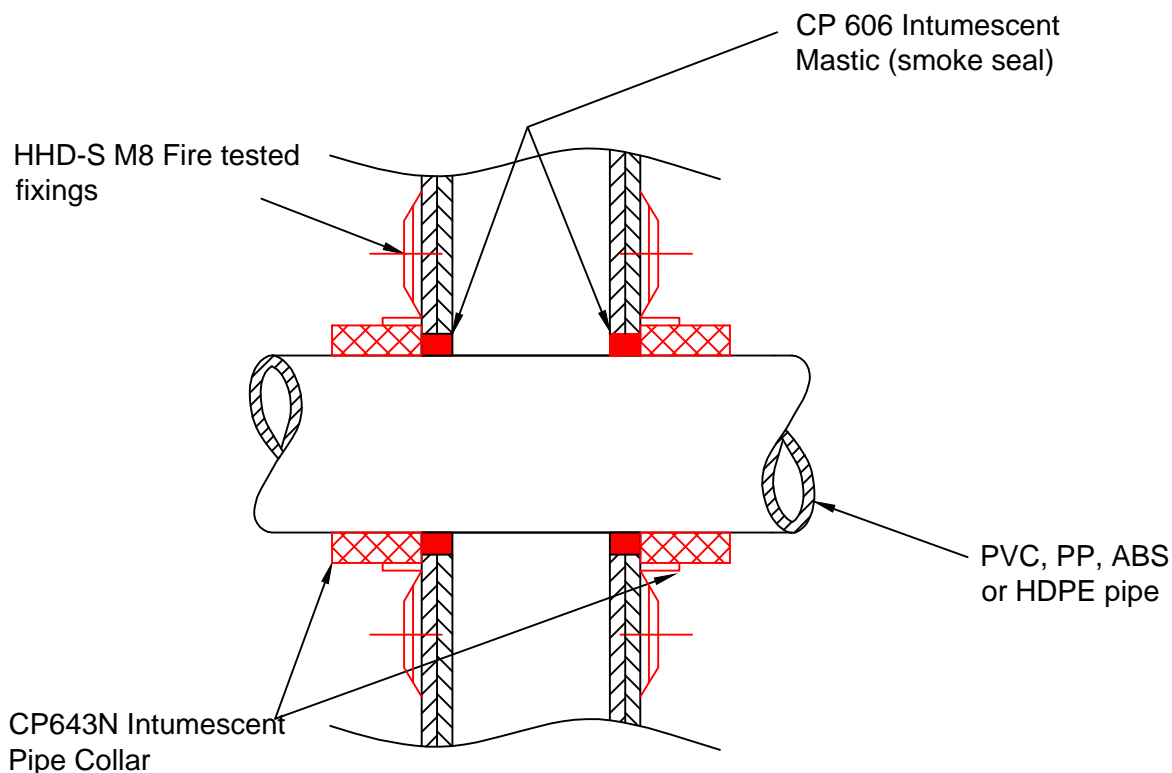
Plastic pipe
passing through

Drywall

Test	Up to
Fire Integrity	2 hr
Insulation	2 hr
Acoustics	Fill remaining annulus with CP 606
Air Tightness	J
Age Testing	30 years

Approvals
BS476 pt 20
Factory Mutual
BSEN 1366-3

Plastic pipes from 30 mm - 160 mm diameter

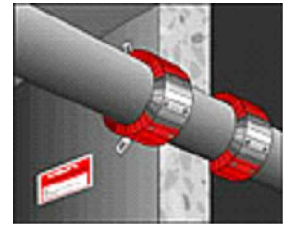


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Hilti CP 643N Intumescent Pipe Collar

APPLICATION



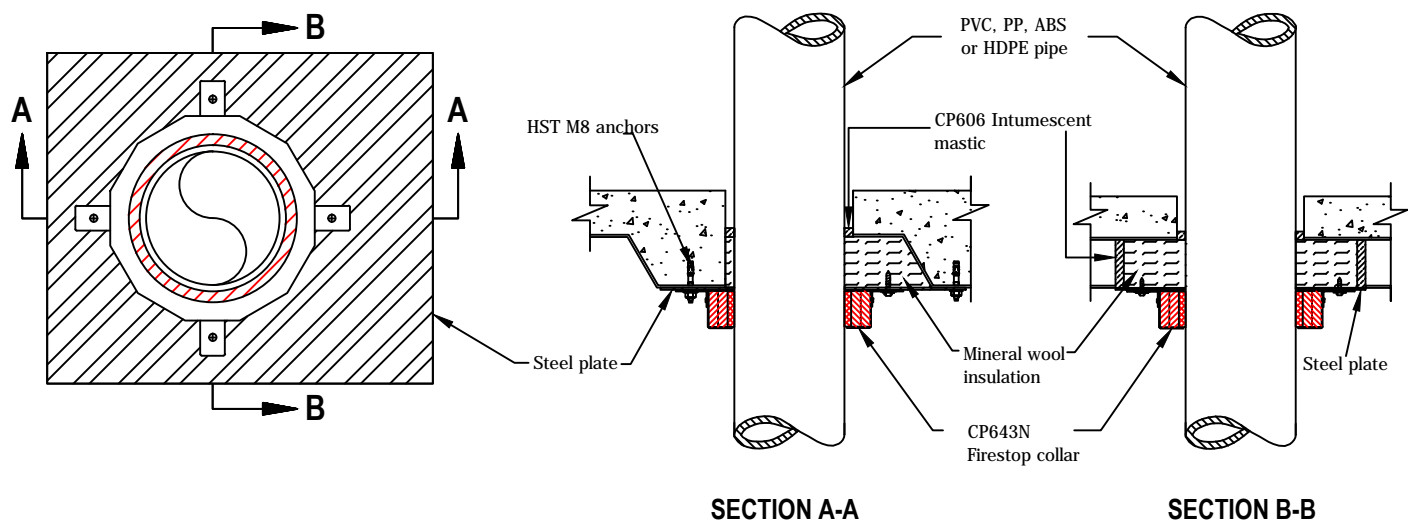
Plastic pipe
passing through

Metal deck

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

Approvals
BS476 pt 20
BSEN 1366-3
Factory Mutual

Specialist Collar Application: Plastic pipes 20mm - 160mm diameter



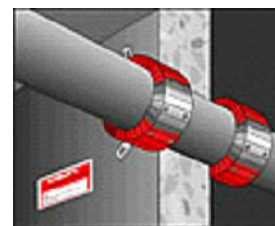
This application requires a job-specific engineering judgement.
Please contact Hilti for advice

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Hilti CP 643N Intumescent Pipe Collar

APPLICATION



Plastic pipe

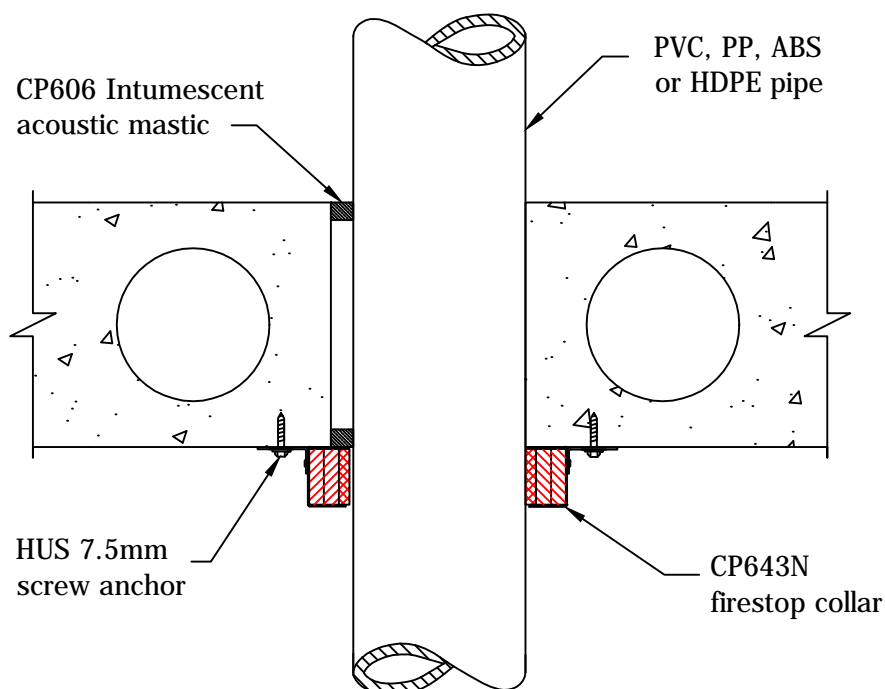
passing through

Hollow core slab

Test	Up to
Fire Integrity	4 hr
Insulation	4 hr
Air Tightness	J
Age Testing	30 years

Approvals
BS476 pt 20
BSEN 1366-3
Factory Mutual

Plastic pipes 20mm - 160mm diameter



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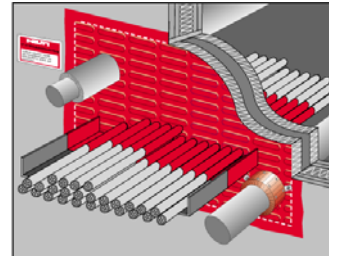
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Hilti CP 670 Firestop acoustic board and CP 643N collar

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

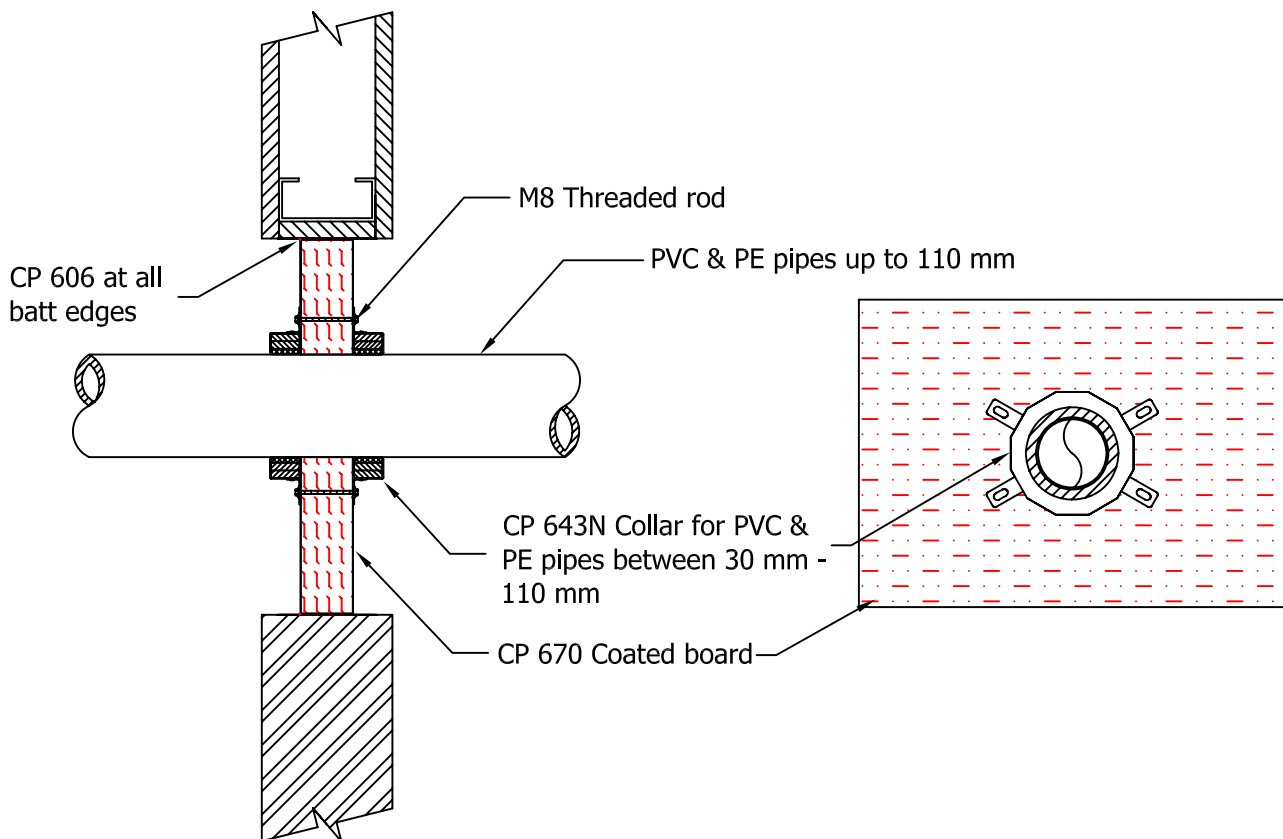
APPLICATION



Plastic pipe

passing through

Solid wall or Drywall



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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15.10.08

Drawn by

R Wakefield

FS

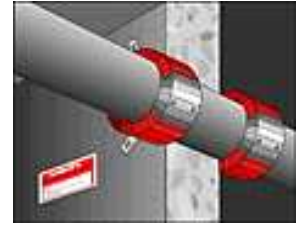
077

Issue

02

Hilti CP 643N Intumescent Pipe Collar

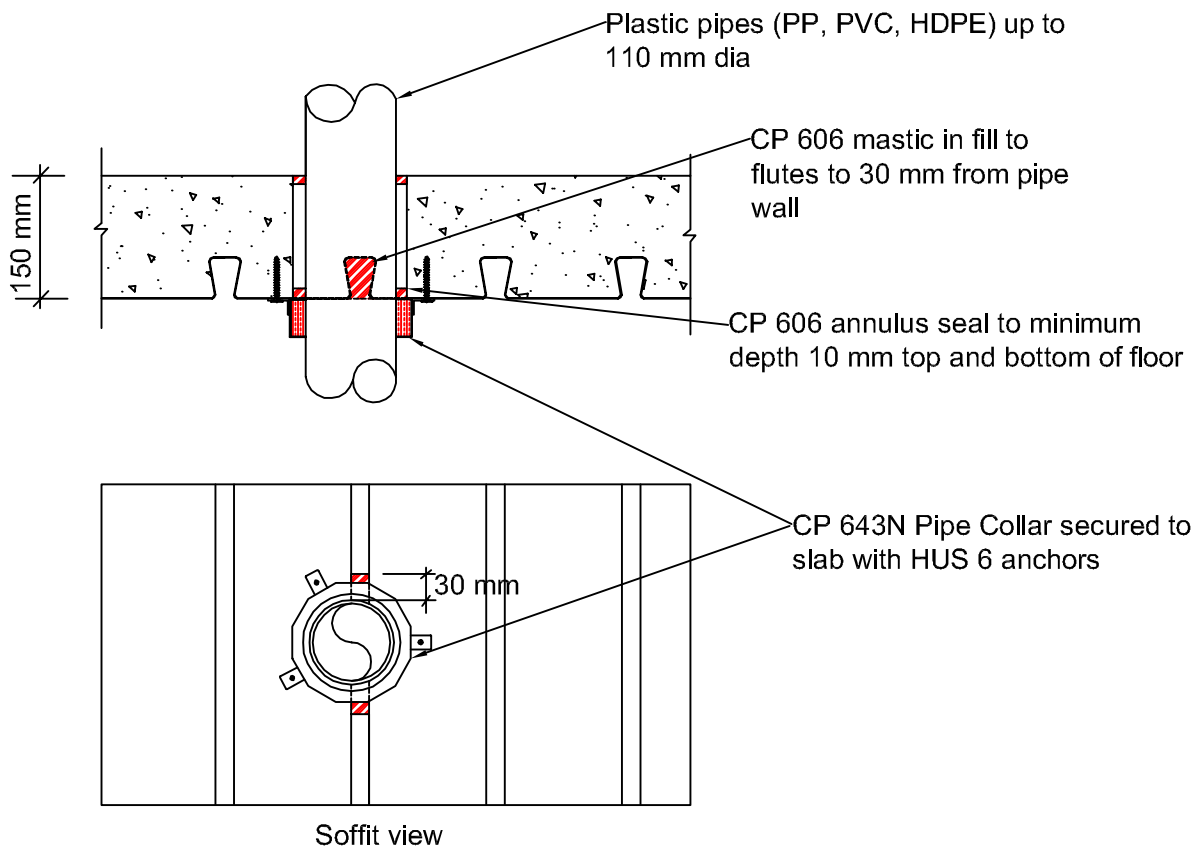
APPLICATION



Plastic pipe
through
Composite deck floors

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

Approvals
BS 476
EN 1366-3



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22.11.11

Drawn by

A Brockett

FS

128

Issue

01

Additional Properties of CP 643N – Firestop collars

Property	Test regime	Notes	
Fire	BS 476 - 20		✓
	BS EN 1366-3		✓
	FM approval (Class 4990)		✓
	ETA		
Acoustic			NR
Ageing	DIBT		✓
	DAfSTB		✓
	Fire test after ageing		✓
Air sealing	Pre sealing with Hilti Mastic/Mortar		✓
Water resistance	Rain Resistance		N.R
	Mold and Mildew resistance	ISO 846	Class 0-1
	Water tightness	UL 1479	N.R
VOC	LEED 2009	LEED 3.0	7.6 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 643N –Firestop collars - BREEAM criteria

BREEAM Section

Management construction site impact	No power tools required for installation (no energy source required)	x
	Dust free installation	x
	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		
Air tightness		
Avoidance of air infiltration		
Product Carbon Footprint or LCA Data		
Materials	Thermal insulation	NA
	Recycling of packaging	✓
Waste	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	

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
		
Interactive product selector for firestopping openings through walls and floors	Find out more about the benefits of using Hilti firestop systems	Interactive product selector for wall to wall, top of wall, curtain wall , floor to floor and floor to wall applications.

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- 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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