UL-AU CERTIFICATE

Certificate No.	UL-AU-230004
Page	1/16
Date of Issue	2023-11-01
Date of Revision	2023-11-06
Certificate Holder	Hilti (Aust.) Pty. Ltd 1G Homebush Bay Drive PO Box 3217 Rhodes NSW 2138
Manufacturer	Hilti AG, Feldkircherstrasse 100 FL-9494 Schaan Liechtenstein Internet: www.hilti.com
Production Sites (Factory)	Hilti Production Plant 4a
Certified Product Description	Firestopping Preformed PU-based Plug
Model(s)	Hilti Firestop Plug CFS-PL
Trade Name or Trademark	Hilti Firestop Plug CFS-PL
Rating Information	Refer to Appendix A
Standard tested to	AS 1530.4:2014 and AS 4072.1:2005
Test Report References	See page 16
Listing Category and File Ref	AUEF.RS5419
Additional Information and Conditions	See page 2
Expiry date	2033-11-01

Stuart Foster
Certification Officer

JAS-ANZ

www.jas-anz.org/register

Certification Body

This is to certify that representative samples of the Product described herein ("Certified Product") have been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the UL-AU Mark Scheme requirements and JAS-ANZ accreditation requirements. The designated Certificate Holder is entitled to use the UL-AU Mark for the Certified Product manufactured at the production site(s) identified above, in accordance with the UL-AU Mark Scheme Service Agreement.
Only those Products bearing the UL-AU Mark for Australia should be considered as being covered by UL's UL-AU Mark Service. This certificate shall remain valid through to the expiration date, unless terminated earlier in accordance with the Service Agreement including without limitation if the Standard identified on this Certificate is amended or withdrawn prior to the expiration date.

This Certificate remains the property of UL International New Zealand Ltd.

If the client provides copies of the certification documents to others, the documents shall be reproduced in their entirety.

All dates are in Year-Month-Day format (YYYY-MM-DD).

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Additional Information:
2023-11-06 - Correction to date of expiry.

This certificate is evidence that prototypes of the nominated products and their configurations as detailed in Appendix A conform to the following parameters:

1. Have been tested to AS 1530.4:2014 and AS 4072.1:2005 or an equivalent or more severe test and the Fire Resistance Level (FRL) nominated in Appendix A was achieved by the prototype for each nominated assembly of service penetration, building element and protection method configuration, without the assistance of an active fire suppression system.

2. Test results are detailed in a confidential test report that may be available from the certificate holder upon request. The information regarding the test parameters is included in the confidential technical file.

   (i) the method and conditions of the test;

   (ii) form of construction of the tested prototype; and

   (iii) that restraint complied with AS 1530.4.

3. Testing was conducted at multiple locations by suitably accredited laboratories that are accredited by a signatory to the International Accreditation Cooperation Mutual Recognition Arrangement (ILAC-MRA) as recognised by NATA who is also a signatory body to this Agreement. The data has been reviewed by UL against the relevant to accreditation schedules.

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The UL Enhanced Mark shall appear on certified products only and shall be used only in accordance with the UL-AU Mark Scheme Service Terms Minimum size is not specified, as long as the Mark is legible. The following are **examples** of the format.

The file number that replaces E123456 and NC12345 in the above examples is; **RS5419**

The following Supplementary Information shall be placed adjacent to the Certification Mark;
Firestopping - Non-Intumescent Seals and Mortars
AS 1530.4

The UL Enhanced Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Manufacturer's name or trademark and model number shall also appear elsewhere on the product.
All content shall be in accordance with the details provided on this Certificate.

PROCUREMENT

The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at www.ul.com.

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Appendix A

Conforming product configurations to achieve nominated FRL's

A.1 Specific Parts and Supporting Constructions for Hilti Firestop Plug CFS PL:

	Technical description of product: Hilti Firestop Plug CFS-PL is used as a mixed penetration seal together with "Hilti Firestop intumescent sealant CFS-FIL, CP 611A or CFS-IS" and in some cases with "Hilti Firestop Putty Bandage CFS-P BA". Hilti Firestop Plug CFS-PL is a plug-shaped product based on a pre-cured, pre-formed PU-based firestop material, available in different diameters. **Intended use:** Hilti Firestop Plug CFS-PL is intended to be used as a mixed penetration seal to temporarily or permanently reinstate the fire resistance performance of flexible wall constructions, rigid Wall constructions and rigid floor constructions where they have been provided with apertures which are penetrated by various cables, conduits and plastic pipes. The maximum opening size of the penetration seal in wall and floor constructions is Ø250 mm. Hilti Firestop Plug CFS-PL can only be used as penetration seal for cables, conduits, plastic pipes or for mixed penetration (combination). Other parts or service support constructions shall not penetrate the penetration seal. Hilti Firestop Plug CFS-PL can be installed only in types of separating elements as specified in the following table. **Technical product literature:** Technical Data Sheet Hilti Firestop Plug CFS-PL

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Flexible and Rigid walls	**RESISTANCE TO FIRE CLASSIFICATION OF PENETRATION SEALS MADE OF HILTI CFS-PL** • Steel studs or timber studs lined on both faces with minimum 2 layers of gypsum plaster boards (minimum thickness 12,5 mm) • For steel stud walls the space between lining must not be completely filled with insulation material, especially in the adjacent area of the penetration seal • For timber studs walls there must be a minimum distance of 100 mm of the penetration seal to any timber stud. The cavity between the penetration seal and stud has to be closed with minimum of 100 mm of insulation • Minimum thickness 100 mm • Maximum opening size of the penetration seal Ø 250mm
Rigid walls	• Aerated concrete, concrete, masonry, propeitary wall system including Hebel, Speedpanel and Dincel • Minuimum density 600 kg/m^3 • Minimum thickness 75 mm (Hebel panel only) • Minimum thickness 100 mm • Maximum opening size of penetration seal Ø 250 mm
Floors:	• Aerated concrete, concrete • Minuimum density 600 kg/m^3 • Minimum thickness 150 mm • Maximum opening size of penetration seal Ø 250 mm

The walls / floors must be classified for the required fire resistance period.

A.1.1 Beading

The penetration seal depth is minimum 150 mm (figure 1a, tA) independent of the thickness of the wall or floor. In case of walls or floors with a thickness of less than 150 mm a beading has to be used.

Beading: square plates made of gypsum or calcium silicate boards at a size of 2 x W_A (100 mm) plus W (figure 1c, diameter of plug), are installed around the opening with the necessary number of layers. Two frames of the same height on both sides of a wall (figure 1a) have to be installed.

Where beading is applied to Speedpanel/Speedwall, all gaps in the profile face of the panel shall be filled with CP 606 sealant. Aperture Framing/Beading shall be constructed from fire rated plasterboard as per figure 1.1.

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A.1.1.1 Abbreviations used in drawings	
Abbreviation	**Description**
A, A_1, A_2,…	Hilti firestop products
C, C_1, C_2,…	Penetrating services
E, E_1, E_2,…	Separating element (wall, floor)
w	Diameter of penetration seal
S_1, S_2, S_n	Distances
t_A	Thickness of penetration seal
t_E	Thickness of the separating element

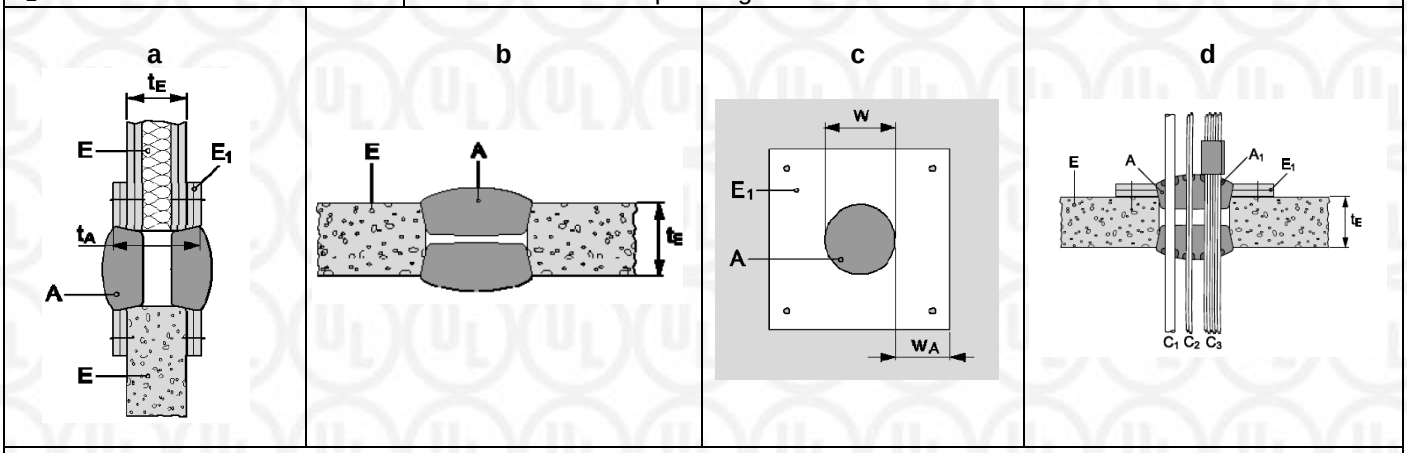

Figure 1: beading and position of the seal in walls/ floors

A	Hilti Firestop Plug CFS- PL	E1	Beading
A_1	Hilti Intumescent Sealant CP 611A	t_A	Thickness of the penetration seal
C_1	Conduit	t_E	Thickness of the separating element
C_2	Single cables	w	Diameter of the penetration seal
C_3	Cable bundles	W_A	Width of the beading frame, 100 mm
E	Separating element (rigid or flexible wall construction, floor)		

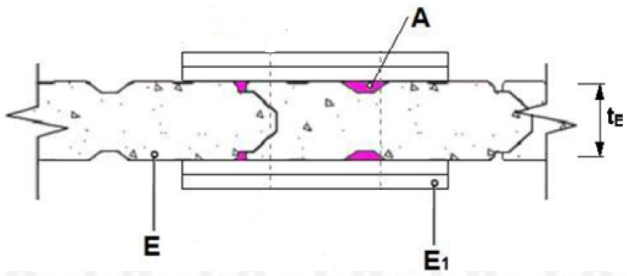

Figure 1.1: Horizontal cross section for build-up and sealant in Speedpanel/Speedwall.

A	Hilti CP 606 to a depth of 20 mm	E_1	Aperture beading, 13 mm or 16 mm fire grade plasterboard
E	Building element (Speedpanel)	t_E	Thickness of the building element

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A.1.2 Penetration seal types

A.1.2.1 Penetration seal types: Filler

- Gaps between services and Hilti Firestop Plug CFS-PL (A) are filled with Hilti Firestop intumescent sealant CFS-FIL, CP 611A or CFS-IS (A_1), depth 20 mm.

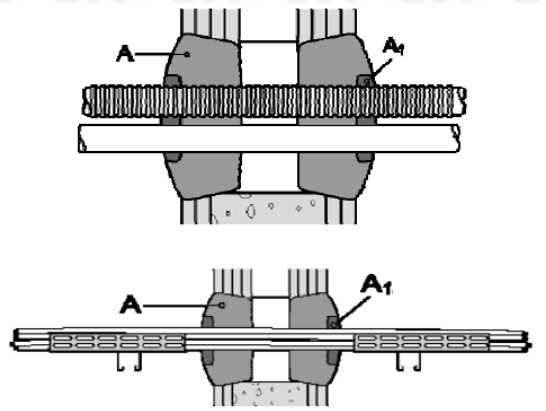

Figure 2: penetration seal type A1

A.1.2.2 Penetration seal types: Filler plus 2 layers putty bandage

- Gaps between services and Hilti Firestop Plug CFS-PL (A) are filled with Hilti Firestop intumescent sealant CFS-FIL, CP 611A or CFS-IS (A_1), depth 20 mm.
- Two layers of Hilti Firestop Putty Bandage CFS-P BA (A_2) are wrapped around the services or group of services.

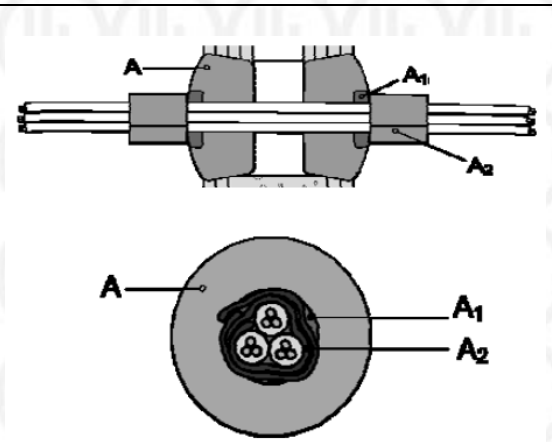

Figure 3: filler (A_1) plus 2 layers of putty bandage (A_2)

Hilti Firestop Putty Bandage CFS-P BA must be installed with the mesh outside/upside.
For floor applications, Hilti Firestop Putty Bandage CFS-P BA is required on tile top side, only.

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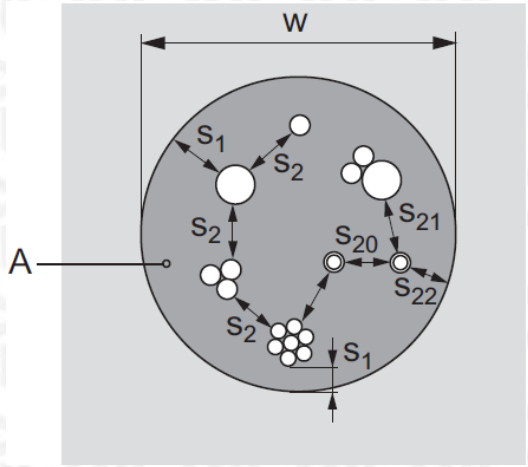
A.1.3 Distance Requirements

Distances valid for installations of services in wall and floor penetrations.

Minimum distances in mm (see illustration):

S_1 = 0 (distance between cables and seal edge)
S_2 = 0 (distance between cables)
$S_{20, 21, 22}$ = 0 Ø≤16 mm
S_{20} = 0 Ø>16 mm
(distance between conduits to each other)
$S_{21, 22}$ = 20 Ø >16 mm
(distance between conduits and other services or seal edges)



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A.2 Flexible or rigid walls according to Annex A.1 - minimum wall thickness 75 mm

Flexible walls: The plasterboard wall construction shall comprise of steel studs' lines on both faces with a minimum of 2 layers of at least 13 mm or 16 mm thick fire grade plasterboard and be otherwise tested to achieve an FRL of -/120/120 or 120/120/120. For further details, refer to Appendix A.1.

Rigid walls: The supporting construction shall optionally be aerated concrete (Hebel), concrete, solid or hollow masonry wall, Speedpanel wall with a minimum density of 550 kg/m^3 and minimum wall thickness of 75 mm. For further details, refer to Appendix A.1.

A.2.1 Blank seal (no services) *

Construction details (for symbols and abbreviations see figure 1:

Hilti Firestop Plug CFS-PL (A) of seal thickness $t_A \geq 150$ mm, centered regarding the thickness of the wall (E); beading (E_1) according to Annex A.1.1.

Hilti Firestop Plug CFS-PL can be installed in the round opening directly or alternatively in a fitted plastic sleeve (PVC, 2 mm wall thickness, 150 mm length, flush to wall).

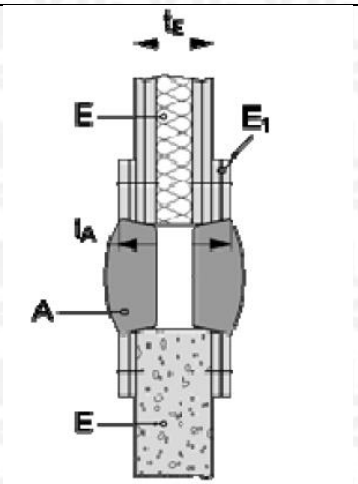

Figure 4: blank seal

Seal size diameter: 52 to 250 mm	**FRL (Fire Resistance Level)**
	–/120/120

* If services are added later on in a blank seal, only tile seivices that fulfill the required classification, listed in the tables below may be added.

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A.2.2 Penetrating services in walls

- Seal size diameter. 52 to 250 mm
- Hilti Firestop Plug CFS-PL (A), thickness tA ≥ 150 mm;
- centered regarding the thickness of the wall (E);
- beading (E_1) according to Annex A.1.1.

Maximum distance of first service support ≤ 250 mm (measured from the beading).

Abbreviation	Description
A, A_1, A_2, …	Firestop products: A Hilti Firestop Plug CFS-PL A_1 Hilti Firestop intumescent sealant CFS-FIL, CP 611A or CFS-IS A_2 Hilti Firestop Putty Bandage CFS-P BA
C_1, C_2, C_3	C_1 Conduits C_2 Single cables C_3 Cable bundle
E, E_1, E_2, …	Separating elements
t_E	Thickness of separating element

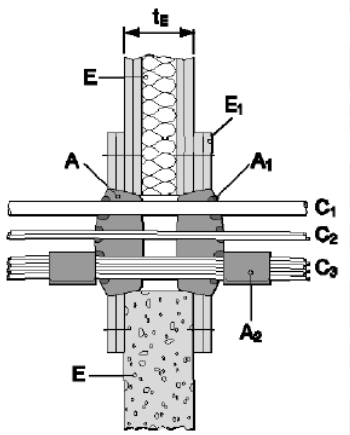

Figure 5: wall penetration

A.2.2.a) Cables

Construction according to Annex A.2.2

Penetrating services C_2, C_3 according to Annex A.2.2

For cable penetrations the following penetration seal types apply:

- Filler (A_1) according to Annex A.1.2.1
- Filler plus 2 layers putty bandage Putty (A_2) according to Annex A.1.2.2

All cable types currently and commonly used in building practice (e.g. power, control, signal, telecommunication, data, optical fibre cables, with or without cable supports)

Penetration seal type:	**Filler**	**Filler + 2x Putty Bandage**
Sheathed cables:	**FRL (Fire Resistance Level)**	
Ø ≤ 21 mm (single)	–/120/120	-
Tied cable bundle ≤ Ø 100 mm; Ø single cable ≤ 21 mm	–/120/120	-
21 < Ø ≤ 50 mm (single)	–/90/90	–/120/120
50 Ø ≤ 80 mm (single)	–/120/90	-
Non-sheathed cables (Wires):	**FRL (Fire Resistance Level)**	
Ø ≤ 24 mm (single)	–/120/60	-

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Penetration seal type:	**With Hilti Firestop Intumescent Fillers (A_1)**	**With Hilti Intumescent Fillers (A_1) & Hilti Firestop Putty Bandage (A_2)**
Standard Cable Services:	**FRL (Fire Resistance Level)**	
PVC insulated Power Cables (Standard D1 cable set, in accordance with AS 1530.4: 2014 Appendix D)	–/120/60	–/120/120
PVC Insulated Communication Cables (Standard D2 cable set, in accordance with AS 1530.4: 2014 Appendix D)		

A.2.2.b) Small conduits and tubes

Construction according to Annex A.2.2
Penetrating services C_1 according to Annex A.2.2
Penetration seal type:
- Filler (A_1) according to Annex A.1.2.1

Penetration seal type:	**Filler**	**Filler + 2x Putty Bandage**
Ø ≤ 16 mm, wall thickness ≥ 1 mm, arranged linear, with or without cables, with or without Cable supports, minimum distance to each other = 0 mm	**FRL (Fire Resistance Level)**	
Plastic conduits and tubes	–/120/120	-
Steel conduits and tubes	–/120/120	-

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A.2.2.c) Conduits

Construction according to Annex A.2.2
Penetrating services C_1 according to Annex A.2.2, with or without cables
Penetration seal type:

- Filler (A_1) according to Annex A.1.2.1

Penetration seal type:			**Filler**	**Filler + 2x Putty Bandage**
	Diameter (mm)		**FRL (Fire Resistance Level)**	
	*PO	*PVC		
Flexible conduits	16 - 40	16 - 32	–/120/120	-
Rigid conduits • Wall thickness: PO: 1,55 to 2,30 mm PVC: 1,90 to 2,80 mm	16 - 40	16 - 40		
Bundle of rigid or flexible conduits, single conduits: Ø < 20 mm	≤ 100			

*PO: Polyolefin (PE, PP, PPE, PPO); *PVC: Polyvinylchloride

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A.3 Rigid floor according to Annex A.1 – minimum floor thickness 150 mm

The floor must have a minimum thickness of 150 mm (t_E) and comprise of aerated concrete or concrete with a minimum density of 550 kg/m^3 and achieve FRL needed under AS 15030.4 full scale test.

A.3.1 Blank seal (no services) *

Construction details (for symbols and abbreviations see figure 1 and Annex A.1.1.1:

Hilti Firestop Plug CFS-PL (A) of seal thickness t_A ≥150 mm, centered regarding the thickness of the floor (E); beading (E_1) according to Annex A.1.1.

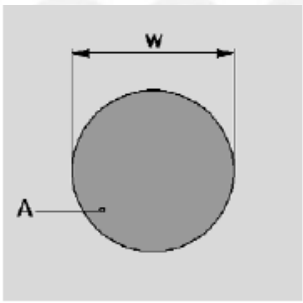

Figure 6: blank seal in floors

Seal size Ø: 52 to 250 mm	**FRL (Fire Resistance Level)**
	–/120/120

* If services are added later on in a blank seal only the services listed in the tables below may be added that fulfill the required FRL (Fire Resistance Level).

A.3.2 Penetrating services in floors

- Seal size diameter: 52 to 250 mm
- Hilti Firestop Plug CFS-PL (A), thickness t_A ≥150 mm;
- centered regarding tile thickness of the floor (E);
- beading (E_1) according to Annex A.1.1.

Abbreviation	Description
A, A_1, A_2, ..	Firestop products: A Hilti Firestop Plug CFS-PL A_1 Hilti Firestop Filler CFS-FIL A_2 Hilti Firestop Putty Bandage CFS-P BA
C_1, C_2. C_3	C_1 Conduits C_2 Single cables C_3 Gable bundle
E, E_1, E_2, ..	Separating elements
t_E,	Thickness of the separating element

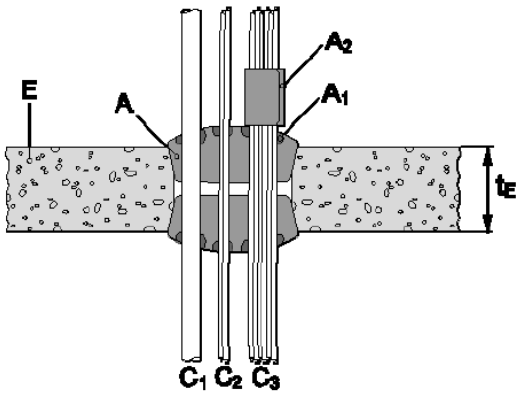

Figure 7: floor penetration

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A.3.2.a) Cables

Construction according to Annex A.3.2
Penetrating services C_2, C_3 according to Annex A.3.2
For cable penetrations the following penetration seal types apply:

- Filler (A_1) according to Annex A.1.2.1
- Filler plus 2 layers putty bandage Putty (A_2) according to Annex A.1.2.2

All cable types currently and commonly used in building practice (e.g. power, control, signal, telecommunication, data, optical fibre cables, with or without cable supports)

Penetration seal type:	**Filler**	**Filler+ 2x Putty Bandage**
Sheathed cables:	**FRL (Fire Resistance Level)**	
Ø ≤ 21 mm (single)	–/120/120	-
Tied cable bundle Ø ≤ 100 mm; Ø single cable ≤ 21 mm	–/120/120	-
21 < Ø ≤ 50 mm (single)	–/120/120	-
50 < Ø ≤ 80mm (single)	–/120/90	-
Non-sheathed cables (Wires):	**FRL (Fire Resistance Level)**	
Ø ≤ 24 mm (single)	–/120/30	–/120/30

Penetration seal type:	**With Hilti Firestop Intumescent Fillers (A_1)**	**With Hilti Intumescent Fillers (A_1) & 2no. layers of Hilti Firestop Putty Bandage (A_2)**
Cable bundle Services:	**FRL (Fire Resistance Level)**	
PVC insulated Power Cables (Standard D1 cable set, in accordance with AS 1530.4: 2014 Appendix D) up to Ø48 mm may be bundled up to 90 mm in diameter	–/120/90	–/120/120
PVC Insulated Communication Cables (Standard D2 cable set, in accordance with AS 1530.4: 2014 Appendix D) up to Ø48 mm may be bundled up to 90 mm in diameter		

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A.3.2.b) Small conduits and tubes

Construction according to Annex A.3.2
Penetrating services C_1 according to Annex A.3.2
Penetration seal type:
- Filler (A_1) according to Annex A.1.2.1

Penetration seal type:	Filler	Filler + 2x Putty Bandage
Ø ≤ 16 mm, wall thickness ≥ 1 mm, arranged linear, with or without cables, with or without Cable supports, minimum distance to each other = 0 mm	FRL (Fire Resistance Level)	
Plastic conduits and tubes	–/120/120	-
Steel conduits and tubes	–/120/120	-

A.3.2.c) Conduits

Construction according to Annex A.3.2
Penetrating services C_1 according to Annex A.3.2, with or without cables
Penetration seal type:
- Filler (A_1) according to Annex A.1.2.1

Penetration seal type:			Filler	Filler + 2x Putty Bandage
	Diameter (mm)		FRL (Fire Resistance Level)	
	*PO	*PVC		
Flexible conduits	16 - 40	16 - 32	–/120/120	----
Rigid conduits • Wall thickness: PO: 1,55 to 2,30 mm PVC:1,90 to 2,80 mm	16 - 40	16 - 40		
Bundle of rigid or flexible conduits, single conduits: Ø ≤ 20 mm	≤ 100			

*PO: Polyolefin (PE, PP, PPE, PPO); *PVC: Polyvinylchloride

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Appendix B

Test report details – report reference.

Name of Test Institute	Owner	Number of Report	Date of Test	Test standard
EFECTIS France	**HILTI AG** Feldkircher Str. 100 LI-9494 Schaan	08-E-079-F date 11.08.2008	13/03/2008	prEN 1366-3: 2006
EFECTIS France	**HILTI AG** Feldkircher Str. 100 LI-9494 Schaan	07-E-317 date 10.04.2008	11/10/2007	prEN 1366-3: 2006
AFITI LICOF Centre for Fire Testing and Research	**HILTI AG** Feldkircher Str. 100 LI-9494 Schaan	Nr 8730/12 date 30.10.2012	05/06/2012	EN 1366-3: 2009
AFITI LICOF Centre for Fire Testing and Research	**HILTI AG** Feldkircher Str. 100 LI-9494 Schaan	Nr 8809/12 date 25.03.2013	11/12/2012	EN 1366-3: 2009
AFITI LICOF Centre for Fire Testing and Research	**HILTI AG** Feldkircher Str. 100 LI-9494 Schaan	Nr 8718/12 date 29.10.2012	23/05/2012	EN 1366-3: 2009
AFITI LICOF Centre for Fire Testing and Research	**HILTI AG** Feldkircher Str.100 LI-9494 Schaan	Nr 8688/12 date 29.10.2012	19/04/2012	EN 1366-3: 2009
CSIRO – Manufacturing and Infrastructure Technology	**HILTI (Aust.) Pty Ltd** 23 Egerton Road, Silverwater NSW Australia	FSV 0917 date 30/09/2002	31/08/2002	AS1530.4-1997
Warringtonfire Australia Pty Ltd	**HILTI (Aust.) Pty Ltd** P.O. Box 3217 Rhodes NSW 2138 Australia	FRT190130 R2.0 date 31.07.2019	11/07/2019	AS1530.4-2014