FIRE RESISTANCE CLASSIFICATION REPORT No. 21367C

OWNER OF THE CLASSIFICATION REPORT

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INTRODUCTION

This classification report defines the classifications assigned to penetration seals in rigid wall configurations,

Sealing system type: Hilti Firestop Intumescent sealant CFS-IS (= CP 611A);

in accordance with the procedures given in EN 13501-2:2016: Fire classification of products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services.

This classification report consists of 10 pages and may only be used or reproduced in its entirety.

1 Details of classified product 3
1.1 General 3
1.2 Description 3
1.2.1 Penetration seals 3
1.2.1.1 Aperture part of the penetration seal 4
Hilti Firestop Intumescent sealant CFS-IS (= CP 611A) 4
Backfilling 4
1.2.2 Supporting construction 5
1.2.3 Services 5
1.2.4 Service support construction 5
2 Test reports/EXAP reports and test results in support of the classification 6
2.1 Test reports/EXAP reports 6
2.2 Test results 7
2.2.1. Rigid wall 7
3 Classification and field of application 8
3.1 Reference of classification 8
3.2 Classification 8
3.2.1 Hilti Firestop Intumescent sealant CFS-IS (= CP 611A) with backfilling 8
3.2.1.2 Rigid wall constructions (thickness ≥ 100 mm, density ≥ 550 kg/m³) 8
3.3 Field of direct application 9
3.3.1 Orientation 9
3.3.2 Supporting construction 9
3.3.2.1 Rigid wall constructions 9
3.3.3 Services 9
3.3.4 Seal type 9
3.3.5 Distances 9

1 Details of classified product

1.1 General

The elements, service penetrations sealed by means of Hilti Firestop Intumescent sealant CFS-IS (= CP 611A), are defined as penetration seals with fire resisting characteristics.

1.2 Description

The classified elements are described below and in the test reports listed in § 2.1, in support of this classification. The drawings of the test elements are enclosed in the test reports.

1.2.1 Penetration seals

The following penetrations sealing systems are classified:

- Hilti Firestop Intumescent sealant CFS-IS (= CP 611A) with backfilling

1.2.1.1 Aperture part of the penetration seal

Hilti Firestop Intumescent sealant CFS-IS (= CP 611A)

Intumescent sealant – brand and type: Hilti Firestop Intumescent sealant CFS-IS (= CP 611A) – material: Intumescent dispersion – ETA No. 10/0406.

- number: 2 per service;
- position:
  - fills the annular gap;
  - fully inside, flush with both sides of the supporting construction;
  - on the backfilling;
- amount:
  - depth: see §3.2;
  - width: see §3.2;
- fixing: self-adhesive.

Backfilling

Backfilling – brand and type: Rockwool ProRoxLF970 – material: stone wool – density: firmly manually compressed.

- number: 1 per service;
- position:
  - fills the annular gap;
  - recessed by the depth of the sealant from the supporting construction surfaces;
- amount:
  - depth: see §3.2;
  - width: see §3.2;
- fixing: by means of friction fitting.

1.2.2 Supporting construction

The tested supporting construction is a standard supporting construction in accordance with the European standard EN 1366-3:2009 § 7.2.2.

The supporting construction consists of a rigid wall with density 550 kg/m³ and thickness of 100 mm.

1.2.3 Services

All services are passing through the penetration seals in an angle of 90° to the supporting construction.

There is no gap between the service(s), annular sealant, service penetration seals and the aperture edges.

1.2.4 Service support construction

The first support of the services from the supporting construction surface is 400 mm.

2 Test reports/EXAP reports and test results in support of the classification

2.1 Test reports/EXAP reports

Name of the laboratory	Report ref. no.	Name of the owner	Date of the test	Method
WFRGent	21367B	Hilti AG	16/12/2021	EN 1366-3:2009

Exposure conditions during the fire resistance test:

Temperature/time curve: standard as in EN 1363-1:2020.

Direction of exposure: rigid wall construction: from one side.

2.2 Test results

2.2.1. Rigid wall

Test report No. 21367B

Observations	Exceeded (minutes)			
Position	Thermal insulation – I	Integrity – E		
	ΔT_M = 180°C	Spontaneous and sustained flaming	Ignition of cotton pad	Failure with gap gauge
RE15	132 (1)	132 (1)	132 (1)	132 (1)
RE16	132 (1)	132 (1)	132 (1)	132 (1)
RE17	132 (1)	132 (1)	132 (1)	132 (1)
RE18	132 (1)	132 (1)	132 (1)	132 (1)

(1) 132 minutes, no failure. The test was stopped after 132 minutes at the request of the sponsor.

warringtonfire
Proud to be part of element

3 Classification and field of application

3.1 Reference of classification

This classification has been carried out in accordance with clause 7 of EN 13501-2:2016.

3.2 Classification

The elements, penetration seals – type: Hilti Firestop Intumescent sealant CFS-IS (= CP 611A) – are classified according to the following combinations of performance parameters and classes as appropriate. Lower classifications are permitted.
Distances: see 3.3.5.

3.2.1 Hilti Firestop Intumescent sealant CFS-IS (= CP 611A) with backfilling

3.2.1.2 Rigid wall constructions (thickness ≥ 100 mm, density ≥ 550 kg/m³)

Single layer PVC pipes

Pos.	Sealing system			Pipe						Classifications	
	Aperture part			Material	Trade or pipe standard	Type	Diameter [mm]	Wall thickness [mm]	End config.		
	Annular sealant										
	Type	Layer Thickness [mm]	Gap width [mm]								
21367B RE15	CFS-IS + Backfilling + CFS-IS	25 / 50 / 25	20	PVC-U	EN 1453-1	-	≤ 40	1.9	U/C	**EI 120 U/C**	**E 120 U/C**
21367B RE16	CFS-IS + Backfilling + CFS-IS	25 / 50 / 25	20	PVC-U	EN 1453-1	-	≤ 110	3.2	U/C	**EI 120 U/C**	**E 120 U/C**
21367B RE17	CFS-IS + Backfilling + CFS-IS	25 / 50 / 25	20	PVC-U	EN 1453-1	-	≤ 125	6.0	U/C	**EI 120 U/C**	**E 120 U/C**
21367B RE18	CFS-IS + Backfilling + CFS-IS	25 / 50 / 25	20	PVC-U	EN 1453-1	-	≤ 125	9.3	U/C	**EI 120 U/C**	**E 120 U/C**
21367B RE18	**CFS-IS + Backfilling + CFS-IS**	**25 / 50 / 25**	**20**	**PVC-U**	**EN 1453-1**	**-**	**≤ 40 – 125**	**1.9, 3.2, 6.0[(1)] till 9.3**	**U/C**	**EI 120 U/C**	**E 120 U/C**

Covered pipe materials: Single layer PVC-U pipes in accordance with EN 1329-1, EN 1453-1, EN ISO 15493 and EN ISO 1452-2 and PVC-C pipes in accordance with EN 1566-1, EN ISO 15493 and EN ISO 15877-2.

[(1)] Interpolation between minimum pipe wall thickness in relation to pipe diameter.

3.3 Field of direct application

This classification is valid for the following end use applications according to 1366-3:2021.

The results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

3.3.1 Orientation

The results are applicable as tested, in a wall.

3.3.2 Supporting construction

3.3.2.1 Rigid wall constructions

The test obtained with the standard rigid wall may be applied to a concrete or masonry wall of a thickness equal to or greater than 100 mm and a density equal or greater than 550 kg/m³.

3.3.3 Services

Single pipes can be installed in an angle of 90° to the supporting construction.

The pipes tested with pipe end configuration U/C covers C/U and C/C pipe end situations as well.

3.3.4 Seal type

The seal types defined in § 3.2 need to be respected.

3.3.5 Distances

All services with their penetration sealing system can be installed in the supporting construction in single, linear or cluster arrangement with a minimum distance of 100.

SIGNED

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This document is the original version of the classification report and is written in English.