

Schémas d'applications pour le mastic coupe-feu acrylique CFS-S ACR



Applications pour réfrigération

- Tube cuivre en cloison épaisseur 100 mm mini
- Tube cuivre en voile rigide épaisseur 100 mm mini
- Tube cuivre en dalle rigide épaisseur 150 mm mini
- Tube acier en cloison épaisseur 100 mm mini
- Tube acier en voile rigide épaisseur 100 mm mini
- Tube acier en dalle rigide épaisseur 150 mm mini

REFR-FW-MP-0001-4 REFR-RW-MP-0011/12/15/16

REFR-RF-MP-0018-21/24/25

REFR-FW-MP-0027/28/32/33

REFR-RW-MP-0035/36/38/39

REFR-RF-MP-0044-47/50/51

*) Tous les schémas sont également disponibles sur demande en format DWG pour faciliter l'insertion sur des plans.



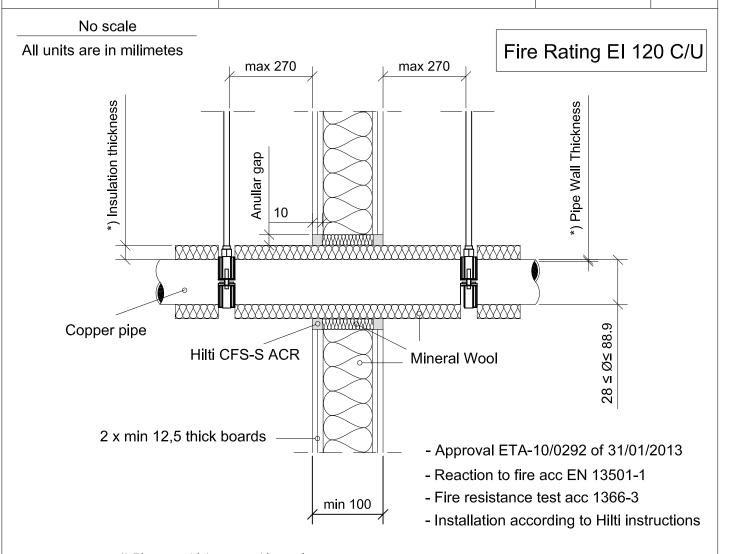
Metal Pipe in a flexible wall

REFR-FW-MP-0001

FIRESTOP ACRYLIC SEALANT

0001_01

REV 00

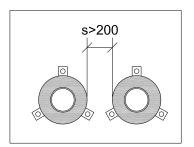


*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description
28-42	1.0/1.5-14.2	≥ 20	Interrupted or sustained insulation
42-88.9	1.5/2.0-14.2	≥ 40	Interrupted

$$D_{n,w} = 53 \text{ dB}$$

 $R_{w} = 60 \text{ dB}$



Minimum distance between seals



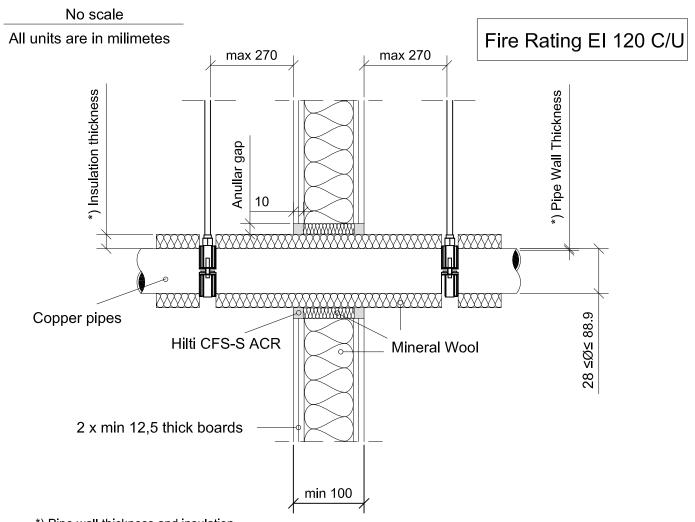
Metal Pipe in a flexible wall

REFR-FW-MP-0002

FIRESTOP ACRYLIC SEALANT

0002_01

REV 00



*) Pipe wall thickness and insulation

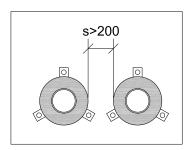
Pipe	Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
28-4 28-4 42 42 42-88		1.0/1.5-14.2 1.0/1.5-14.2 1.5-14.2 1.5-14.2 1.5/2.0-14.2	20 20 20-40 20-40 40	Sustained Interrupted Sustained Interrupted Interrupted	≥ 450 ≥ 500 ≥ 500 ≥ 500 ≥ 500
88.	9	2.0-14.2	40	Interrupted	≥ 700

Sound Insulation for flexible wall

$$D_{n,w} = 53 \text{ dB}$$

 $R_{w} = 60 \text{ dB}$

- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions





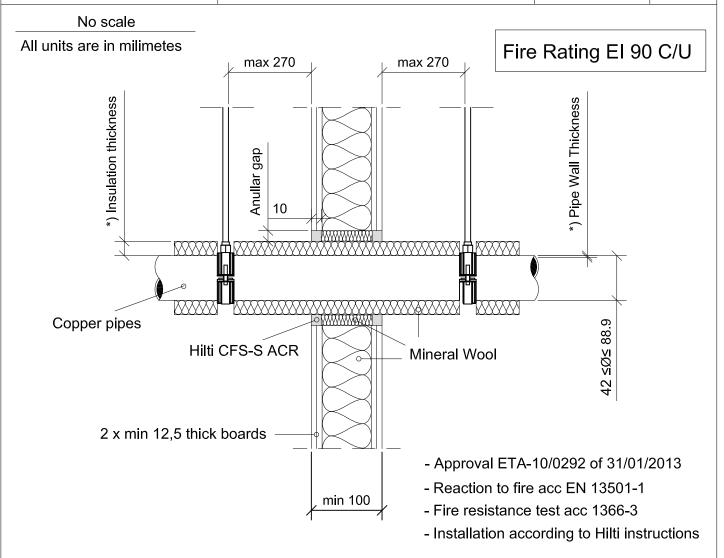
Metal Pipe in a flexible wall

REFR-FW-MP-0003

FIRESTOP ACRYLIC SEALANT

0003_01

REV 00

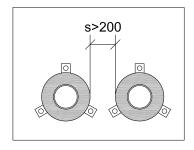


*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description	
42-88.9	1.5/2.0-14.2	≥ 40	Sustained insulation	

$$D_{n,w} = 53 \text{ dB}$$

 $R = 60 \text{ dB}$



Minimum distance between seals



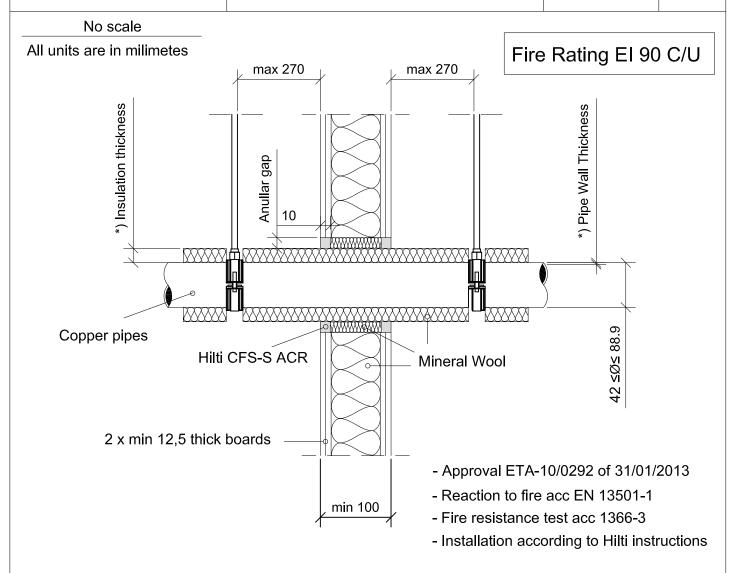
Metal Pipe in a flexible wall

REFR-FW-MP-0004

FIRESTOP ACRYLIC SEALANT

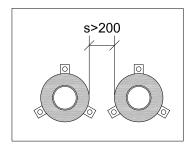
0004_01

REV 00



*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
42-88.9	1.5/2.0-14.2	40	Sustained	≥ 500



Minimum distance between seals

$$D_{n,w} = 53 \text{ dB}$$

 $R_{w} = 60 \text{ dB}$



Marial Disaster a detail and

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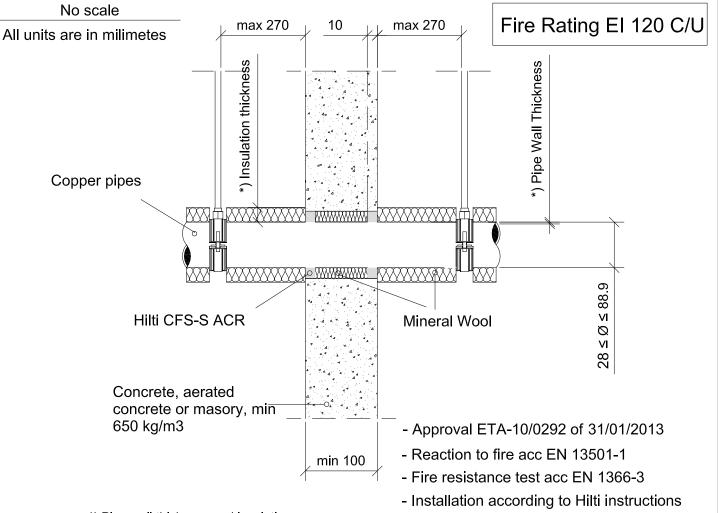
Metal Pipe in a rigid wall

REFR-RW-MP-0011

FIRESTOP ACRYLIC SEALANT

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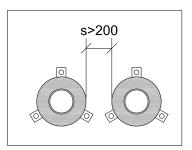


*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description
28-42	1.0/1.5-14.2	≥ 20	Interrupted or sustained insulation
42-88.9	1.5/2.0-14.2	≥ 40	Interrupted

$$D_{n,w} = 51 \text{ dB}$$

 $R_{w} = 58 \text{ dB}$



Minimum distance between seals



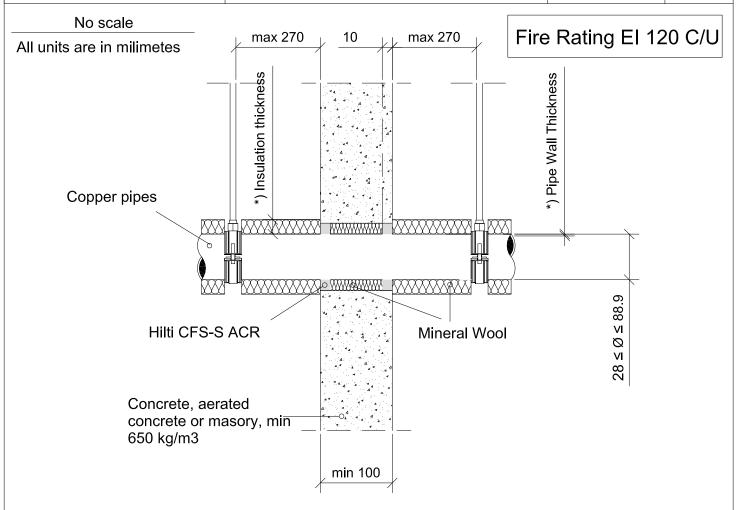
Metal Pipe in a rigid wall

REFR-RW-MP-0012

FIRESTOP ACRYLIC SEALANT

0012_01

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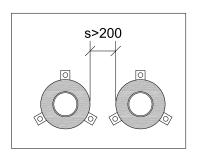
*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
28-42	1.0/1.5-14.2	20	Sustained	≥ 450
28-42	1.0/1.5-14.2	20	Interrupted	≥ 500
42	1.5-14.2	20-40	Sustained	≥ 500
42	1.5-14.2	20-40	Interrupted	≥ 500
42-88.9	1.5/2.0-14.2	40	Interrupted	≥ 500
88.9	2.0-14.2	40	Interrupted	≥ 700

$$D_{n,w} = 51 \text{ dB}$$

 $R_{w} = 58 \text{ dB}$

- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc EN 1366-3
- Installation according to Hilti instructions



Minimum distance between seals



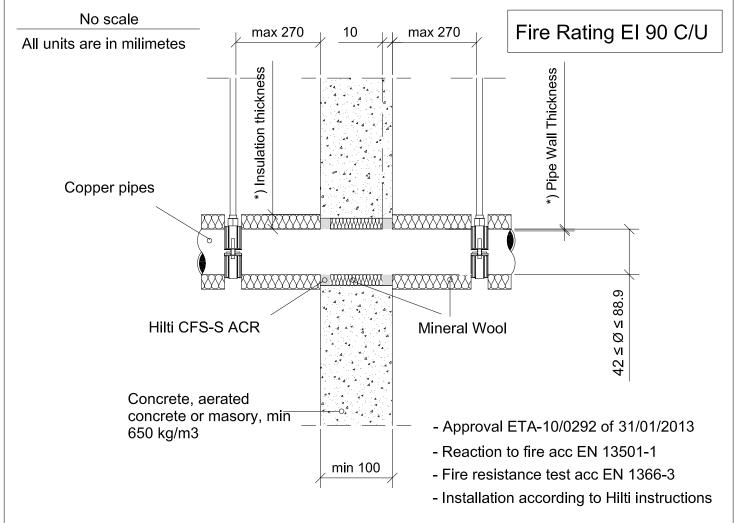
Metal Pipe in a rigid wall

REFR-RW-MP-0015

FIRESTOP ACRYLIC SEALANT

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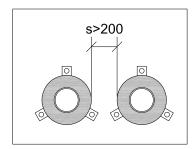


*) Pipe wall and insulation thickness

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description
42-88.9	1.5/2.0-14.2	≥ 40	Sustained insulation

$$D_{n,w} = 51 \text{ dB}$$

$$R_{w} = 58 \text{ dB}$$



Minimum distance between seals



Metal Pipe in a rigid wall

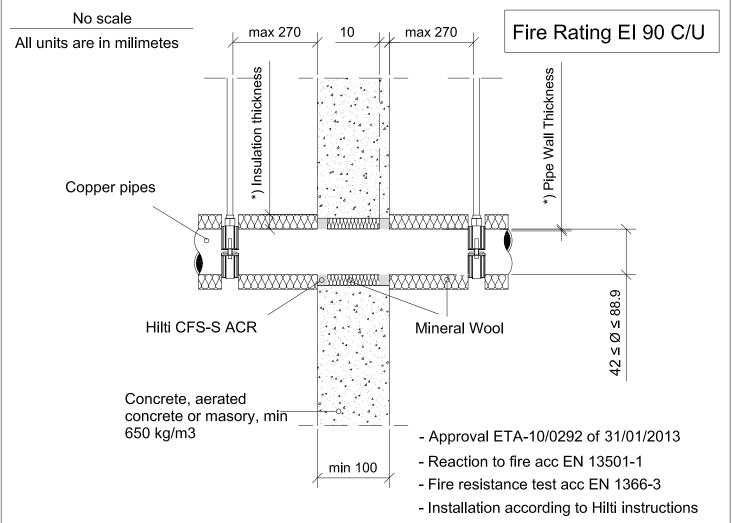
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REFR-RW-MP-0016

FIRESTOP ACRYLIC SEALANT

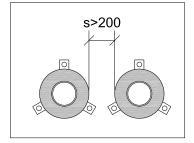
0016_01

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*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
42-88.9	1.5/2.0-14.2	40	Sustained	≥ 500



Minimum distance between seals

$$D_{n,w} = 51 \text{ dB}$$

 $R_{w} = 58 \text{ dB}$



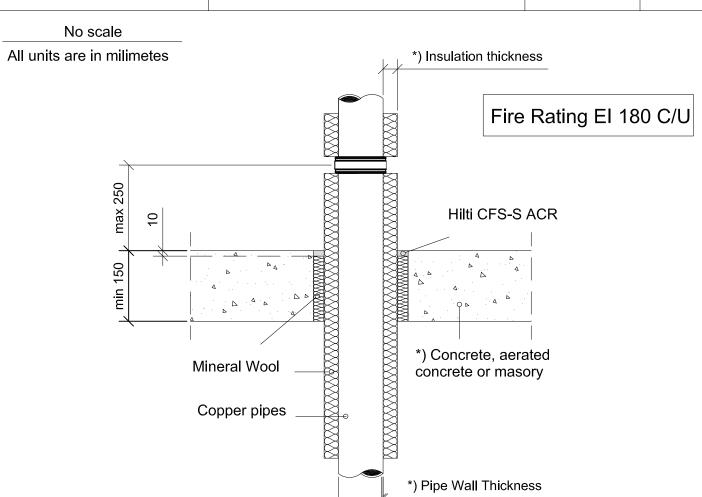
Metal Pipe in a rigid floor

REFR-RF-MP-0018

FIRESTOP ACRYLIC SEALANT

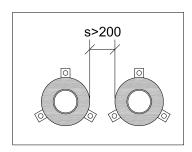
0018_01

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*) Pipe wall thickness and insulation

 \emptyset = 28 or 88.9



Minimum distance between seals

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter
≥2400 kg/m3	28	1.0-14.2	≥20	Sustained	≤ 260
	88.9	2.0-14.2	≥40	Sustained	≤ 260

- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions



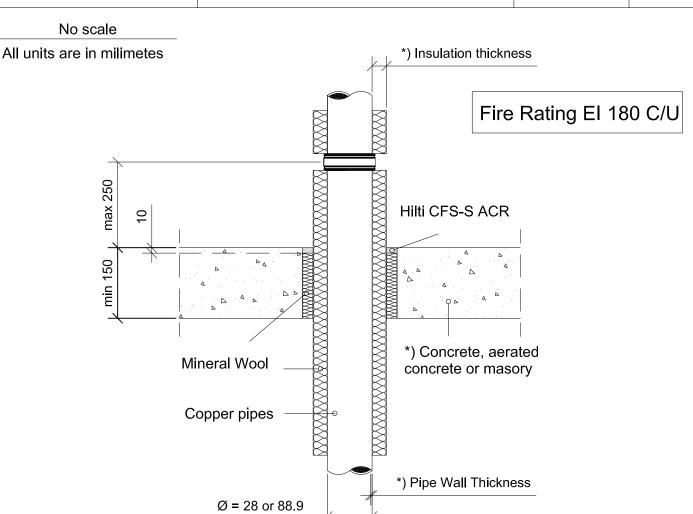
Metal Pipe in a rigid floor

REFR-RF-MP-0019

FIRESTOP ACRYLIC SEALANT

0019_01

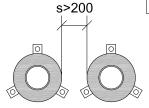
REV 00



*) Pipe wall thickness and insulation

Density Base Material	Pipe Ø	Pipe Wa ll Thickness	Insulation Thickness	Insulation	Seal diameter	Length on each side
≥2400 kg/m3	28	1.0-14.2	20	Sustained	≤ 260	≥425
	88.9	2.0-14.2	40	Sustained	≤ 260	≥700
	88.9	2.0-14.2	40	Interrupted	≤ 260	≥500

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Annular Space	Length on each side
≥550 kg/m3	88.9	2.0-14.2	40	Sustained	13-48	≥700



- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions



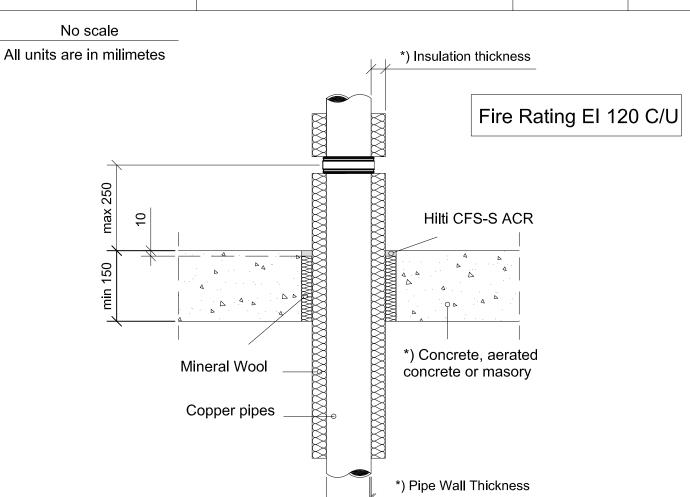
Metal Pipe in a rigid floor

REFR-RF-MP-0020

FIRESTOP ACRYLIC SEALANT

0020_01

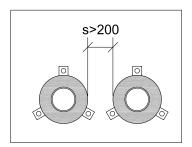
REV 00



*) Pipe wall and insulation thickness

 $28 \le \emptyset \le 88.9$

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter
≥550 kg/m3	28-42	1.0/1.5-14.2	20	Interrupted	≤ 300
	42	1.5-14.2	≥20	Sustained	≤ 300
	42	1.5-14.2	≥40	Interrupted	≤ 300
≥2400 kg/m3	28-42	1.0/1.5-14.2	≥20	Sustained	≤ 300
	28-42	1.0/1.5-14.2	≥20	Interrupted	≤ 300
	42-88.9	1.5/2.0-14.2	≥40	Interrupted	≤ 300



Minimum distance between seals

- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions



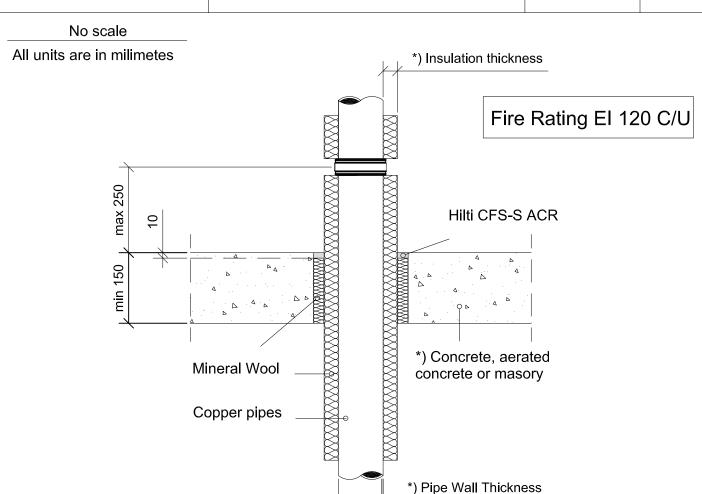
Metal Pipe in a rigid floor

REFR-RF-MP-0021

FIRESTOP ACRYLIC SEALANT

0021_01

REV 00

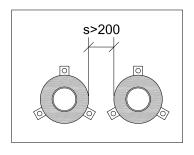


- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions

*)	Pipe	wall	and	insulation	thickness
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 $28 \le \emptyset \le 88.9$

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter	Length on each side
≥550 kg/m3	28-42	1.0/1.5-14.2	20-40	Interrupted	≤ 300	≥600
	28-42	1.0/1.5-14.2	40	Interrupted	≤ 300	≥500
	42	1.5-14.2	20	Sustained	≤ 300	≥450
	42	1.5-14.2	20-40	Sustained	≤ 300	≥700
	42	1.5-14.2	20-40	Interrupted	≤ 300	≥500
	42-88.9	1.5/2.0-14.2	40	Sustained	≤ 300	≥700
≥2400 kg/m3	28-42	1.0/1.5-14.2	20	Sustained	≤ 300	≥450
	28-42	1.0/1.5-14.2	20-40	Interrupted	≤ 300	≥500
	28-42	1.0/1.5-14.2	20-40	Sustained	≤ 300	≥700
	42	1.5-14.2	20-40	Sustained	≤ 300	≥700
	42-88.9	1.5/2.0-14.2	40	Sustained	≤ 300	≥700
	42-88.9	1.5/2.0-14.2	40	Interrupted	≤ 300	≥500





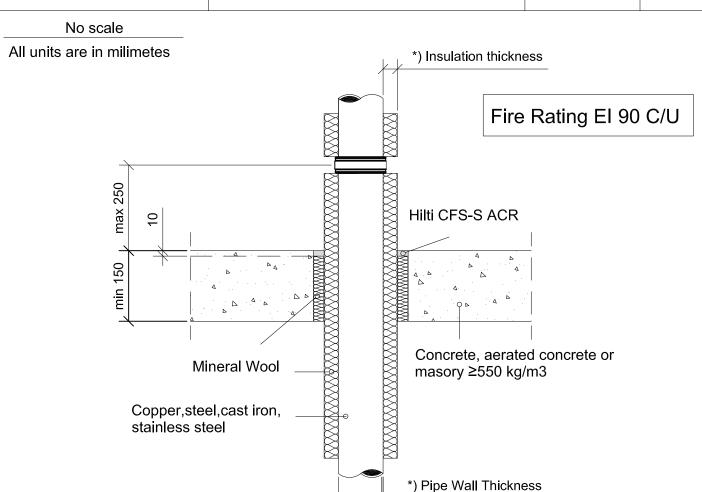
Metal Pipe in a rigid floor

REFR-RF-MP-0024

FIRESTOP ACRYLIC SEALANT

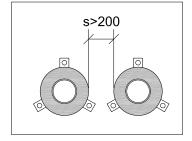
0024_01

REV 00



 $42 \le \emptyset \le 88.9$

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter
42-88.9	1.5/2.0-14.2	≥40	Sustained	≤ 300



Minimum distance between seals

- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions



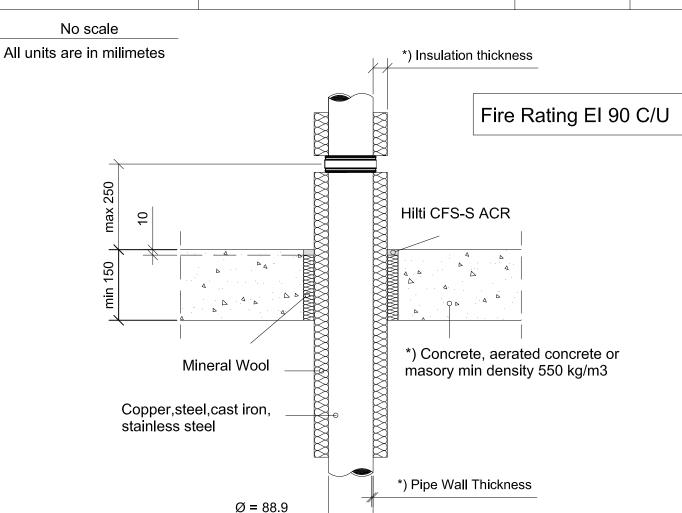
Metal Pipe in a rigid floor

REFR-RF-MP-0025

FIRESTOP ACRYLIC SEALANT

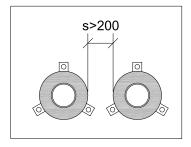
0025_01

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- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter	Length on each side
88.9	2.0-14.2	40	Sustained	≤ 300	≥500



Minimum distance between seals



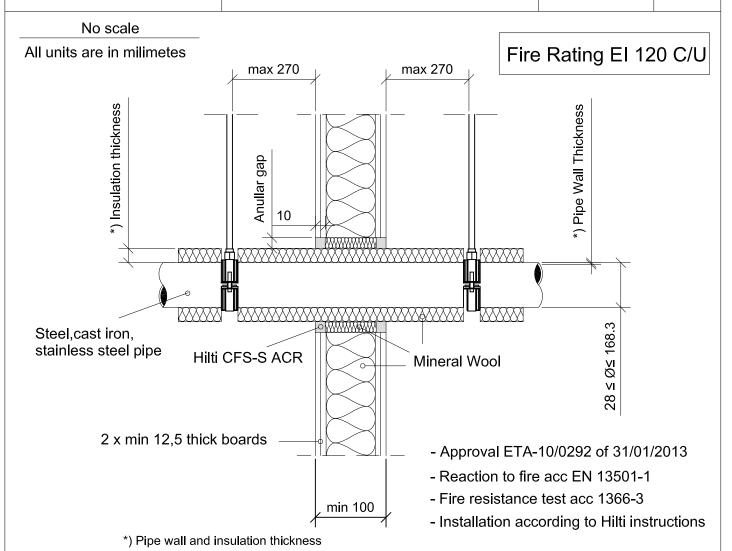
Metal Pipe in a flexible wall

REFR-FW-MP-0027

FIRESTOP ACRYLIC SEALANT

0027 01

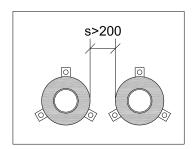
REV 00



Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description
28-42	1.0/1.5-14.2	≥ 20	Interrupted or sustained insulation
42-88.9	1.5/2.0-14.2	≥ 40	Interrupted
26.9-48.3	1.4/1.6-14.2	≥ 20	Interrupted or sustained insulation
26.9-168.3	1.4/2.6-14.2	≥ 40	Interrupted or sustained insulation

$$D_{n,w} = 53 \text{ dB}$$

 $R_{w} = 60 \text{ dB}$



Minimum distance between seals



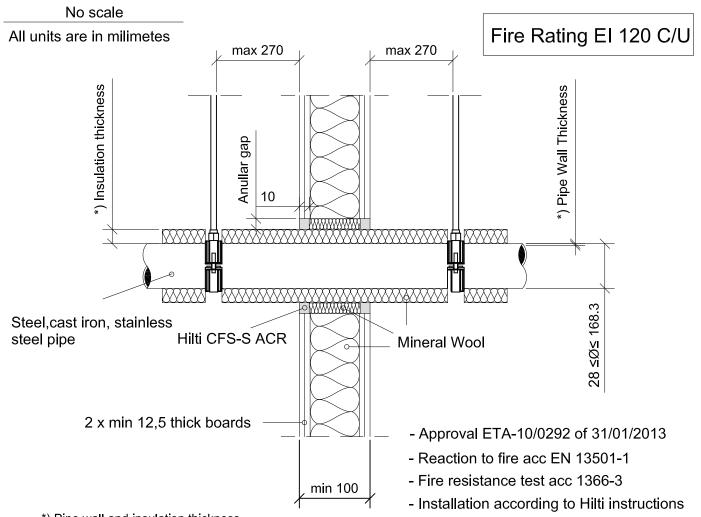
Metal Pipe in a flexible wall

REFR-FW-MP-0028

FIRESTOP ACRYLIC SEALANT

0028_01

REV 00

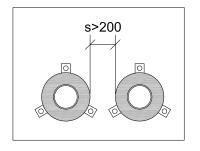


	*)	Pipe	wall	and	insulation	thickness
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Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
28-42	1.0/1.5-14.2	20	Sustained	≥ 450
28-42	1.0/1.5-14.2	20	Interrupted	≥ 500
42	1.5-14.2	20-40	Sustained	≥ 500
42	1.5-14.2	20-40	Interrupted	≥ 500
42-88.9	1.5/2.0-14.2	40	Interrupted	≥ 500
88.9	2.0-14.2	40	Interrupted	≥ 700
26.9-48.3	1.4/1.6-14.2	20	Sustained	≥ 450
26.9-48.3	1.4/1.6-14.2	20	Interrupted	≥ 500
48.3	1.6-14.2	20-40	Sustained	≥ 500
48.3-168.3	1.6/2.6-14.2	40	Sustained	≥ 700
168.3	4.5-14.2	40	Interrupted	≥ 500
168.3	2.6-14.2	40	Interrupted	≥ 700

$$D_{n,w} = 53 \text{ dB}$$

$$R_{w} = 60 \text{ dB}$$



Minimum distance between seals



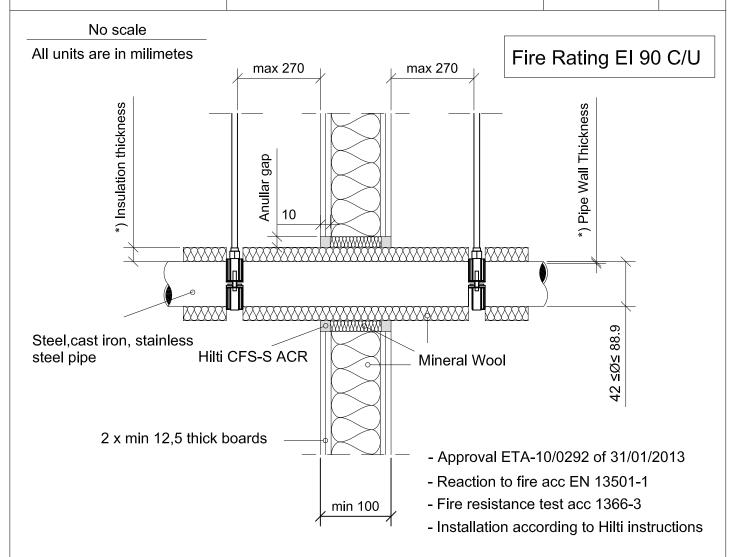
Metal Pipe in a flexible wall

REFR-FW-MP-0032

FIRESTOP ACRYLIC SEALANT

0032 01

REV 00

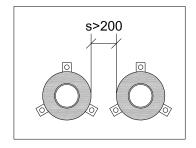


*) Pipe wall and insulation thickness

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description
42-88.9	1.5/2.0-14.2	≥ 40	Sustained insulation

$$D_{n,w} = 53 \text{ dB}$$

 $R_{ij} = 60 \text{ dB}$



Minimum distance between seals



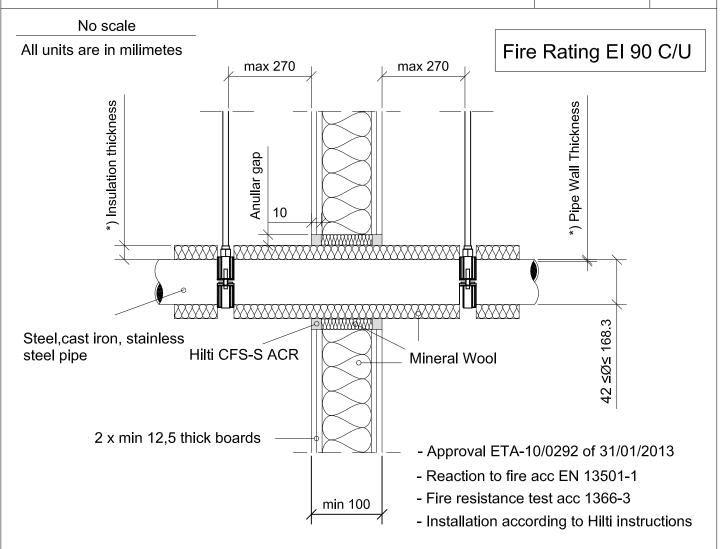
Metal Pipe in a flexible wall

REFR-FW-MP-0033

FIRESTOP ACRYLIC SEALANT

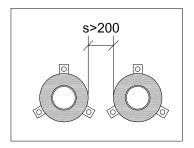
0033_01

REV 00



*) Pipe wall and insulation thickness

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
42-88.9	1.5/2.0-14.2	40	Sustained	≥ 500
48.3-168.3	1.6/2.6-14.2	40	Sustained	≥ 450
48.3-168.3	1.6/2.6-14.2	40	Interrupted	≥ 700
168.3	2.6-4.5	40	Interrupted	≥ 500



Minimum distance between seals

$$D_{n,w} = 53 \text{ dB}$$

 $R_{w} = 60 \text{ dB}$



Metal Pipe in a rigid wall

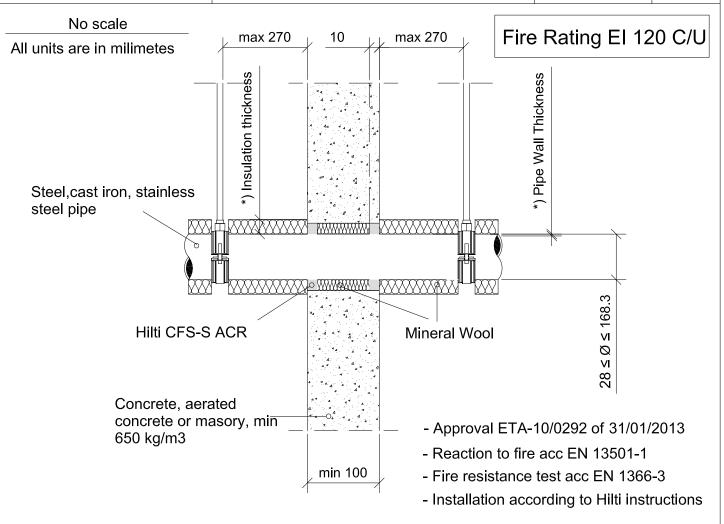
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REFR-RW-MP-0035

FIRESTOP ACRYLIC SEALANT

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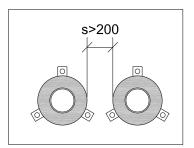
*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description
28-42	1.0/1.5-14.2	≥ 20	Interrupted or sustained insulation
42-88.9	1.5/2.0-14.2	≥ 40	Interrupted
26.9-48.3	1.4/1.6-14.2	≥ 20	Interrupted or sustained insulation
26.9-168.3	1.4/2.6-14.2	≥ 40	Interrupted or sustained insulation

Sound Insulation for rigid wall

$$D_{n,w} = 51 \text{ dB}$$

 $R_{w} = 58 \text{ dB}$



Minimum distance between seals

HUOM! Mikäli dokumentin sisältöä muokataan, tulee hyväksynnän kattavuus tarkistaa.



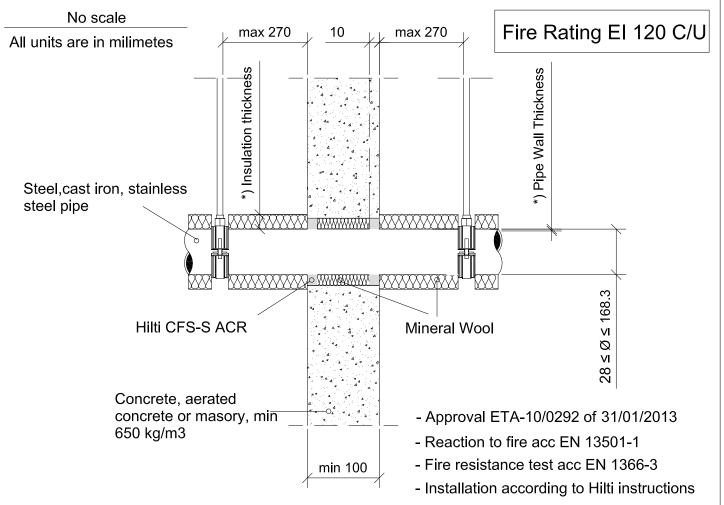
Metal Pipe in a rigid wall

REFR-RW-MP-0036

FIRESTOP ACRYLIC SEALANT

0036_01

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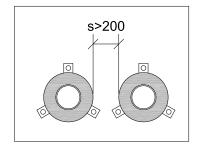


*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
28-42	1.0/1.5-14.2	20	Sustained	≥ 450
28-42	1.0/1.5-14.2	20	Interrupted	≥ 500
42	1.5-14.2	20-40	Sustained	≥ 500
42	1.5-14.2	20-40	Interrupted	≥ 500
42-88.9	1.5/2.0-14.2	40	Interrupted	≥ 500
88.9	2.0-14.2	40	Interrupted	≥ 700
26.9-48.3	1.4/1.6-14.2	20	Sustained	≥ 450
26.9-48.3	1.4/1.6-14.2	20	Interrupted	≥ 500
48.3	1.6-14.2	20-40	Sustained	≥ 500
48.3-168.3	1.6/2.6-14.2	40	Sustained	≥ 700
168.3	4.5-14.2	40	Interrupted	≥ 500
168.3	2.6-14.2	40	Interrupted	≥ 700

$$D_{n,w} = 51 \text{ dB}$$

 $R_{w} = 58 \text{ dB}$



Minimum distance between seals



Metal Pipe in a rigid wall

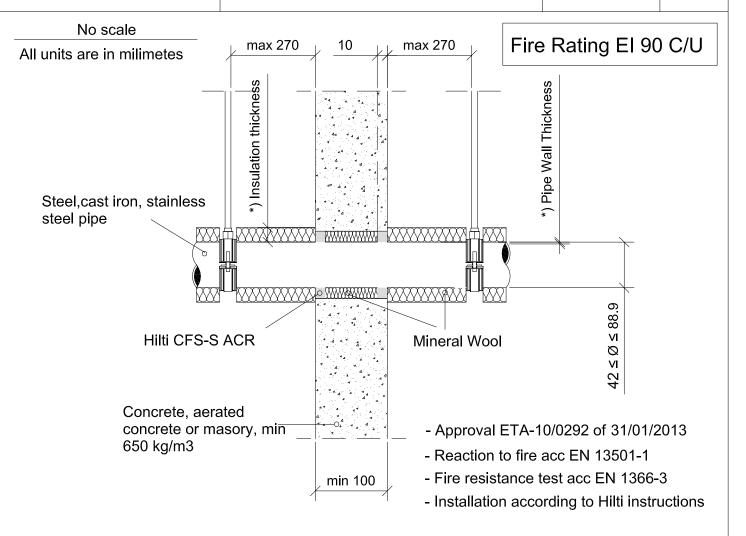
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REFR-RW-MP-0038

FIRESTOP ACRYLIC SEALANT

0038_01

REV **00**

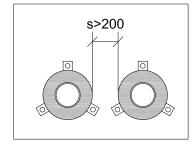


*) Pipe wall and insulation thickness

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Other criteria description
42-88.9	1.5/2.0-14.2	≥ 40	Sustained insulation

$$D_{n,w} = 51 \text{ dB}$$

$$R_{w} = 58 \text{ dB}$$



Minimum distance between seals



Metal Pipe in a rigid wall

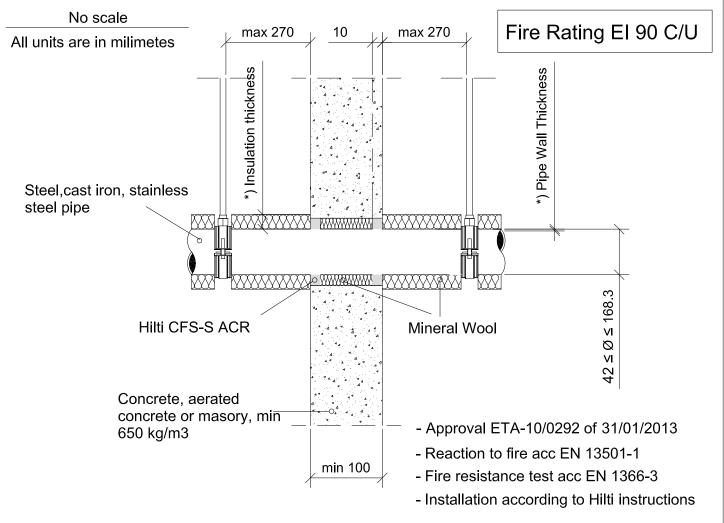
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REFR-RW-MP-0039

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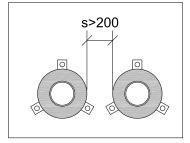
0039_01

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*) Pipe wall thickness and insulation

Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Length on each side
42-88.9	1.5/2.0-14.2	40	Sustained	≥ 500
48.3-168.3	1.6/2.6-14.2	40	Sustained	≥ 450
48.3-168.3	1.6/2.6-14.2	40	Interrupted	≥ 700
168.3	2.6-4.5	40	Interrupted	≥ 500



Minimum distance between seals

$$D_{n,w} = 51 \text{ dB}$$

 $R_{w} = 58 \text{ dB}$



Metal Pipe in a rigid floor

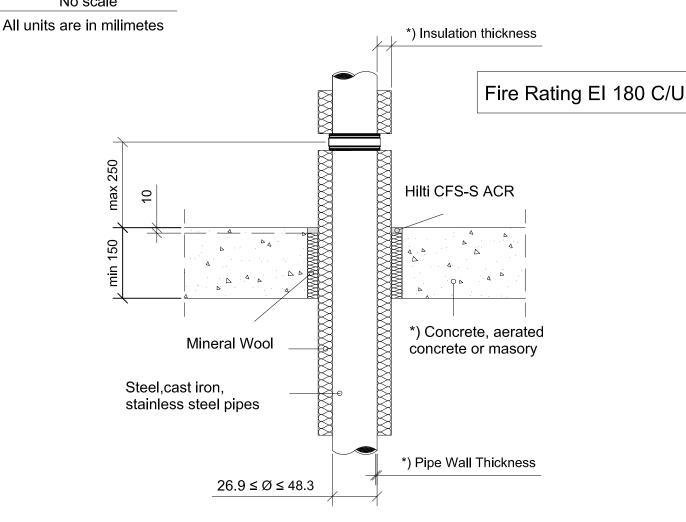
REFR-RF-MP-0044

FIRESTOP ACRYLIC SEALANT

0044_01

REV **00**

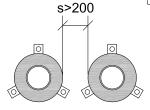




*) Pipe wall and insulation thickness

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter
≥2400 kg/m3	28	1.0-14.2	≥20	Sustained	≤ 260

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Annular Space
≥550 kg/m3	26.9-48.3 26.9-48.3	1.4/1.6-14.2 1.4/1.6-14.2		Sustained Sustained	13-48 13-48



- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions



Metal Pipe in a rigid floor

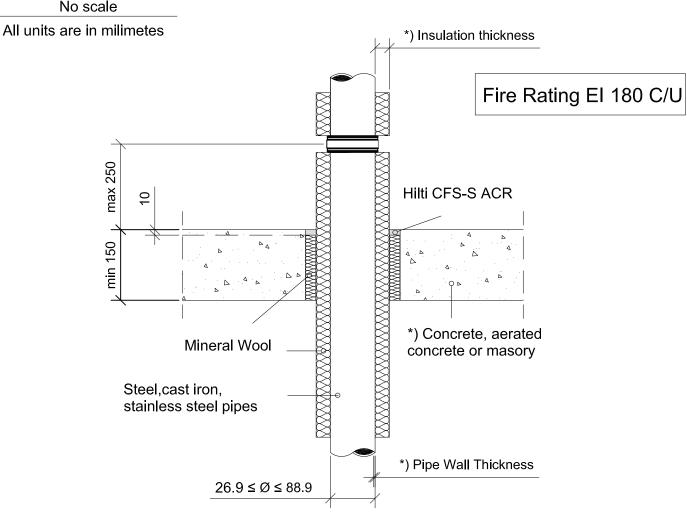
REFR-RF-MP-0045

FIRESTOP ACRYLIC SEALANT

0045_01

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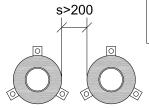




*) Pipe wall and insulation thickness

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter	Length on each side
≥2400 kg/m3	28	1.0/1.5-14.2	20	Sustained	≤ 260	≥425
	88.9	2.0-14.2	≥40	Sustained	≤ 260	≥700
	88.9	2.0-14.2	≥40	Interrupted	≤ 260	≥500

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Annular Space	Length on each side
≥550 kg/m3	88.9	2.0-14.2	40	Sustained	13-48	≥700
	26.9-48.3	1.4/1.6-14.2	20	Sustained	13-48	≥450
	26.9-48.3	1.4/1.6-14.2	20	Interrupted	13-48	≥450



- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions



Metal Pipe in a rigid floor

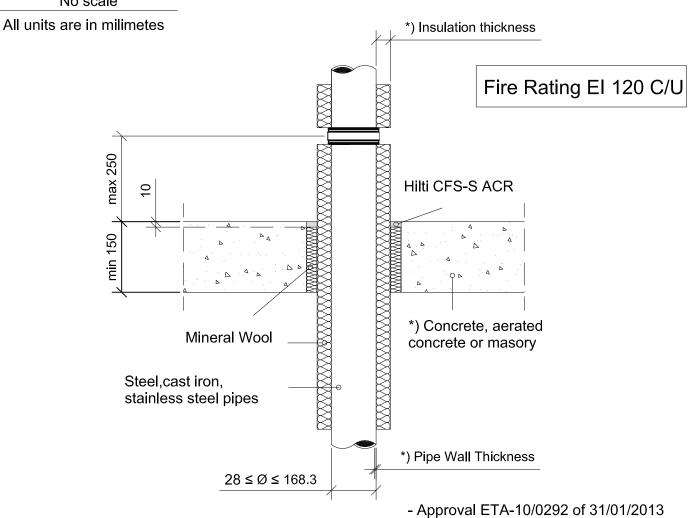
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FIRESTOP ACRYLIC SEALANT

0046_01

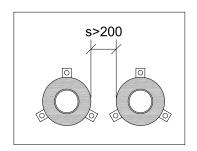
REV 00





- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions

*) Pipe wall and insulation thickness



Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter
≥550 kg/m3	28-42 42 42 26.9-168.3 26.9-168.3		>20 >20 >40 >40 >40	Interrupted Sustained Interrupted Sustained Interrupted	≤ 300 ≤ 300 ≤ 300 ≤ 300 ≤ 300
≥2400 kg/m3	28-42 28-42 42-88.9	1.0/1.5-14.2 1.0/1.5-14.2 1.5/2.0-14.2	>20 >20 40	Sustained Interrupted Interrupted	≤ 300 ≤ 300 ≤ 300



Metal Pipe in a rigid floor

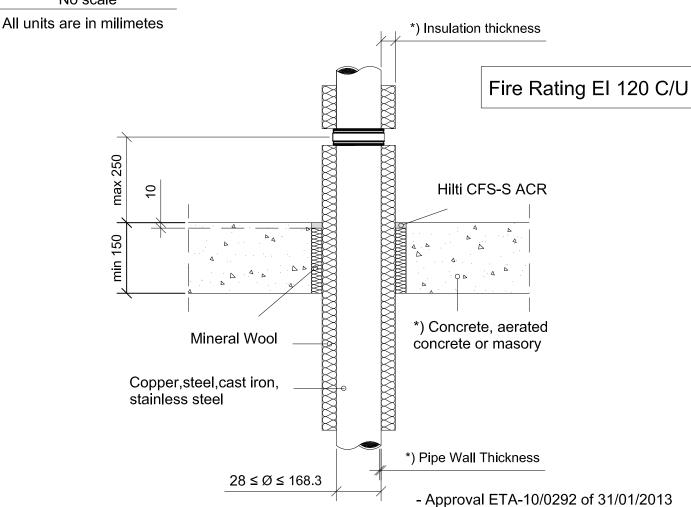
REFR-RF-MP-0047

FIRESTOP ACRYLIC SEALANT

0047_01

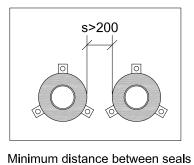
REV 00





- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter	Length on each side
≥550 kg/m3	28-42 28-42 42 42 42 42-88.9 168.3 168.3	1.0/1.5-14.2 1.0/1.5-14.2 1.5-14.2 1.5-14.2 1.5-14.2 1.5/2.0-14.2 2.6-4.5 2.6-4.5	20-40 40 20 20-40 20-40 40 40	Interrupted Interrupted Sustained Sustained Interrupted Sustained Sustained Interrupted	≤ 300 ≤ 300 ≤ 300 ≤ 300 ≤ 300 ≤ 300 ≤ 300 ≤ 300	≥600 ≥500 ≥450 ≥700 ≥500 ≥700 ≥700 ≥500
≥2400 kg/m3	28-42 28-42 28-42 42 42-88.9 42-88.9	1.0/1.5-14.2 1.0/1.5-14.2 1.0/1.5-14.2 1.5-14.2 1.5/2.0-14.2 1.5/2.0-14.2	20 20-40 20-40 20-40 40 40	Sustained Interrupted Sustained Sustained Sustained Interrupted	≤ 300 ≤ 300 ≤ 300 ≤ 300 ≤ 300 ≤ 300	≥450 ≥500 ≥700 ≥700 ≥700 ≥500





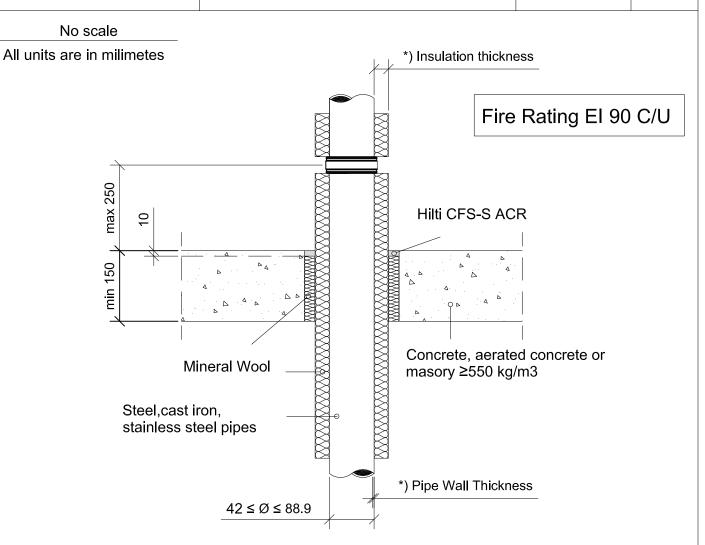
Metal Pipe in a rigid floor

REFR-RF-MP-0050

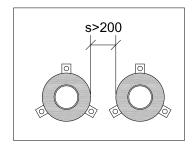
FIRESTOP ACRYLIC SEALANT

0050_01

REV 00



Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter
42-88.9	1.5/2.0-14.2	≥40	Sustained	≤ 300



Minimum distance between seals

- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions



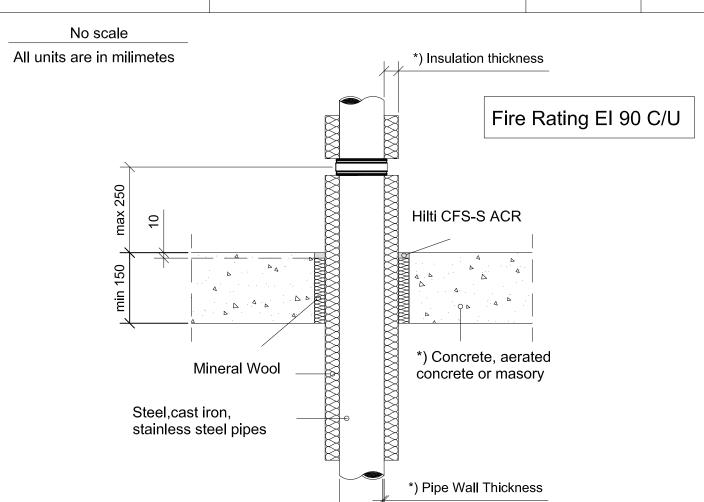
Metal Pipe in a rigid floor

REFR-RF-MP-0051

FIRESTOP ACRYLIC SEALANT

0051_01

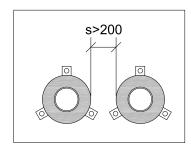
00 REV



- Approval ETA-10/0292 of 31/01/2013
- Reaction to fire acc EN 13501-1
- Fire resistance test acc 1366-3
- Installation according to Hilti instructions

Density Base Material	Pipe Ø	Pipe Wall Thickness	Insulation Thickness	Insulation	Seal diameter	Length on each side
≥550 kg/m3	88.9	2.0-14.2	40	Sustained	≤ 300	≥500
	168.3	2.6-4.5	40	Sustained	≤ 300	≥500

 $88.9 \le \emptyset \le 168.3$



Minimum distance between seals