DBI
FIRE AND SECURITY

Test Report

Electrical outlets and window

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Product name:	None		
File no.:	PGO10102A	Revision no.:	0
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Date of test

The test was conducted on 10-07-2019

Purpose of test

Examination of the fire-resistance and fire spread in outlets and window frame in a PUR wall.

The test specimen has been subjected to an ad-hoc test following the principles in the following standards:

DS/EN 1363-1:2012 Fire resistance tests – General requirements

The test was not performed accredited.

The purpose of the test was to see how the fire would spread via the outlets and the window. To evaluate if they would reduce the fire resistance of the wall.

Test specimen

The trade name and sponsors identification mark is stated below:

Trade name:	none
Identification mark:	none

The components for the test specimen were sampled, delivered and mounted by the sponsor.

DBI did not verify the test specimen.

Drawings and description

Details of the construction are shown in the enclosed documentation as stated below:

Type	Drawing No.	Dated	Subject
Drawing	A001	10-05-2019	Helvægselement brandtest
Drawing	A002	03-07-2019	Snittegning stikdåse A
Drawing	A003	08-07-2019	Snittegning B
Drawing	A004	08-07-2019	Snittegning dåse C
Drawing	A005	09-07-2019	Snittegning dåse D
Drawing	A006	09-07-2019	Detaljetegning - FALS

The documentation is supplied by the sponsor and it is stamped by DBI - Danish Institute of Fire and Security Technology

Description

The test specimen consisted of the components described in the following. The sponsor documented the mounting with pictures. DBI inspected the components during the test and after the test.

The sponsor carried out the selection of the products for the test specimen as well as the mounting.

Test specimen

External measures: Height: 2000 mm Width: 200 mm Thickness: 336 mm

The test specimen consisted of a wall with PUR insulation with 18 mm cement-bonded particle boards on each side. The wall had four different electrical outlets mounted into the PUR wall and a window opening. The side with the outlets was facing the fire.

The test specimen was asymmetrical.

Insulation

300mm PUR-foam insulation designated Covestro Baymer PXX-29-D-130/LBA with a nominal density of 40-50kg/m^3.

The PUR-foam was cast between the two cement-bonded particleboards. There was no glue used to bond the PUR-foam to the cement-bonded particleboards.

Surface, cement bonded particle boards

Boards: 18mm cement bonded particle boards designated Cetris Basic with a nominal density of 1350kg/m^3. All sandwich panels have a 4mm distance between adjacent panels.

Joints: The 4mm joints was filled with Protecta FR acryl.
The panels were fastened to the backing I-spline with 6x60mm screws centre distance 50mm along all joints.

Backing strip (I-spline)

Boards: PUR-foam cast between two 120mm wide 18mm cement bonded particle boards designated Cetris Basic. Combined thickness 300mm (fitting into the panels).

Joints: The corners of the I-spline were sealed with Protecta FR acryl
The PUR-foam was sealed with Graft FR foam.

Outlets

Outlet A: Outlet A designated "2.5 modul – FUGA AIR Blå" measuring 57 x 136 mm was mounted in the wall in line with the 18 mm Cetris board. The depth of the outlet was 47 mm. The cut out to the outlet in the PUR foam was 30 mm on all 4 sides of the outlet and 50 mm behind the outlet.

2 pieces of fire bricks designated "Firefree® Brandbrik" was placed inside the outlet.

The space behind the outlet was filled up with a foam designated "Protecta FR Foam"

Wire: Wires was lead vertically down to the outlet in two Ø16 mm flexible plastic pipes. The cut out for the plastic pipes was done vertically with a Ø50mm drill.

The hole above the outlet with the two plastic pipes in, was filled with foam designated "Protecta FR Foam" approximately 100 mm up in the Ø50 mm hole.

Outlet B: Outlet B designated "2.5 modul – FUGA AIR Brandsikker Rød" measuring 57 x 136 mm was mounted in the wall in line with the 18 mm Cetris board. The depth of the outlet was 47 mm. The cut out to the outlet in the PUR foam was 30 mm on all 4 sides of the outlet and 50 mm behind the outlet.

The space behind the outlet was filled up with a foam designated "Firefree® Brandtætningsskum 2K"

Wire: Wires was lead vertically down to the outlet in two Ø16 mm flexible plastic pipes. The cut out for the plastic pipes was done vertically with a Ø50mm drill.

The hole above the outlet with the two plastic pipes in, was filled with foam designated "Protecta FR Foam" approximately 100 mm up in the Ø50 mm hole.

Outlet C: Outlet C designated "2 modul – LK EURO Orange" measuring 2xØ68 mm was mounted in the wall in line with the 18 mm Cetris board. The depth of the outlet was 47 mm. The cut out to the outlet in the PUR foam was 30 mm on all 4 sides of the outlet and 50 mm behind the outlet.

2 pieces of fire bricks designated "Firefree® Brandbrik" was placed inside the outlet.

Behind the outlet approx. 40 mm foam designated "Firefree® Brandtætningsskum" was placed

The rest of the space behind the outlet was filled up with a foam designated "Protecta FR Foam"

Wire: Wires was lead vertically down to the outlet in two Ø16 mm flexible plastic pipes. The cut out for the plastic pipes was done vertically with a Ø50mm drill.

The Ø50 hole above the outlet with the two plastic pipes in, was not filled with anything.

Outlet D: Outlet D designated "2.5 modul – LK FUGA OPUS 66" measuring 47 x 136 mm was mounted in the wall in line with the 18 mm Cetris board. The depth of the outlet was 47 mm. The cut out to the outlet in the PUR foam was 30 mm on all 4 sides of the outlet and 50 mm behind the outlet.

2 pieces of fire bricks designated "Firefree® Brandbrik" was placed inside the outlet.

The space behind the outlet was filled up with a foam designated “Protecta FR Foam”

Wire: Wires was lead vertically up to the outlet in two Ø16 mm flexible plastic pipes. The cut out for the plastic pipes was done vertically with a Ø50mm drill.

The hole above the outlet with the two plastic pipes in, was filled with foam designated “Protecta FR Foam” approximately 100 mm down in the Ø50 mm hole.

Window

Window hole: The window hole was 520 x 815 mm (width x height).

The reses in the PUR foam on all four sides was 61 mm. Around all edges in the reses between the PUR foam and the 18 mm Cetris board a sealant designated “Brandfuge Protecta Acrylic” was used. The reses is filled with 5 mm of foam designated “Protecta FR Foam” on all four sides. On top of the foam a block of foam designated “Phonotherm 200 – Regenereret PUR” was placed on all four sides measuring 60 x 300 mm (height x width). The Phonotherm was screwed to the 18 mm Cetris board on both sides with 6 x 60 mm screws centre distance 50 mm. The Phonotherm overlapped the 18 mm Cetris board with 4 mm on both sides.

Window sill (fals): On top of the Phonotherm a Calcium silicate board designated “ScandiBoard” was placed on all four sides. The board measured 22 x 50 mm (height x width). The board was screwed to the Phonotherm with 6x60 mm screws. On both sides of the ScandiBoard 18 mm Cetris board was placed also screwed to the Phonotherm with 6 x 60 mm screws on all four sides. There was a 4 mm gap between the ScandiBoard and the Cetris board and between the horizontal and vertical Cetris board. The gaps were filled with sealant designated “Brandfuge Protecta Acrylic”

Window frame: Wooden studs are installed in the window hole screwed to the ScandiBoard on all four sides. The wooden studs simulate a window frame. A 12 mm gap is left between the wooden studs and the ScandiBoard. The 12 mm gap is stopped with stone wool designated “Rockwool fugestrimmel”

The rest of the hole is closed off with two layers of 18 mm Cetris board mounted on the exposed side of the wooden beams.

Measured by DBI

The material properties were not controlled by DBI.

Test conditions

Conditioning

The test specimen was delivered on the 10-07-2019 to the DBI laboratory and stored under room temperature.

Mounting

The test specimen was mounted as a front on the DBI model furnace. The test specimen was 2000 x 2000 mm and the exposed area was 1500 x 1500 mm

Fire test

Observations were made during the test on the general behaviour of the test specimen.

Temperature observations were taken continually during the entire testing time.

The temperatures were measured inside the construction as indicated on the attached drawings.

The furnace temperature was determined by means of plate thermocouples uniformly distributed at a distance of approximately 100 mm from the exposed side of the test specimen. The furnace temperature was continuously controlled to follow the standard time temperature curve within the accuracy specified in EN 1363-1:2012.

The thermocouples were constructed according to the description in EN 1363-1:2012.

The pressure in the furnace was controlled at 15 Pa at the top of the window.

Test results

Duration of the test was 30 minutes.

Measurements

The enclosed graphs and tables show:

Enclosures 2.0 and 2.1	Furnace temperatures The actual minimum-, average- and maximum furnace temperature in relation to the standard temperature. The table also shows the area under the actual time-temperature curve as well as the area under the standard time-temperature curve
Enclosures 3.0 and 3.1	Horizontal furnace pressure The differential pressure in the furnace during the test, measured in the top of the test specimen
Enclosures 4.0 and 4.1	Ambient temperature The ambient temperature in the laboratory during the test
Enclosures 5.0 and 5.1	Outlet A Temperature measured inside the test specimen
Enclosures 6.0 and 6.1	Outlet B Temperature measured inside the test specimen
Enclosures 7.0 and 7.1	Outlet C Temperature measured inside the test specimen
Enclosures 8.0 and 8.1	Outlet D Temperature measured inside the test specimen
Enclosures 9.0 and 9.1	Window Temperature measured inside the test specimen

Visual observations:

Time / Minutes	Visual observations:	U = Unexposed side E = Exposed side
0	Test commences	
1	Moderate smoke from the top of the test specimen	U
9	Reduction in smoke	U
15	Smoke from joints in the top of the test specimen	U
18	Smoke from the window framing (fals)	U
24	Increased smoke from the window (fals) from the joint/wool)	U
30	Test stopped	U
31	The test specimen is removed from the furnace and the fire is put out with water	E
32	The boards is removed and the PUR foam is cut to evaluate the damages and fire spread	E

The photographs on the attached photo sheets show the test specimen during the mounting, testing and after the test. See the description at each photo.

Results

The fire protection ability was evaluated by looking at the temperatures behind the outlets/Fals after 10 and 30 minutes and by looking at the size of the charred area:

Outlet A

- After 10 minutes of testing the temperature rise reached: Behind the outlet 9°C, above the outlet 25°C.
- After 30 minutes of testing the temperature rise reached: Behind the outlet 225°C, above the outlet 286°C.
- The charred area around the outlet was approx. Ø200 mm and the fire had not spread up/down in the installation hole. See attached photos.

Outlet B

- After 10 minutes of testing the temperature rise reached: Behind the outlet 4°C, above the outlet 72°C.
- After 30 minutes of testing the temperature rise reached: Behind the outlet 77°C, above the outlet 189°C.
- The charred area around the outlet was approx. Ø200 mm and the fire had not spread up in the installation hole. See attached photos.

Outlet C

- After 10 minutes of testing the temperature rise reached: Behind the outlet 37°C, above the outlet 391°C.
- After 30 minutes of testing the temperature rise reached: Behind the outlet 171°C, above the outlet 531°C.
- The charred area around the outlet was approx. Ø250 mm and the fire had spread up in the installation hole. See attached photos.

Outlet D

- After 10 minutes of testing the temperature rise reached: Behind the outlet 27°C, above the outlet 45°C.

- After 30 minutes of testing the temperature rise reached: Behind the outlet 387°C, above the outlet 239°C.
- The charred area around the outlet was approx. Ø200 mm and the fire had not spread down in the installation hole. See attached photos.

Window

- After 10 minutes of testing the temperature rise behind the ScandiBoard reached 1°C.
- After 30 minutes of testing the temperature rise behind the ScandiBoard reached 29°C.
- The Phonotherm was charred on the exposed side and into round the ScandiBoard. The charring was mostly in the top of the window hole. See attached photos.

Remarks

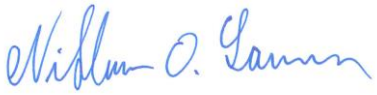
Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of measurement of fire resistance, it is not possible to provide a stated degree of accuracy of the result.

This report has only been printed in a pdf-version. DBI has not issued a hard copy version.

All values mentioned in this report are nominal values, production tolerances are not considered.

The test was not performed accredited.

Danish Institute of Fire and Security Technology



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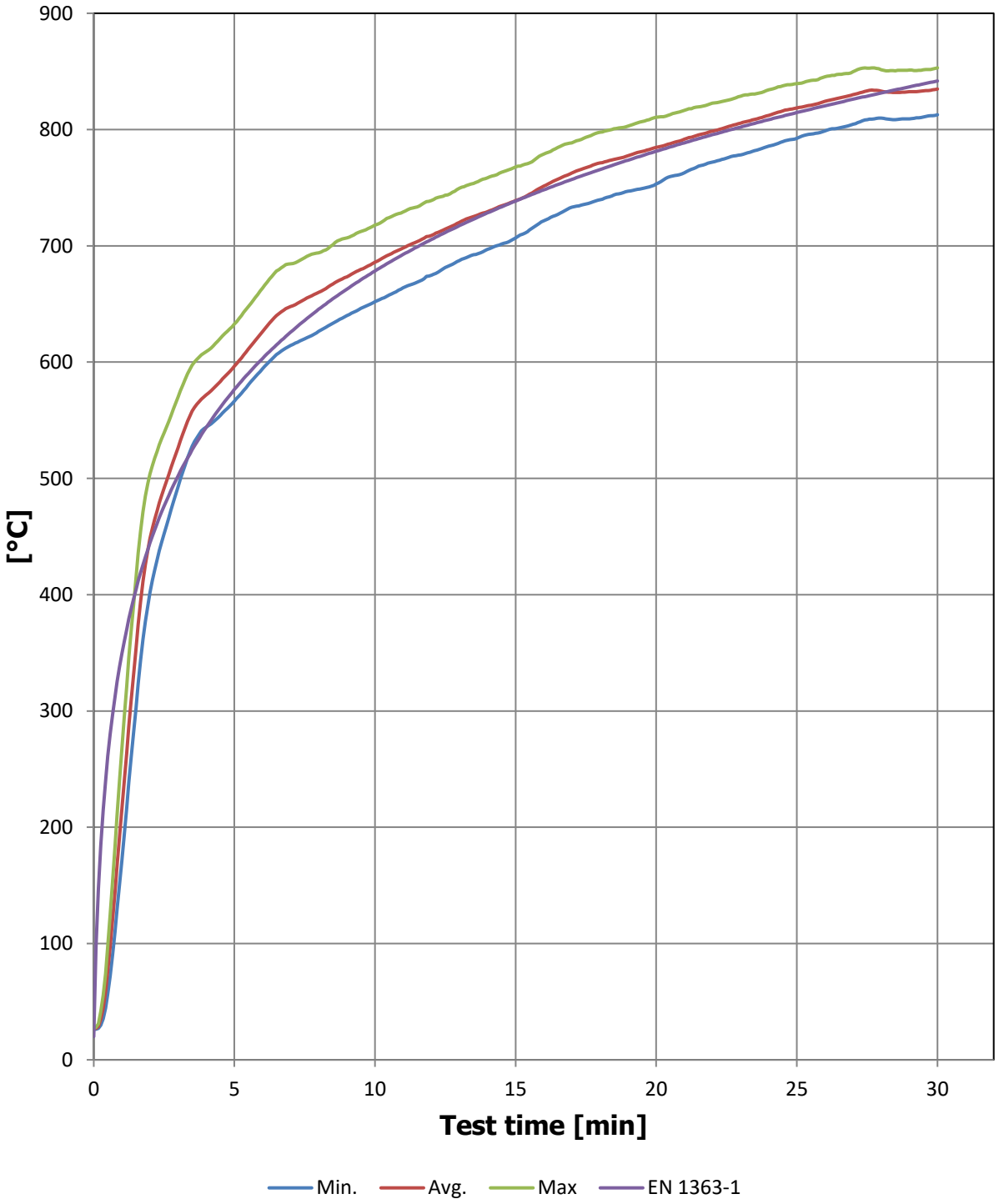
Tekment A/S	**Enclosures:**	**35**
Bakkevej 19	DBI drawings:	0
5750 Ringe	DBI graphs and tables:	16
Denmark	Photo sheets:	13
	Sponsors drawings:	6

Furnace temperature

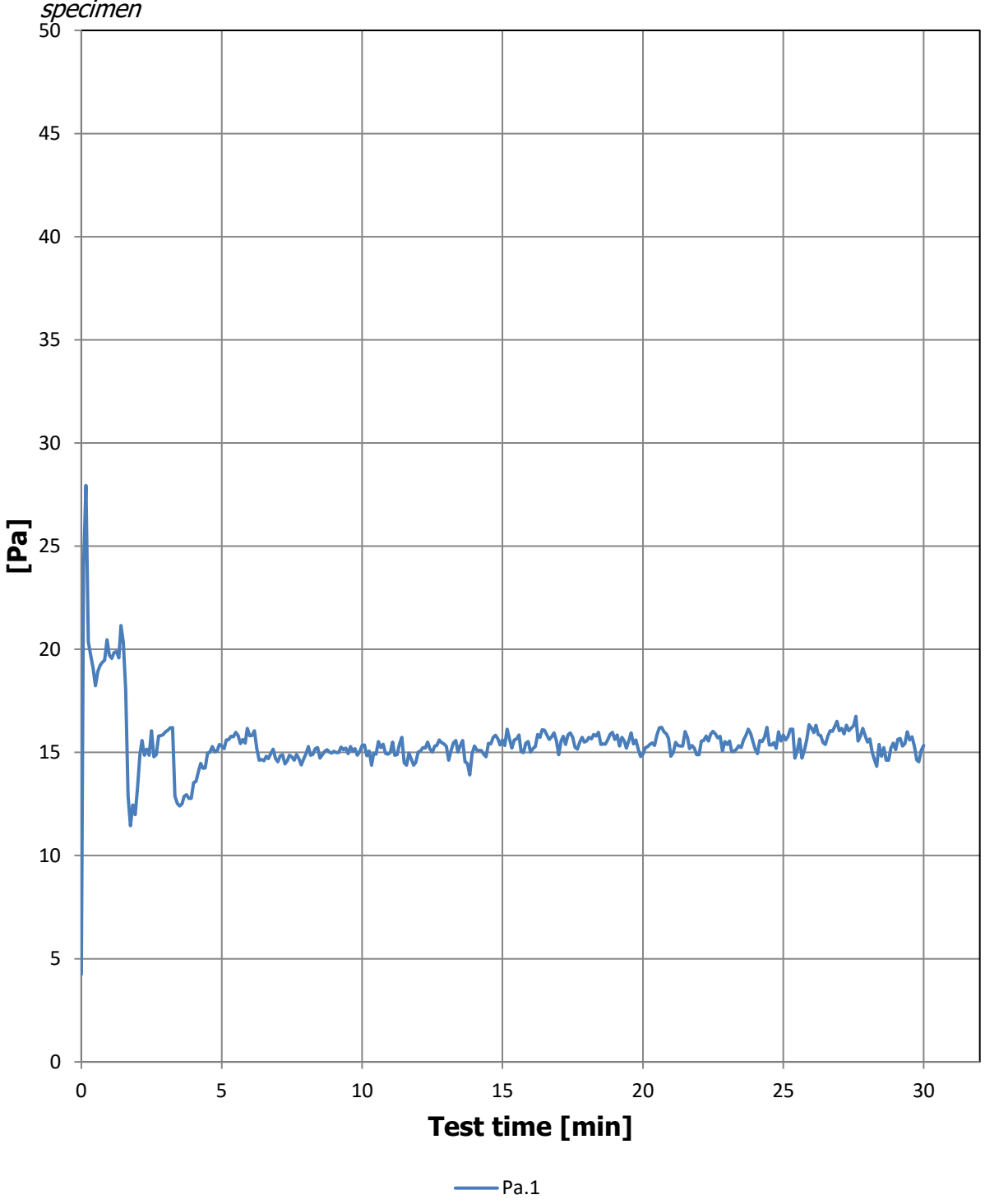


Furnace temperature

Time	Measured			Norm	Area under curve			
Minutes	Minimum	Average	Maximum	EN 1363-1	Measured	EN 1363-1	Dev. [%]	Limit [%]
0	26	27	27	20	0	0	0.0	
1	172	216	268	349	93	240	-61.4	
2	402	448	504	445	439	642	-31.5	
3	493	527	570	502	930	1117	-16.8	
4	544	572	609	544	1484	1641	-9.6	
5	566	597	633	576	2068	2202	-6.1	
6	594	626	664	603	2679	2792	-4.0	15
7	614	648	684	626	3318	3407	-2.6	15
8	627	660	694	645	3972	4042	-1.7	15
9	640	673	707	663	4639	4697	-1.2	15
10	652	686	718	678	5318	5368	-0.9	15
11	664	698	729	693	6011	6053	-0.7	15
12	675	709	739	705	6714	6752	-0.6	14
13	687	720	749	717	7429	7464	-0.5	14
14	697	729	758	728	8154	8187	-0.4	13
15	707	739	768	739	8888	8920	-0.4	13
16	722	751	779	748	9633	9663	-0.3	12
17	733	763	789	757	10390	10416	-0.3	12
18	740	771	798	766	11157	11178	-0.2	11
19	747	778	803	774	11932	11947	-0.1	11
20	753	785	811	781	12713	12725	-0.1	10
21	763	792	816	789	13501	13510	-0.1	10
22	772	799	823	796	14296	14302	0.0	9
23	778	806	829	802	15098	15101	0.0	9
24	786	812	834	809	15907	15906	0.0	8
25	793	819	840	815	16723	16718	0.0	8
26	799	824	845	820	17544	17535	0.0	7
27	805	830	850	826	18371	18359	0.1	7
28	810	833	852	832	19204	19188	0.1	6
29	809	833	851	837	20036	20022	0.1	6
30	813	835	853	842	20869	20861	0.0	5

Horizontal furnace pressure

The differential pressure in the furnace during the test, measured in the top of the test specimen



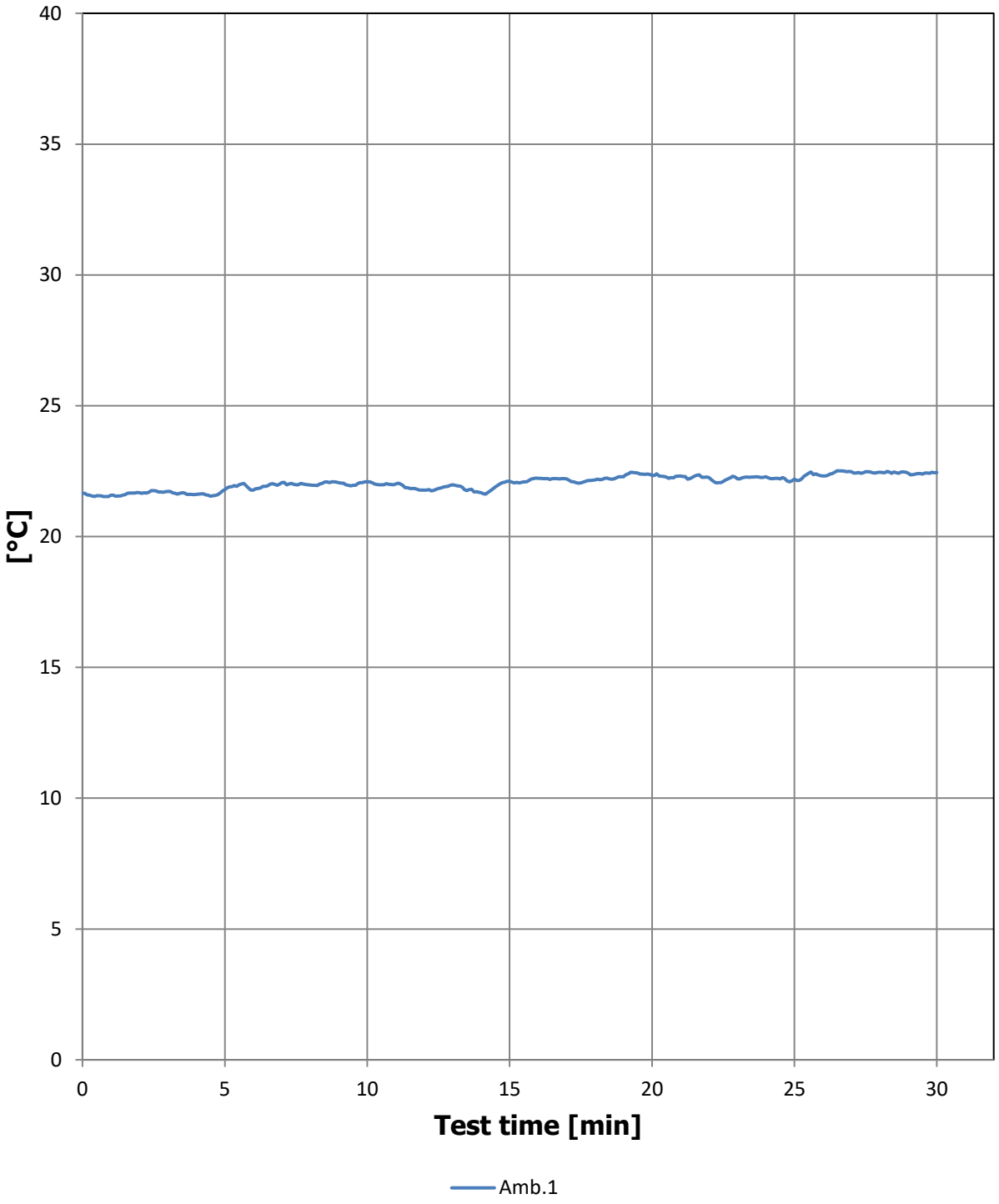
Horizontal furnace pressure

The differential pressure in the furnace during the test, measured in the top of the test specimen

Min. / Pa	Pa.1
0	4.2
1	19.7
2	13.3
3	16.0
4	13.5
5	15.3
6	15.8
7	14.5
8	14.9
9	15.1
10	15.3
11	15.0
12	15.0
13	15.3
14	15.3
15	15.6
16	15.0
17	14.9
18	15.6
19	15.6
20	14.9
21	14.8
22	14.9
23	15.4
24	15.2
25	15.8
26	16.2
27	16.1
28	15.5
29	15.1
30	15.3

Ambient temperature

The ambient temperature in the laboratory during the test



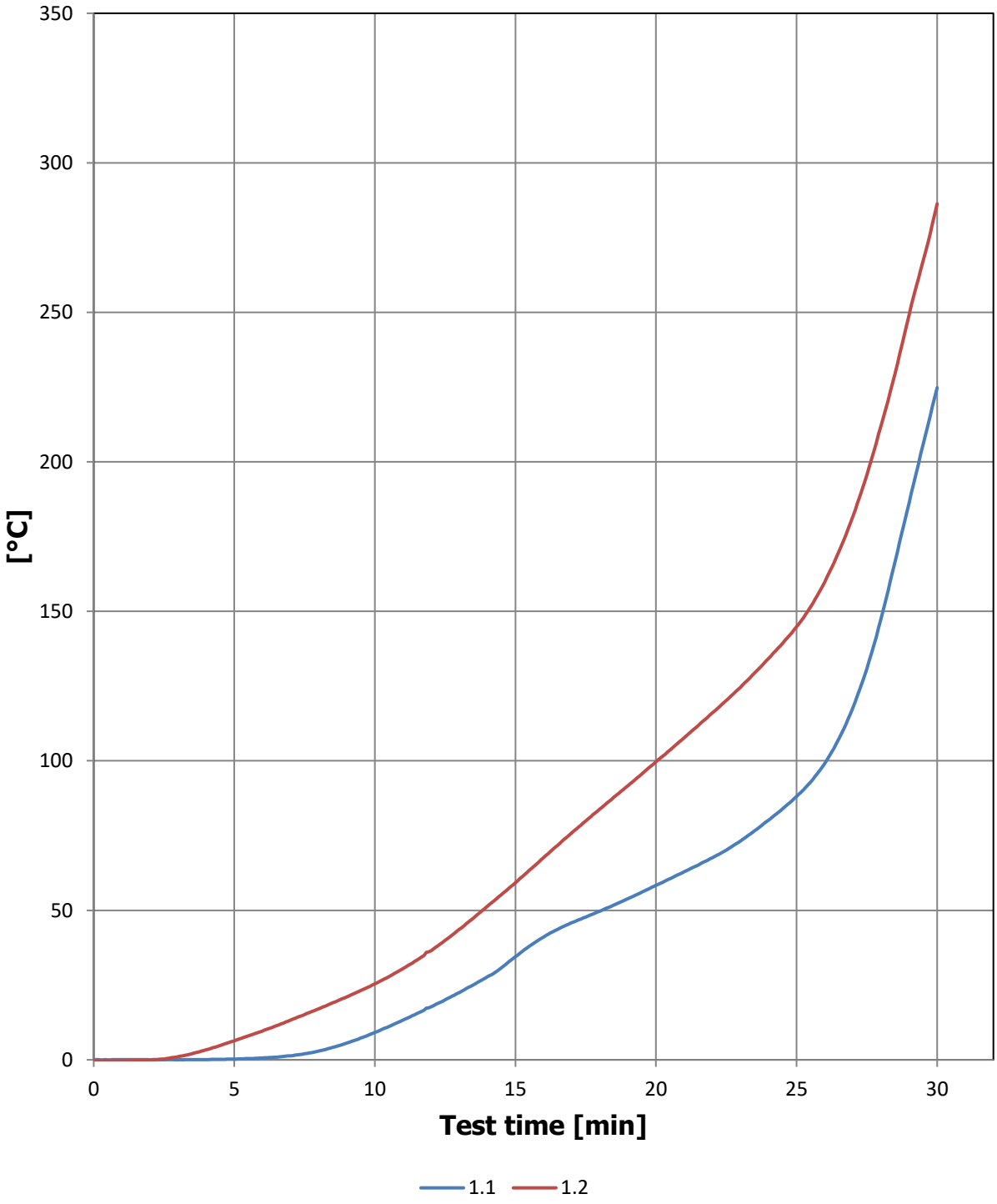
Ambient temperature

The ambient temperature in the laboratory during the test

Min. / °C	Amb.1
0	21.7
1	21.6
2	21.7
3	21.7
4	21.6
5	21.8
6	21.8
7	22.1
8	22.0
9	22.1
10	22.1
11	22.0
12	21.8
13	22.0
14	21.7
15	22.1
16	22.2
17	22.2
18	22.2
19	22.3
20	22.3
21	22.3
22	22.3
23	22.2
24	22.3
25	22.2
26	22.3
27	22.5
28	22.5
29	22.4
30	22.5

Outlet A

Temperature measured inside the test specimen



X.1 was measured behind the outlet, X.2 was measured above the outlet

Outlet A

Temperature measured inside the test specimen

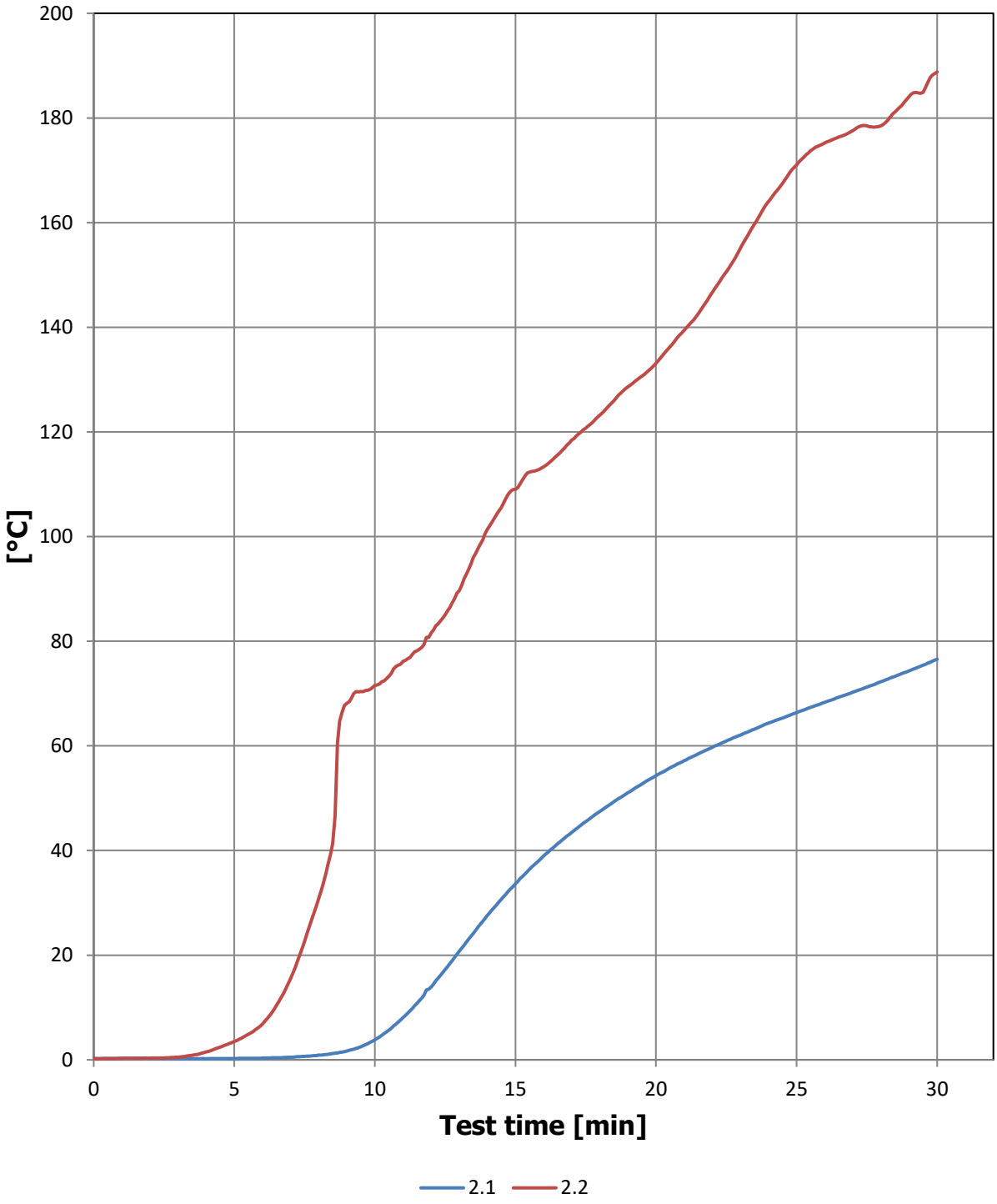
Min. / °C	1.1	1.2	1.Max
0	0	0	0
1	0	0	0
2	0	0	0
3	0	1	1
4	0	3	3
5	0	6	6
6	1	10	10
7	1	13	13
8	3	17	17
9	6	21	21
10	9	25	25
11	13	30	30
12	18	37	37
13	23	44	44
14	28	51	51
15	34	59	59
16	41	68	68
17	46	76	76
18	50	84	84
19	54	92	92
20	58	100	100
21	63	108	108
22	68	116	116
23	73	125	125
24	80	134	134
25	88	145	145
26	99	160	160
27	118	182	182
28	147	212	212
29	186	249	249
30	225	286	286

Failure [min]	-	29.58	29.58
Failure°C	270	270	270

X.1 was measured behind the outlet, X.2 was measured above the outlet

Outlet B

Temperature measured inside the test specimen



X.1 was measured behind the outlet, X.2 was measured above the outlet

Outlet B

Temperature measured inside the test specimen

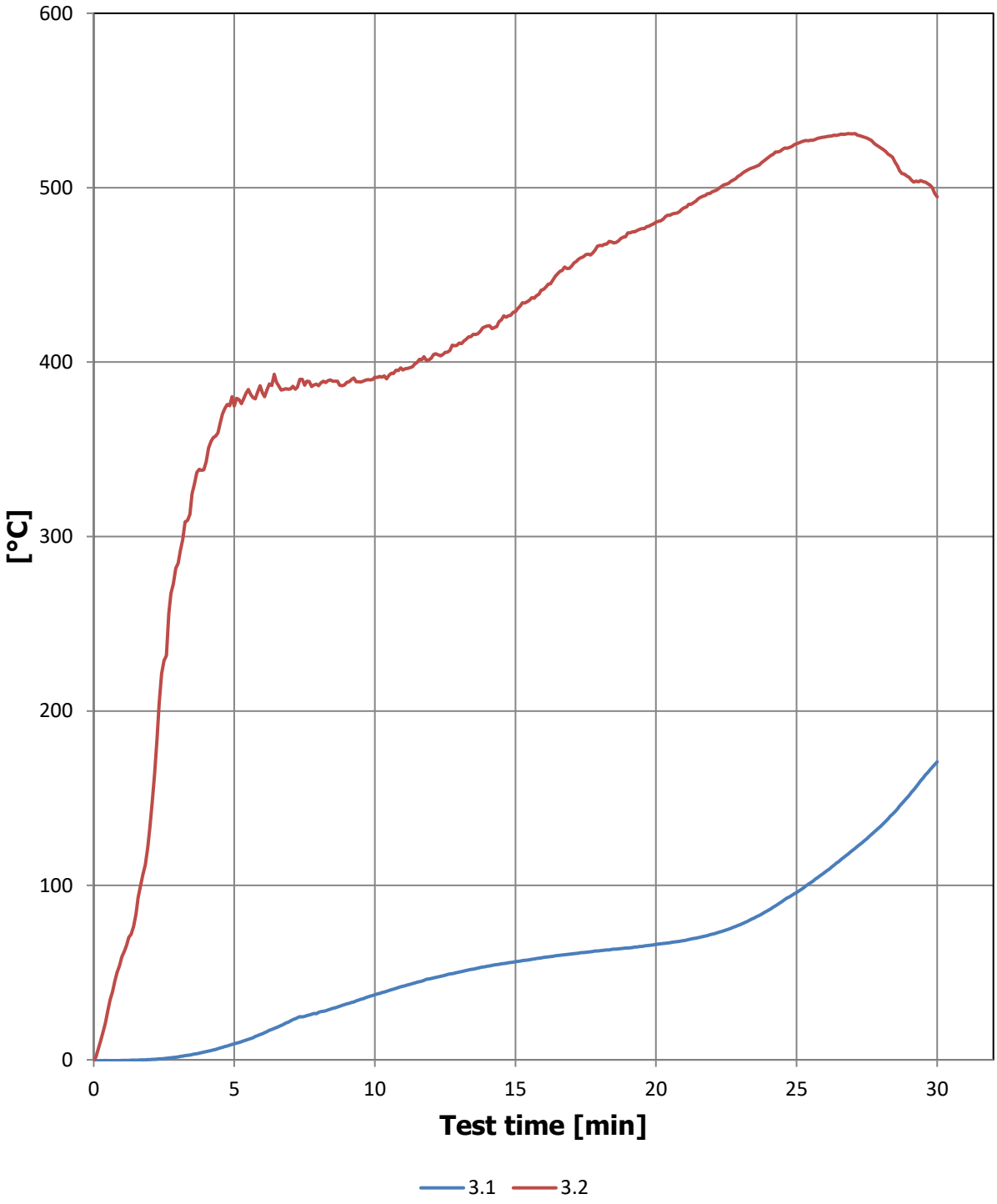
Min. / °C	2.1	2.2	2.Max
0	0	0	0
1	0	0	0
2	0	0	0
3	0	1	1
4	0	1	1
5	0	4	4
6	0	7	7
7	0	16	16
8	1	31	31
9	2	68	68
10	4	72	72
11	8	76	76
12	14	82	82
13	21	90	90
14	28	101	101
15	34	109	109
16	39	113	113
17	43	118	118
18	47	123	123
19	51	129	129
20	54	133	133
21	57	139	139
22	60	147	147
23	62	155	155
24	64	164	164
25	66	171	171
26	68	175	175
27	70	178	178
28	72	179	179
29	74	184	184
30	77	189	189

Failure [min]	-	-	-
Failure°C	270	270	270

X.1 was measured behind the outlet, X.2 was measured above the outlet

Outlet C

Temperature measured inside the test specimen



X.1 was measured behind the outlet, X.2 was measured above the outlet

Outlet C

Temperature measured inside the test specimen

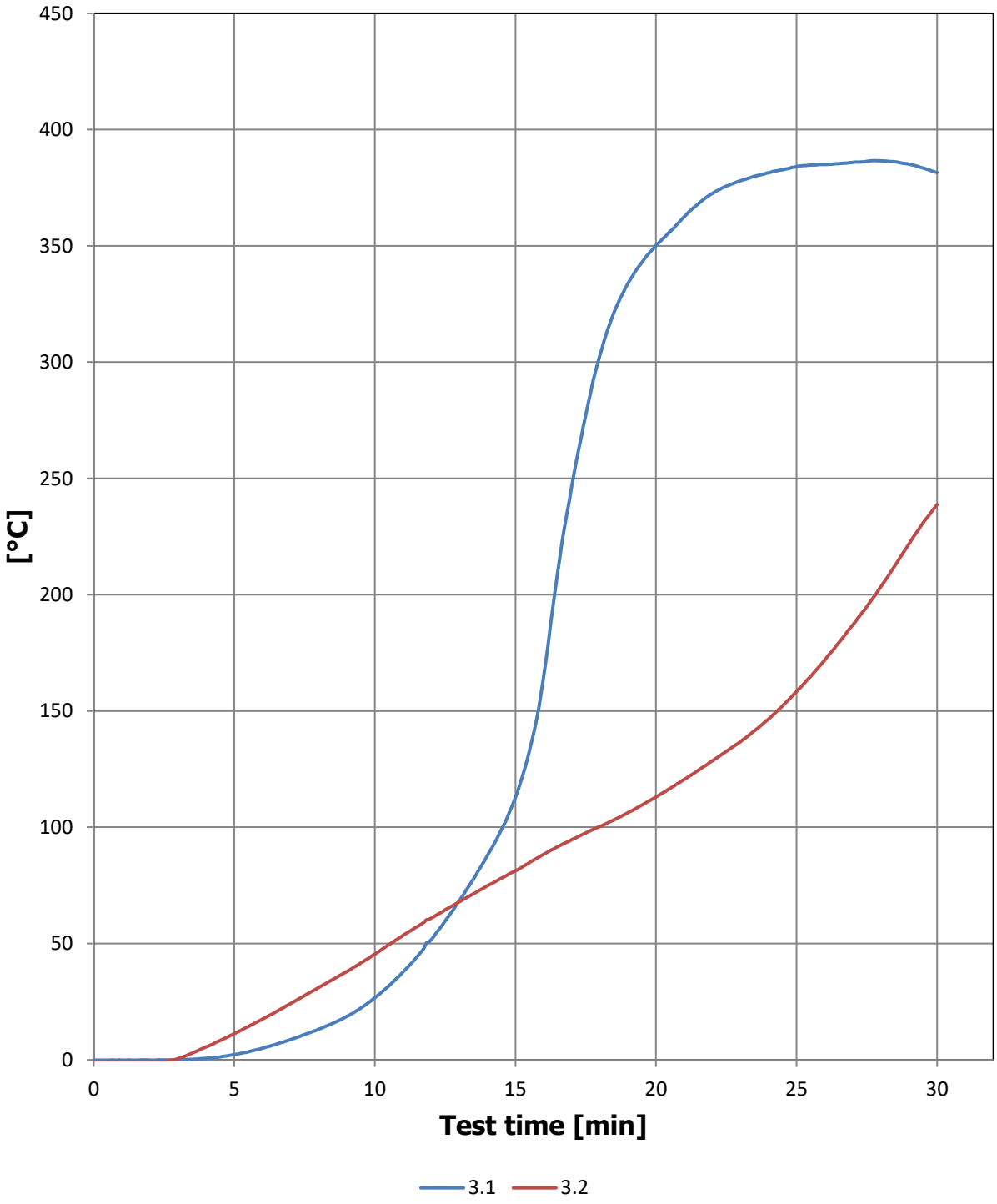
Min. / °C	3.1	3.2	3.Max
0	0	-1	0
1	0	59	59
2	0	133	133
3	2	285	285
4	5	343	343
5	9	375	375
6	15	382	382
7	22	385	385
8	27	386	386
9	32	388	388
10	37	391	391
11	42	396	396
12	47	402	402
13	50	411	411
14	54	421	421
15	56	429	429
16	59	442	442
17	61	455	455
18	63	467	467
19	64	474	474
20	66	480	480
21	68	489	489
22	72	498	498
23	78	507	507
24	86	518	518
25	96	525	525
26	107	529	529
27	120	531	531
28	134	523	523
29	152	506	506
30	171	495	495

Failure [min]	-	2.75	2.75
Failure°C	270	270	270

X.1 was measured behind the outlet, X.2 was measured above the outlet

Outlet D

Temperature measured inside the test specimen



X.1 was measured behind the outlet, X.2 was measured above the outlet

Outlet D

Temperature measured inside the test specimen

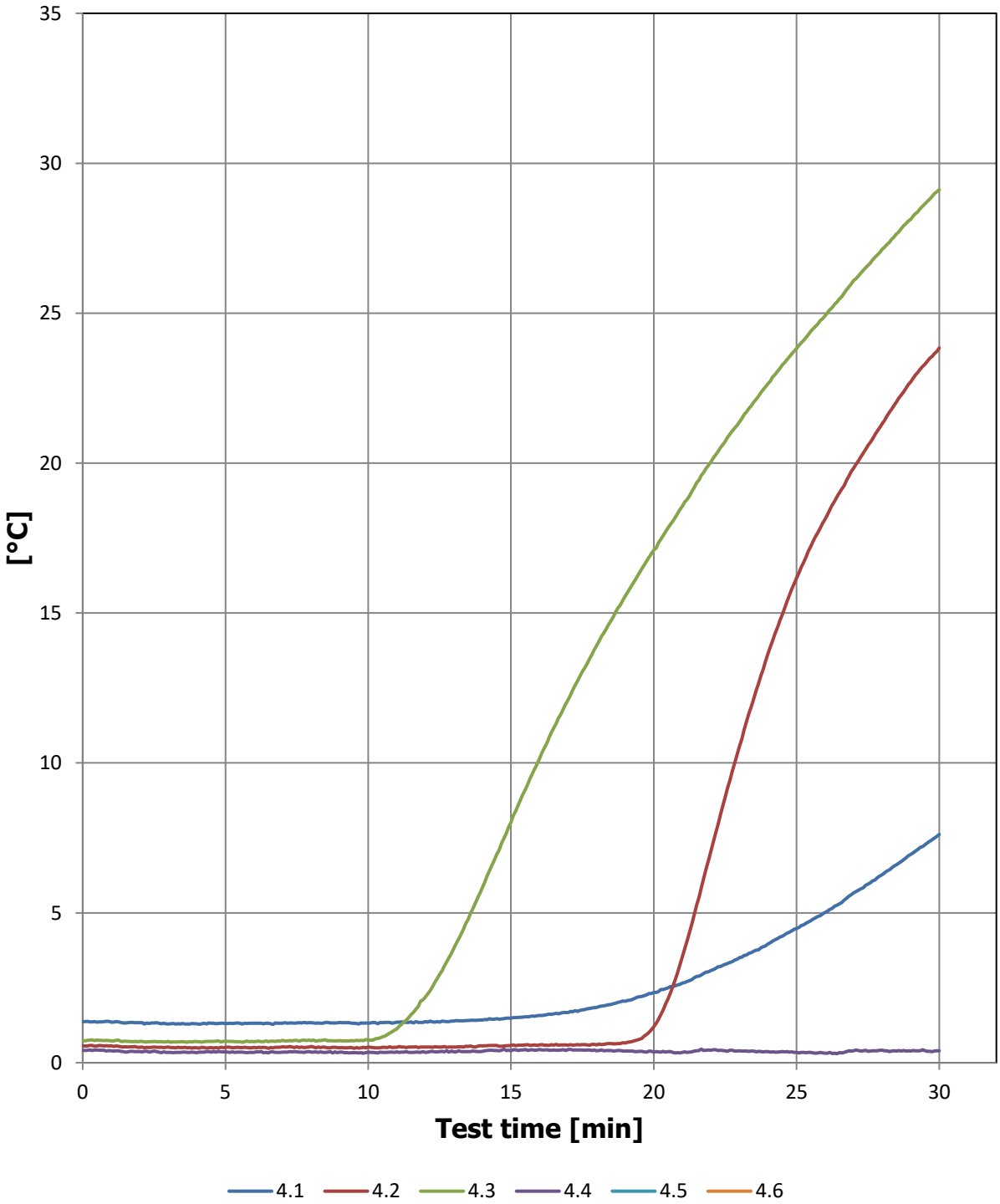
Min. / °C	3.1	3.2	3.Max
0	0	-1	0
1	0	-1	0
2	0	-1	0
3	0	1	1
4	1	6	6
5	2	11	11
6	5	18	18
7	9	24	24
8	13	31	31
9	19	38	38
10	27	45	45
11	38	53	53
12	52	61	61
13	68	68	68
14	88	75	88
15	113	81	113
16	165	88	165
17	246	95	246
18	303	100	303
19	334	106	334
20	350	113	350
21	363	121	363
22	372	129	372
23	378	137	378
24	381	147	381
25	384	158	384
26	385	172	385
27	386	187	386
28	387	203	387
29	385	222	385
30	382	239	382

Failure [min]	17.33	-	17.33
Failure°C	270	270	270

X.1 was measured behind the outlet, X.2 was measured above the outlet

Window

Temperature measured inside the test specimen



The thermocouples was placed clock wise starting at the top left corner

Window

Temperature measured inside the test specimen

Min. / °C	4.1	4.2	4.3	4.4	4.5	4.6	4.Max
0	1	1	1	0	0	0	1
1	1	1	1	0	0	0	1
2	1	1	1	0	0	0	1
3	1	1	1	0	0	-1	1
4	1	1	1	0	0	-1	1
5	1	1	1	0	0	-1	1
6	1	1	1	0	0	-1	1
7	1	1	1	0	0	-1	1
8	1	1	1	0	0	-1	1
9	1	1	1	0	0	-1	1
10	1	1	1	0	0	-1	1
11	1	1	1	0	0	-1	1
12	1	1	2	0	0	-1	2
13	1	1	4	0	0	-1	4
14	1	1	6	0	0	-1	6
15	1	1	8	0	0	-1	8
16	2	1	10	0	0	-1	10
17	2	1	12	0	0	-1	12
18	2	1	14	0	0	-1	14
19	2	1	16	0	0	-1	16
20	2	1	17	0	0	-1	17
21	3	4	19	0	0	-1	19
22	3	7	20	0	0	-1	20
23	4	11	21	0	0	-1	21
24	4	14	23	0	0	-1	23
25	4	16	24	0	0	-1	24
26	5	18	25	0	0	-1	25
27	6	20	26	0	0	-1	26
28	6	21	27	0	0	-1	27
29	7	23	28	0	0	-1	28
30	8	24	29	0	0	-1	29

Failure [min]	-	-	-	-	-	-	-
Failure°C	270	270	270	270	270	270	270

The thermocouples was placed clock wise starting at the top left corner



Photo No. 1 The wall during mounting at the sponsor. (Sponsors photo).



Photo No. 2 The wall during mounting at the sponsor. (Sponsors photo).

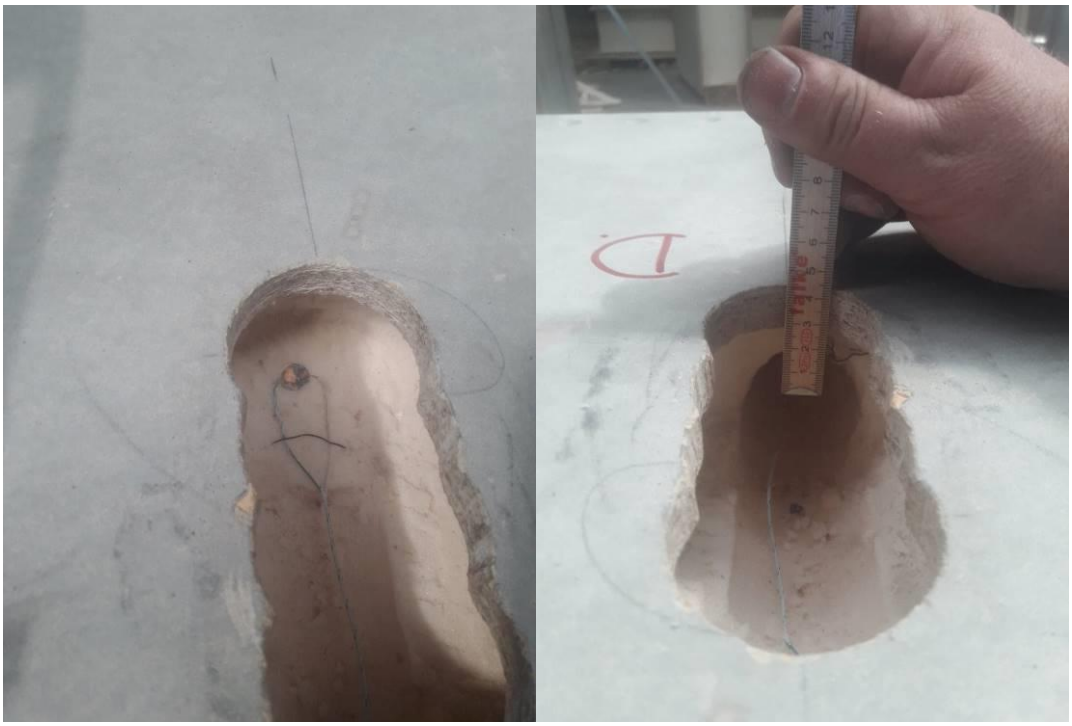


Photo No. 3 The wall during mounting at the sponsor. (Sponsors photo).



Photo No. 4 The wall during mounting at the sponsor. (Sponsors photo).



Photo No. 5 The wall during mounting at the sponsor. (Sponsors photo).



Photo No. 6 The wall during mounting at the sponsor. (Sponsors photo).



Photo No. 7 Unexposed side of the wall after it had arrived at DBI.



Photo No. 8 Upper half of the exposed side of the wall before the fire test.



Photo No. 9 Lower half of the exposed side of the wall before the fire test.



Photo No. 10 Side view of the wall.

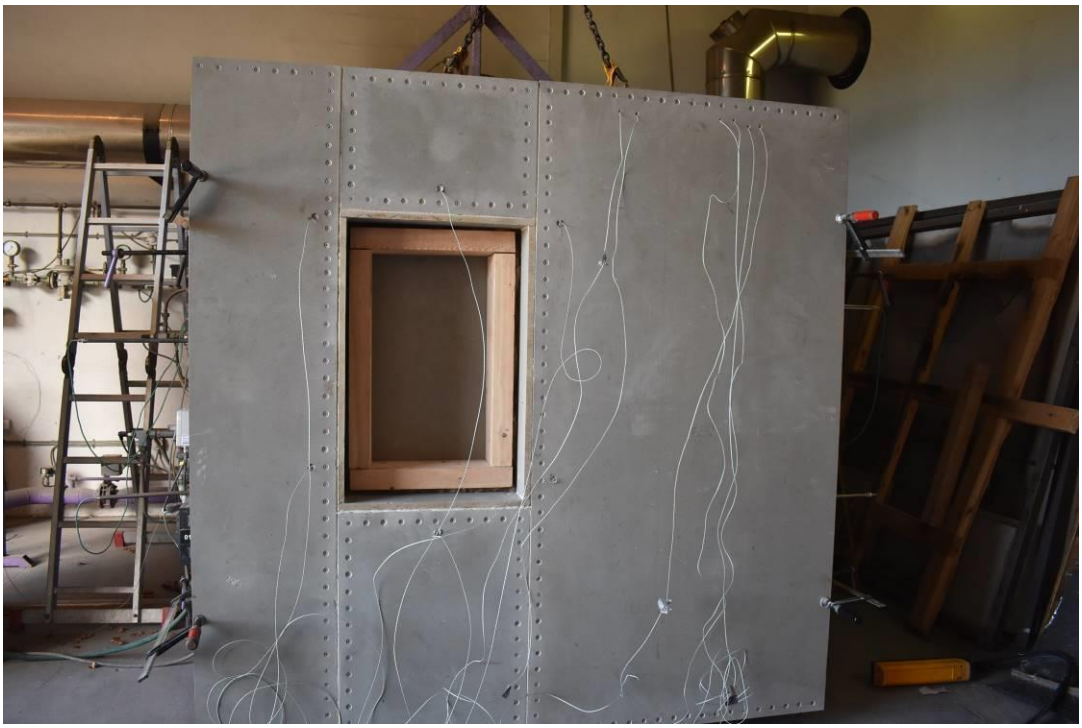


Photo No. 11 The wall at the start of the test.

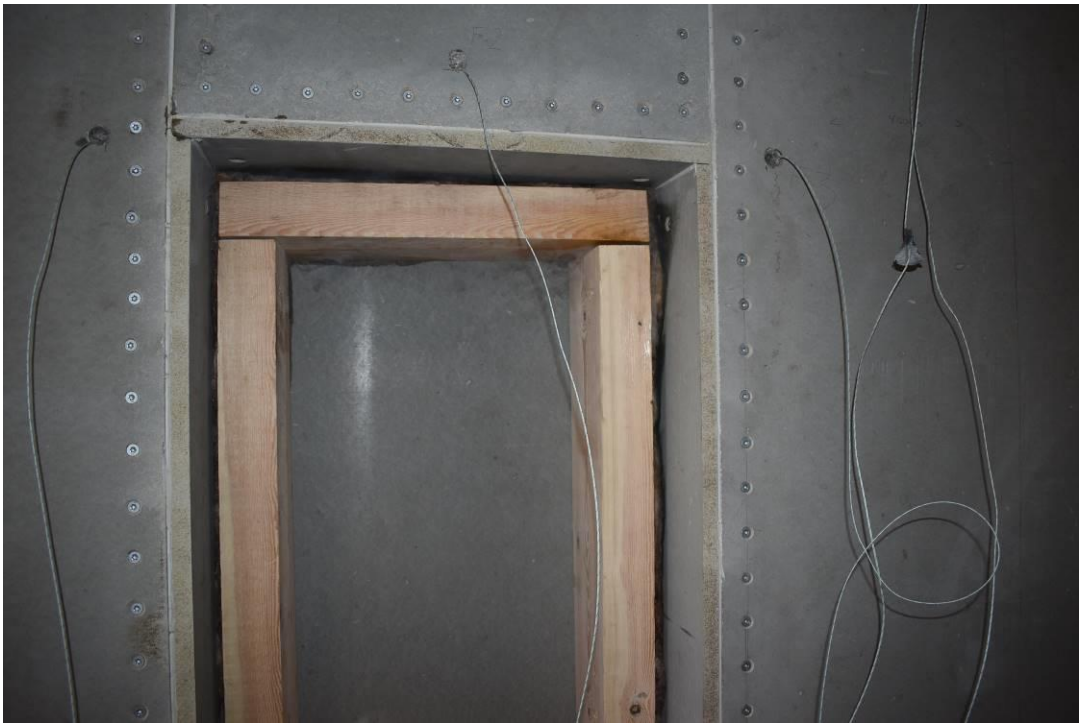


Photo No. 12 The window after approx. 30 minutes of testing.



Photo No. 13 The wall after approx. 40 minutes of testing.



Photo No. 14 The wall right after the fire test. The fire is put out with water.



Photo No. 15 Outlet A, right after the fire test.



Photo No. 16 Outlet B, right after the fire test.



Photo No. 17 Outlet C, right after the fire test.



Photo No. 18 Outlet D, right after the fire test.



Photo No. 19 The window right after the fire test.



Photo No. 20 The exposed side of the wall after the fire test. Some of the burnt material has been cut away to access the damages.



Photo No. 21 Outlet D after the test, where the burned material have been cut away to assess the damages



Photo No. 22 Outlet A after the test, where the burned material have been cut away to assess the damages



Photo No. 23 Outlet C after the test, where the burned material has been cut away to assess the damages. The fire had spread inside the Ø50 mm pipe hole.



Photo No. 24 Outlet D after the test, where the burned material has been cut away to assess the damages



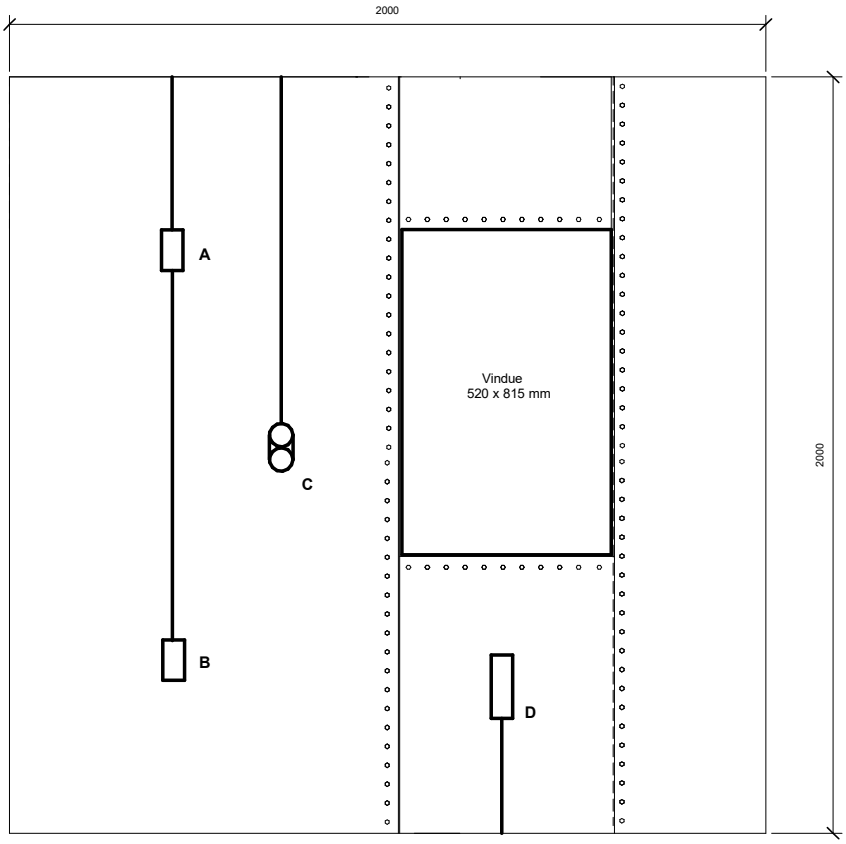
Photo No. 25 The window after the test after the Cetris boards have been removed.



Photo No. 26 The window after the test after the Cetris boards have been removed.

DBI
PGO10102A

Tegnin
A001



BRANDTEST AF EL-INDSTØBNINGER & FALS

STIKDÅSER:

Der testes med LK FUGA® forfradåser og opskummes med
Protecta FR Foam omkring 50 mm hul på alle elindstøbningen

A: 2,5 modul - 57 x 136 mm FUGA AIR (dåse blå)
(Testes med: Protecta FR Foam
2 stk. Firefree® brandbrik
2 x 16 mm flexrør

B: 2 ,5 modul - 57 x 136 mm FUGA AIR Brandsikker (Rød dåse)
(Testes med: Firefree® Brandtætningsskum 2K
2 x 16 mm flexrør fra bund

c: 2 modul EURO - 2 x Ø68 mm
(Testes med: Protecta FR Foam 50 mm.
10 mm Firefree® Brandtætningsskum 2K
2 x 20 mm flexrør

D: 2,5 modul - 57 x 136 mm LK Opus 66
Forbundet med nedenunder siddende stikdåse
(Testes med: Protecta FR Foam
2 stk. Firefree® brandbrik

se snittegninger af indstøbning af dåser

FALS:

Phonotherm 200 som fals - 60 x 300 mm.
Tæthedslukning med Protecta FR FOAM
22 x 50 mm Kalciumkarbonat Firefree® Scandiboard 850
18 mm. CETRIS BASIC cementspånplade afslutning
Tætning med Protecta Acrylic omkring samlinger

TEKMENT
MAKE IT SIMPLE • BUILD IT GREEN

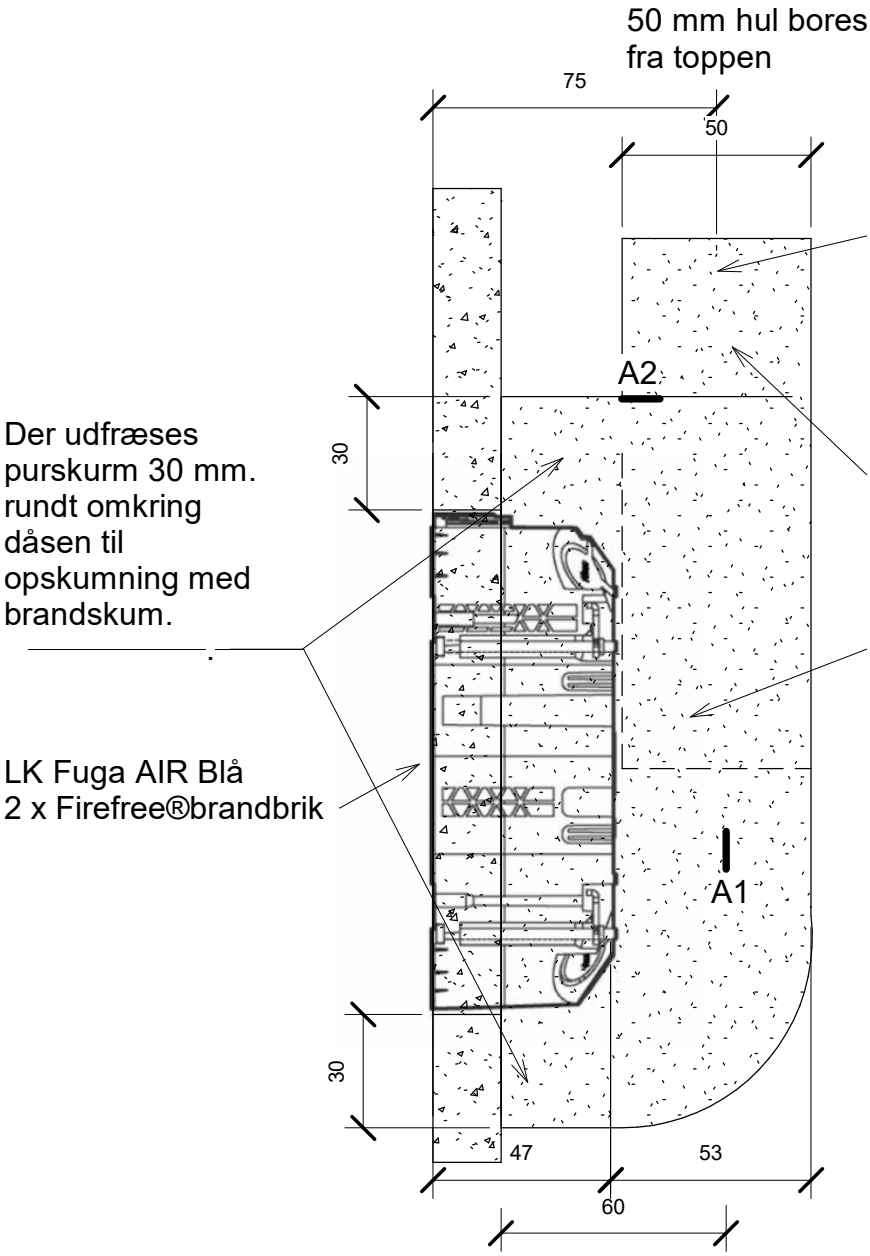
TEKMENT A/S
Projekt
BRANDTEST
DBI
Matr.
Emn
Helvægselement brandtest

1M 2M 3M 4M 5M

Format A3
Sag Author
Tegn Checker
Kontrol 05/10/19
1 : 10

Tegnin
A001

EL-INDSTØBNINGER
DÅSE A



Der udfræses purskurm 30 mm. rundt omkring dåsen til opskumning med brandskum.

LK Fuga AIR Blå
2 x Firefree®brandbrik

Der bores vertikalt ned igennem sandwichselement med 50 mm bor center 75 mm. fra forkant af cementspånplade.

Lukning hul med Protecta FR Foam

Opskumning bagved dåse med:
- Protecta FR Foam

DBI
PGO10102A

A1 termostat bagved dåsen. 60 mm. fra bagside plade

A2 termostat over dåse 30 mm. inde

TEKMENT
MAKE IT SIMPLE • BUILD IT GREEN

TEKMENT A/S

Projekt
BRANDTEST
DBI

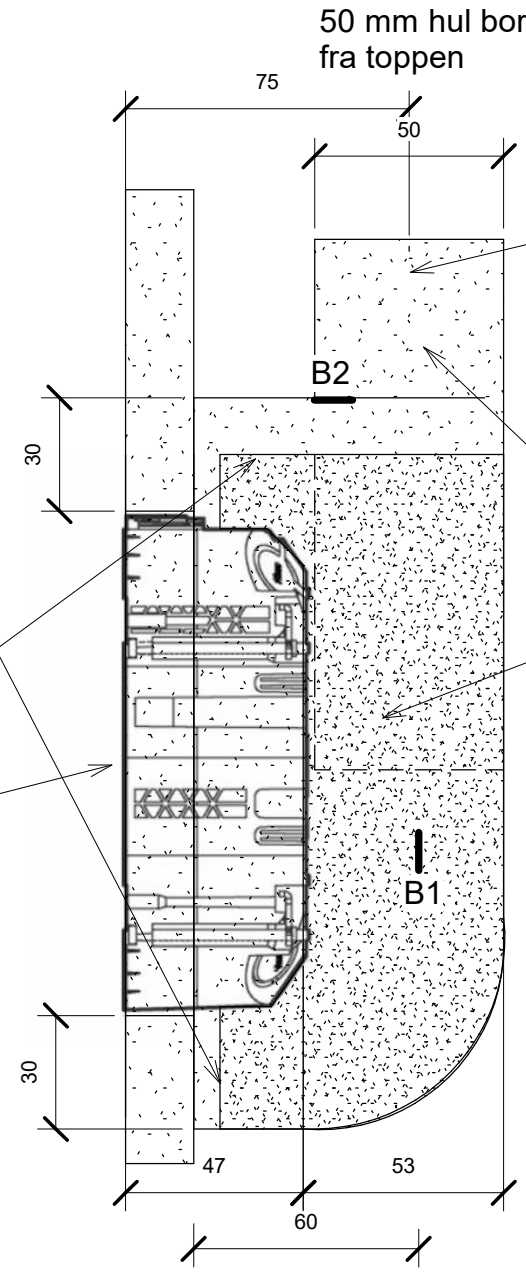
Matr.

Emn
Snittegning stikdåse A

1M 2M 3M 4M 5M

Format	A3
Author	
Sag	Checker
Tegn	07/03/19
Kontrol	1 : 2

EL-INDSTØBNINGER
DÅSE B



Der udfræses purskurm 30 mm. rundt omkring dåsen til opskumning med brandskum.

LK Fuga AIR
Brandsikker rød

Der bores vertikalt ned igennem sandwichselement med 50 mm bor center 75 mm. fra forkant af cementspånplade.

Lukning hul med
Protecta FR Foam

Opskumning bagved dåse med:
- Firefree® Brandtætningsskum 2K 40 mm.

DBI
PGO10102A

B1 termostat bagved dåsen. 60 mm. fra bagside plade

B2 termostat over dåse 30 mm. inde

TEKMENT
MAKE IT SIMPLE • BUILD IT GREEN

TEKMENT A/S

Projekt
BRANDTEST
DBI

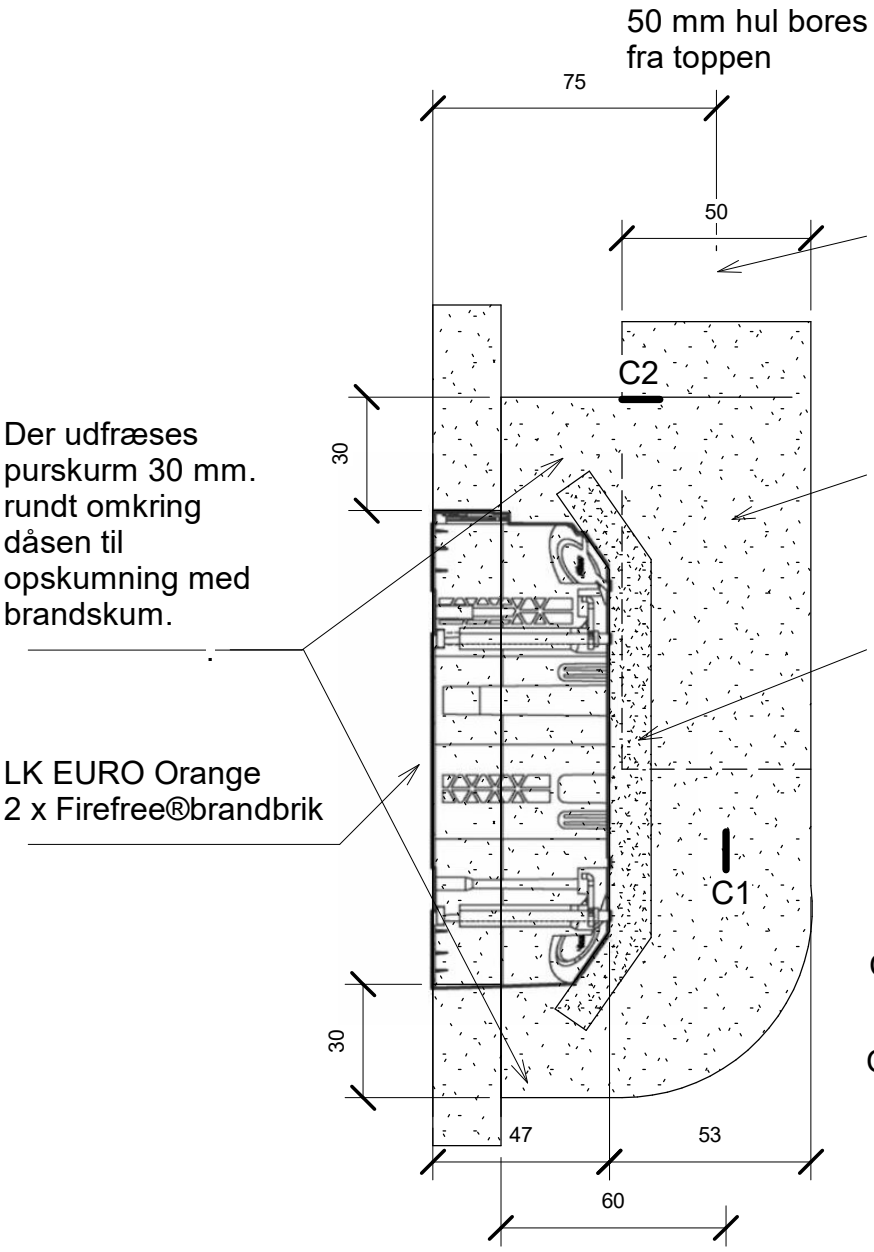
Matr.

Emn
Snittegning B

1M 2M 3M 4M 5M

Format	A3
	Author
Sag	Checker
Tegn	07/08/19
Kontrol	1 : 2

EL-INDSTØBNINGER
DÅSE C



Der bores vertikalt ned igennem sandwichselement med 50 mm bor center 75 mm. fra forkant af cementspånplade.

Der udfræses purskurm 30 mm. rundt omkring dåsen til opskumning med brandskum.

LK EURO Orange
2 x Firefree®brandbrik

Opskumning bagved dåse med:
- Firefree® Brandtætningsskum 2K 40 mm.

DBI
PGO10102A

C1 termostat bagved dåsen. 60 mm. fra bagside plade

C2 termostat over dåse 30 mm. inde

TEKMENT
MAKE IT SIMPLE • BUILD IT GREEN

TEKMENT A/S

Projekt
BRANDTEST
DBI

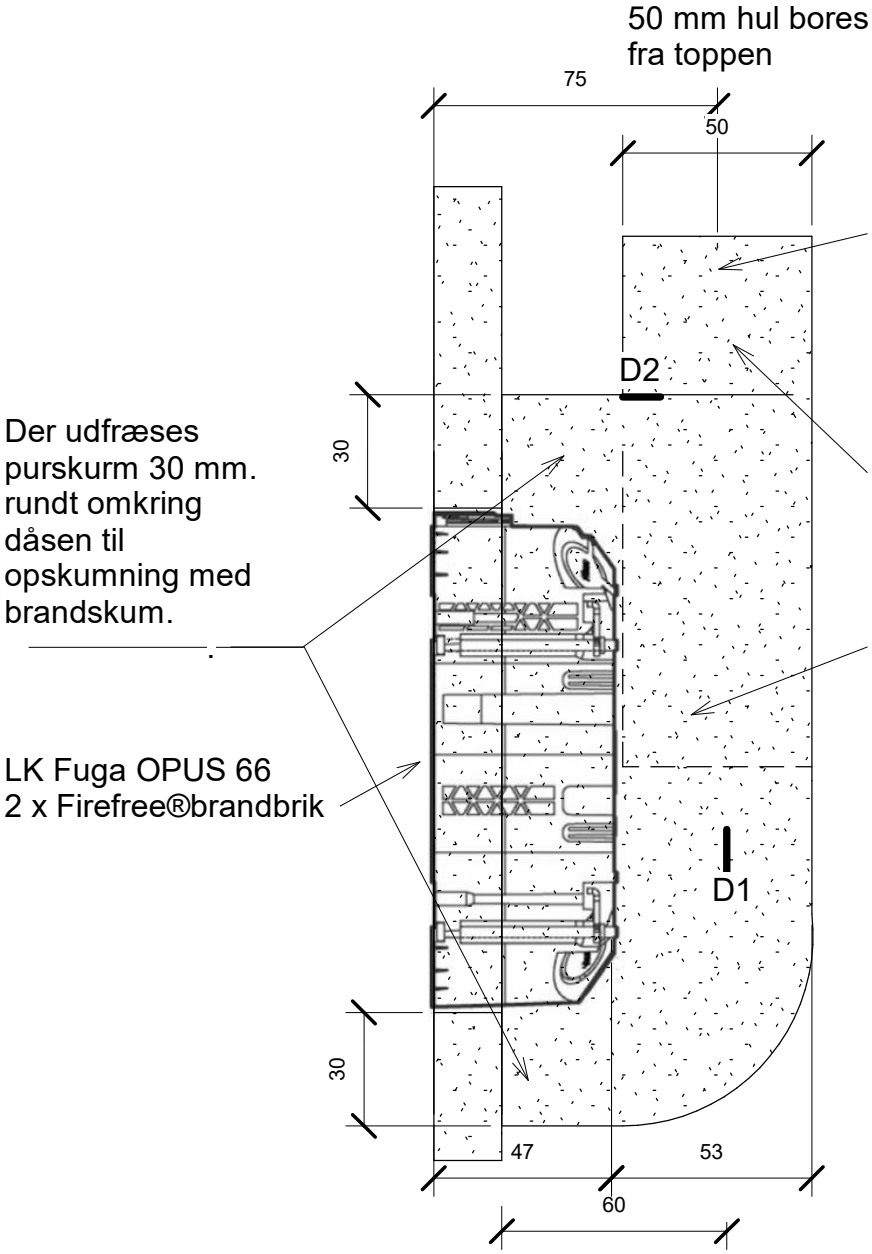
Matr.

Emn
Snittegning dåse C

1M 2M 3M 4M 5M

Format	A3
Sag	Author
Tegn	Checker
Kontrol	07/08/19
	1 : 2

EL-INDSTØBNINGER
DÅSE D



Der bores vertikalt ned igennem sandwichselement med 50 mm bor center 75 mm. fra forkant af cementspånplade.

Lukning hul med Protecta FR Foam

Opskumning bagved dåse med:
- Protecta FR Foam

DBI
PGO10102A

A1 termostat bagved dåsen. 60 mm. fra bagside plade

A2 termostat over dåse 30 mm. inde

TEKMENT
MAKE IT SIMPLE • BUILD IT GREEN

TEKMENT A/S

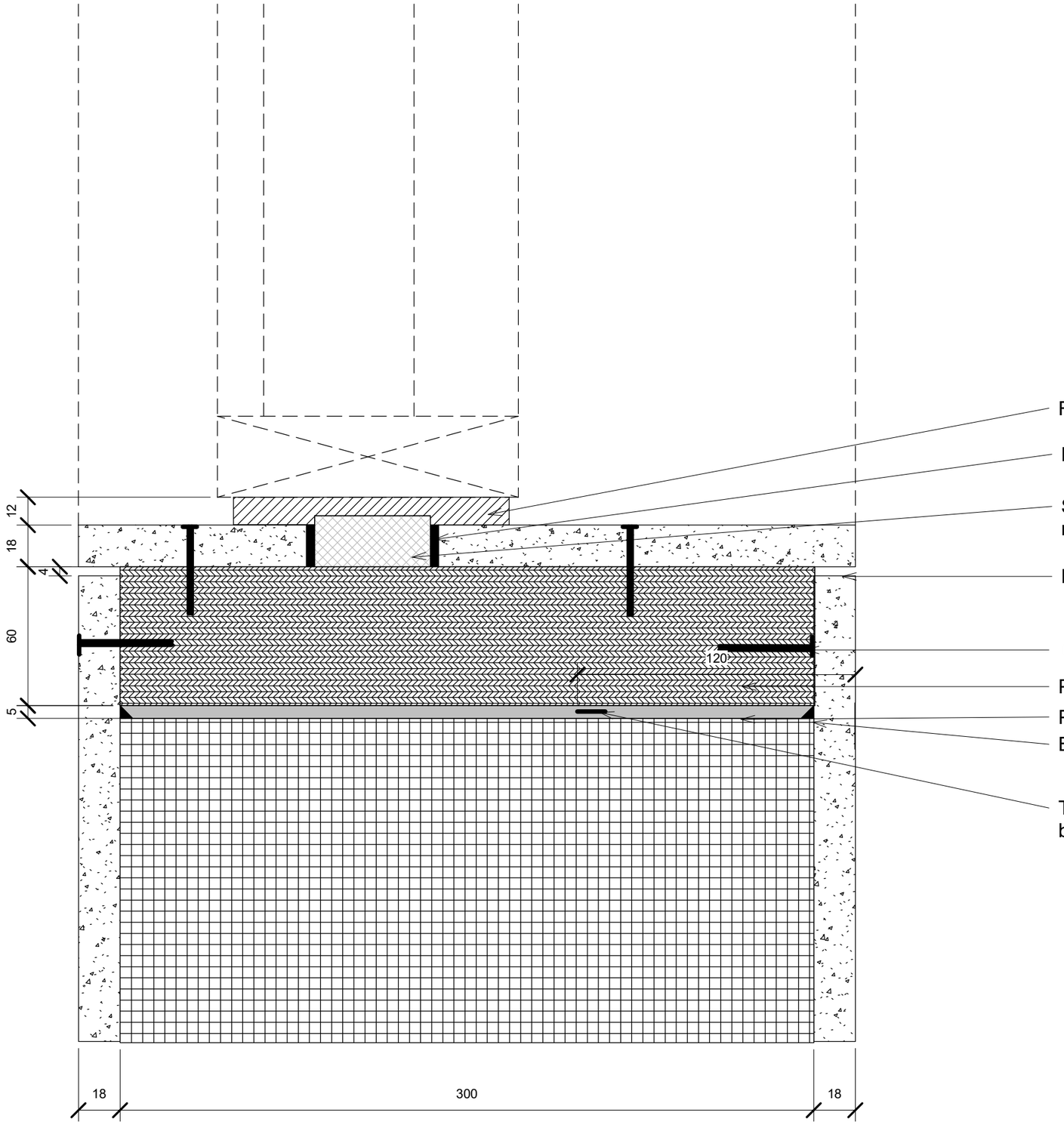
Projekt
BRANDTEST
DBI

Matr.

Emn
Snittegning dåse D

1M 2M 3M 4M 5M

Format	A3
Sag	Author
Tegn	Checker
Kontrol	07/09/19
	1 : 2



Rockwool fugestrimmel isolering

Brandfuge 4 mm Protecta Acrylic

ScandiBoard -Kalciumsilikat 22 mm. bredde tilpasses efter dør-vinduesramme
min. 50 mm. bredde. skal sidde under midt

Brandfuge 4 mm Protecta Acrylic

6 x 60 mm skrue

Phonotherm 200 - Regenereret Pur

Protecta FR Foam

Brandfuge Protecta Acrylic

Termostater til brandtest 120 mm. fra facade
bagved Phonotherm 200

DBI
PGO10102A

TEKMENT
MAKE IT SIMPLE • BUILD IT GREEN

TEKMENT A/S

Projekt
BRANDTEST
DBI

Matr.

Emn
Detaljetegning - FALS

1M 2M 3M 4M 5M

Format	A3
Sag	Author
Tegn	Checker
Kontrol	07/09/19
	1 : 2

Tegnin
A006