DBI
FIRE AND SECURITY

Test Report
EU facade test 1

Name of sponsor:	DBI		
Product name:	EU facade test draft 6		
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Test date:	31-08-2023	**Date:**	05-10-2023
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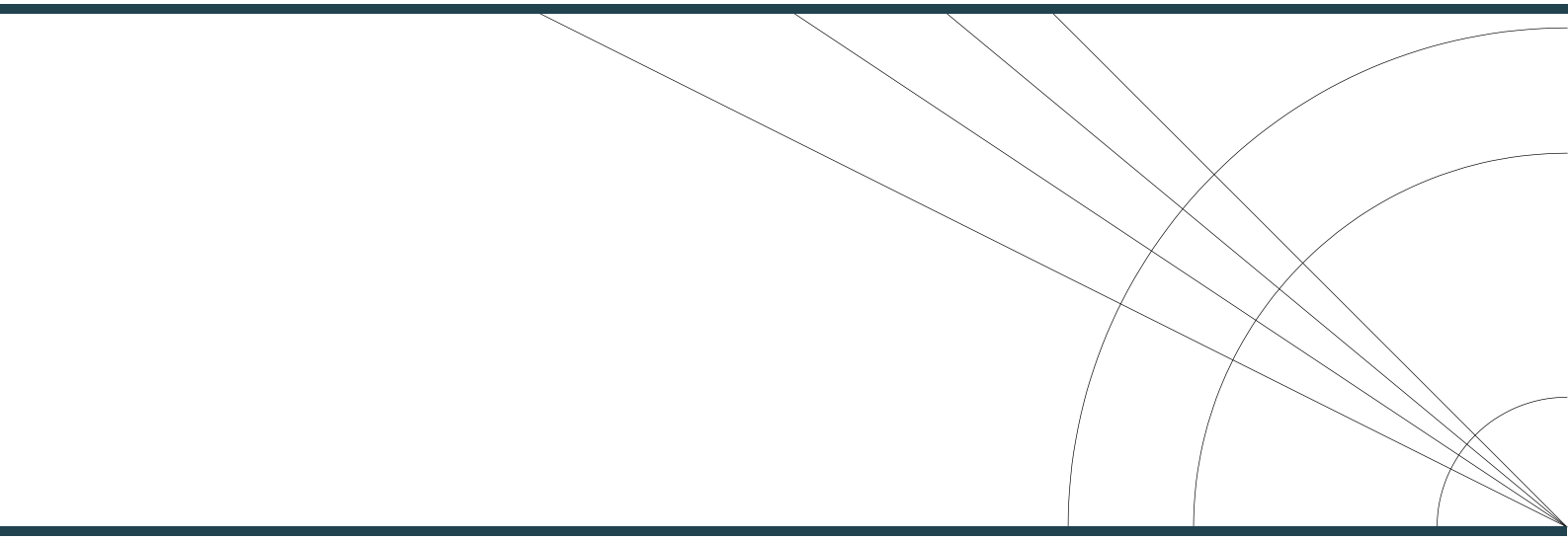

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Client information

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Content

Date of test

The test was conducted on 31-08-2023.

Purpose of test

Examination of the fire performance of a façade using the large fire exposure.

The test specimen has been subjected to a fire test in accordance with the following draft standards:

ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE

Draft revision 6
Draft Date: 2022 – 11 – 18

The test was not performed accredited.

Test specimen

The trade name and sponsors identification mark are stated below:

Trade name: None
Identification mark: None

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

Drawings and description

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

Type	Drawing No.	Dated	Subject
Drawing	K01_H4_N01	17-07-2023	Plan, snit og opstalt
Drawing	K01_H4_N02	17-07-2023	Opstalt for konstruktionstræ
Drawing	K01_H4_N03	17-07-2023	Opstalt for cembrit, brandskørter og indækning
Drawing	K01_H4_N04	17-07-2023	Opstalt for forskalling og brandstop
Drawing	K01_H4_N05	17-07-2023	Opstalt for beklædning
Drawing	K01_H5_N01	17-07-2023	Lodret detalje af brandskørt
Drawing	K01_H5_N02	17-07-2023	Lodret detalje af bund af vindue
Drawing	K01_H5_N03	17-07-2023	Lodret detalje over vindue inkl. brandskørt
Drawing	K01_H5_N04	17-07-2023	Vandret detalje af ydervæg og vindue
Drawing	K01_H5_N05	17-07-2023	Vandret detalje af ydervæg og brystningsparti
Drawing	K01_H5_N06	17-07-2023	Vandret detalje af hjørnet

Drawing	GKB-114938-10	13-07-2023	Overdel, 2 mm plade,
Drawing	GKB-114938-20	13-07-2023	Underdel, 2 mm plade,
Drawing	GKB-114938-30	13-07-2023	Overdel, 2 mm plade,
Drawing	GKB-114938-40	13-07-2023	Underdel, 2 mm plade,
Drawing	GKB-114938-HJ1	13-07-2023	Hjørne, overdel, samlet
Drawing	GKB-114938-HJ1-10	13-07-2023	Overdel, 2 mm plade,
Drawing	GKB-114938-HJ2	13-07-2023	Hjørne, underdel, samlet
Drawing	GKB-114938-HJ2-10	13-07-2023	Underdel, 2 mm plade,
Drawing	GKB-114939-10	10-07-2023	Z-profil, 0.7 mm plade
Drawing	Testsamling	13-07-2023	BFUH-1
Drawing	I02-E-001 Inner corner	14-06-2022	1 mm plade
Drawing	IB.A_1198	11-07-2023	BFUH-1, Bund, 0.7 mm plade
Drawing	IS.A.V_1198	11-07-2023	Side, Indd., Type-B, 0.7 mm plade
Drawing	IS.A.V_1898	11-07-2023	BFUH-1, Side, 0.7 mm plade
Drawing	IS.B_1030	13-07-2023	BFUH-1, Side, 0.7 mm plade
Drawing	IS.B_Laske	12-07-2023	BFUH-1, Laske, 0.7 mm plade
Drawing	IT.A_1198	11-07-2023	BFUH-1, Top, 0.7 mm plade
Drawing	IT.A_1998	11-07-2023	BFUH-1, Top, 0.7 mm plade
Drawing	Vindue-1200x1200	13-07-2023	BFUH-1, Vindue 1200x1200, samlet side 1
Drawing	Vindue-1200x1200	13-07-2023	BFUH-1, Vindue 1200x1200, samlet side 2

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

Description

The test specimen consisted of the components described in the following. DBI inspected the components during mounting, 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: 9410mm	Width main: 3620 mm	Width wing: 1900 mm	Thickness: 179 mm

The test specimen was a ventilated façade made of vertical wood boards, mounted on cross formwork. Ventilated fire stop profiles were installed above fire chamber and windows.

The build-up of the façade system is shown on the attached drawings, supplied by the sponsor. The construction of the wall is described from the first layer on the aerated concrete frame.

First Layer: The first layer consisted of prefabricated cassettes which were built from untreated construction wood C24 with dimensions 45x95 mm with a nominal density of 480 kg/m³. They were mounted vertically with a distance of 600 mm. The construction wood C24 cassettes protruded approximately 1330 mm above the aerated concrete façade rig. There were 6 cassettes in total and they were mounted with 20 mm in between the horizontal airgaps. See drawing K01_H4_N02.

Fixing of first layer:	The construction wood C24 was fixed to each other in all ends with one screw designated NKT 5 x 120 mm and with 3 nails designated Paslode 3.1 x 91 mm. The construction wood C24 was fixed to aerated concrete frame with steel angles designated Paslode 90 x 90 x 65 with screws designated Paslode 5.0 x 40 mm with four screws in each angle connected to the wood. The Paslode angles was fixed to the aerated concrete with screws designated Fisher 8 x 90 mm. 1 screw in angles fixed on vertical construction wood and 2 screw when fixed on horizontal.
Insulation in first layer:	Insulation designated Isover 34 Formstykker 95 mm was placed between the construction wood in the entire façade. See photo 03.
Second layer:	Cembrit Windstopper Extreme boards 9 mm with a nominal density of 1512 kg/m³, were mounted on the construction wood C24 on the entire façade. Furthermore, Cembrit boards were applied on the back side of the construction wood C24, which protruded approximately 1330 mm above the aerated facade frame rig. All joints between the Cembrit boards were closed with tape designated Siga Wigluv 50 mm in width. See drawing K01_H4_N03 and photo 04.
Fixing of second layer:	The Cembrit boards were fixed with ring nails designated Tjep 2.5 x 65 mm with a distance of 150 mm. Profiles designated Cembrit H12 skinne was used between the horizontal joints between the Cembrit boards mounted with Tjep 2.5 x 65 mm with a distance of 300 mm.
Third layer:	Two layers of cross mounted 25 x 45 mm formwork made of pressure impregnated spruce with a nominal density of 450 kg/m³ was mounted on the through the Cembrit boards into the Construction wood. The first layer was mounted vertically with a distance of 600 mm. The second layer was mounted horizontally with a distance of 600 mm. Around window and fire chamber the distance was shorter. See drawing K01_H4_N04.
Fixing of third layer:	Both layers of formwork were fixed with ring nails designated TJEP GR 2.8 x 63 mm, hot-dip galvanized with a distance of 600 mm.
Fire stop:	One horizontal formwork board made of pressure impregnated spruce with a nominal density of 450 kg/m³ was mounted on the Cembrit board as a substrate for each firestop. The formwork was mounted in the same way as the rest of the formwork and had dimensions 22 x 110 mm. The firestop was designated FB Cavity valve 28 mm (23x1130x105 mm). The cavity valve was fixed with 3 stainless screws per 1130 mm designated RedHorse ETX MH RX5, 4.8 x 29mm. The attachment carried out in the flat part of the net against the formwork board. The screws were mounted 40 mm from the end, in the middle and 40 mm from the opposite end. The valve was mounted so that the black expanding graphite insert is at the bottom. The graphite was cantered and vertical in the valve. The positioning of the firestops is shown on drawing K01_H4_N04.
Flame breaker:	The flame breakers were made with 2 mm steel profile with a 4-degree slope top page. Fixed per max. 200 mm with screws designated RedHorse CORONA™ RXB 4.8 X 60 EPDM-9.5B. Top and bottom profile fasten with RF rivets designated Gesipa 4.0 x 8.0 mm. Joint in fire breakers between top and bottom profile is offset according to drawings. Longitudinal holes were minimum 20 mm long and the screws were placed in the middle of elongated hole during assembly so that expansion could take place. The flame breakers protruded 200 mm out from the outer side of the cladding and 200 mm out from the edge of the façade cladding. They air gap inside the Flame breakers was filled with insulation and the ends to prevent a horizontal air flow. All details about the flame breakers are shown on the following drawings: GKB-114938-10 - GKB-114938-20 - GKB-114938-30 - GKB-114938-40 - GKB-114938-HJ1 - GKB-114938-HJ1-10 - GKB-114938-HJ2 - GKB-114938-HJ2-10 - GKB-114939-10 - K01_H5_N01 and Testsamling.

Finishing layer (cladding): Vertical non treated pine wood boards designated Moelven ThermoWood profil 581, size 21 x 118 mm with a nominal density of 430 kg/m³ with groove and tongue were mounted on top of the formwork.

Fixing of cladding: The cladding was fixed with Tjep 2.5 x 65 mm ring nail. There were two nails in each attachment from each piece of formwork.

Window, corner and fire chamber details:

Top of window and fire chamber:
The steel profiles were mounted with Paslode 2.5 x 50 mm hot dipped galvanised Ring nails with a distance of 300 mm. They were protruding 30 mm from the cladding and 50 mm from the back of the 45 x 95 mm construction wood that they were mounted into. The profile has a 7-degree slope top page. The ends of the profiles were bended connecting the top profile with the side of the window and the fire chamber.
All details of the profiles on top of the window are shown on the following drawings:
IT.A_1198 - IT.A_1998 - Vindue-1200x1200 (1,2) - K01_H5_N03.

Bottom of window:
The steel profiles were mounted with Paslode 2.5 x 50 mm hot dipped galvanised Ring nails with a distance of 300 mm. They were protruding 30 mm from the cladding and 50 mm from the back of the 45 x 95 mm construction wood that they were mounted into. The profile has a 7-degree slope top page.
All details of the profiles on bottom of the window are shown on the following drawings:
IB.A_1198 - Vindue-1200x1200 (1,2) and K01_H5_N02.

Window and Fire chamber sides:
The sides behind the steel profiles were made of the same wood as the cross formwork cut to fit between the horizontal formwork resulting in two vertical rows of formwork on top of each other on the sides of the window and fire chamber. They were fixed with ring nails designated TJEP GR 2.8 x 63 mm, hot dip galvanized with a distance of 600 mm. The steel profiles were mounted with Paslode 2.5x50 mm hot dipped galvanised Ring nails with a distance of 300 mm. They were protruding 30 mm from the cladding and 50 mm from the back of the 45 x 95 mm construction wood that they were mounted into. In the bottom in the side profiles of the window a steel board designated “Laske” 150 x 95 x 0.7 mm was used to connect the side profile with the side profile in the panel below the window.
All details of the profiles on the sides of the windows are shown on the following drawings: K01_H5_N04 - IS.A.V_1198 - IS.A.V_1198 IS.B_1030 - K01_H5_N04 and Vindue-1200x1200 (1,2).

Panel below window:
The panel below the window was built with vertical non treated pine wood boards designated Moelven ThermoWood profil 581, size 21 x 118 mm with a nominal density of 430 kg/m³ with groove and tongue. The cladding was fixed with RedHorse CORONA™ RXB 4.8 X 60 #1 TX20 EPDM-9.5B, two screws in each attachment. They were mounted to the steel profiles behind the cladding which were mounted directly on the Cembrit boards. The steel profiles were mounted with Paslode 2.5x50 mm Hot dipped galvanized Ring Shank with a distance of approx. 300 mm.
In the side of the panel steel profiles were mounted with Paslode 2.5x50 mm hot dipped galvanised Ring nails with a distance of 300 mm. They were protruding 55 mm from the cladding and 50 mm from the back of the 45 x 95 mm construction wood that they were mounted into. In the top in the side profiles of the panel below the window, a steel board designated “Laske” 150 x 95 x 0.7 mm was used to connect the side profile with the side profile in the window.
All details of the profiles on panel below the window are shown on the following drawings:
IS.B_Laske - Vindue-1200x1200 (1,2) - K01_H5_N05 - K01_H5_N02.

Corner connection between main façade and wing:

In the corner joint between the main facade and the wing, a steel corner profile was fitted to separate the two sides. It protruded 10 mm and was fixed with Paslode 2.5x50 mm Hot dipped galvanized Ring Shank with a distance of approximately 300 mm.
In the joints between the corner profiles, a steel board designated "Laske" 150 x 95 x 0.7 mm was used to connect the profiles. This was done to control the profile so that it had a closed connection between the joints.
All details of the profiles on corner connection are shown on the following drawings:
I02-E-001 Inner corner - IS.B_Laske - K01_H5_N06.

Sealant: Between steel profiles and the Cembrit boards around the fire chamber and the window, Dana Lim Seaflex Hybrid 522 was used.
Between the construction wood C24 and the aerated concrete in the fire chamber and the window ceramic wool was used to close the gap and on top of that a fire sealant was used to close of the airgap.

Measured by DBI

Measured by DBI

Product		Formwork spruce 25 x 45 mm	Moelven ThermoWood Pine	Fire stop board Spruce	Cembrit Windstopper Extreme 9 mm	Isover Formstykker 34 (95mm)	Construction wood C24 Spruce (45x95mm)
Density	kg/m³	453	471	434	1513	20	431
Moisture content	%	15.4	7.4	16	5.4	0.4	13.5
Organic content	%					6	
Sampling method		Extra material	Extra material	Extra material	Extra material	Extra material	Extra material
Drying temperature	°C	105	105	105	105	105	105

Test conditions

Conditioning

The materials for the test specimen were delivered on the 24-08-2023 to the DBI laboratory and stored under room temperature. On the day of the fire testing the condition of the test specimen was similar with respect to its moisture content as the test specimen would be in normal service.
The installation of the test specimen on the test rig was completed on the 29-08-2023.

Mounting

The test specimen was mounted on the test rig that had a size of 9390 mm in height and with main surface of 3620 mm and wing 1900 mm wide.
The surface of the test rig was built with 150 mm aerated concrete blocks, with a nominal density of 575 kg/m³.

The design and location of the combustion chamber opening in the main face was in accordance with the design details specified in the standard ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE Draft revision 6, Draft Date: 2022 – 11 – 18.

Each of the two vertical sides was closed off with stone wool before the fire test.

Fire test

The fire test was conducted in the following conditions:

- Ambient temperature: approx. 20 °C at the start of the test (see Enclosures 3.0 and 3.1)
- Ambient air velocity: Not measured (test undertaken indoor where ambient air speed and/or wind did not affect the test)
- Mechanical exhaust: 80.000 m^3/h (at ambient temperature) even distributed in the ceiling of the test hall with a combined exhaust duct to the air filter cleaning system.

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 on the external and internal layers of the test specimen as indicated on DBI drawing enclosure no. 1.0 - 1.3. All thermocouples that were used according to the standard ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE are named I.1.1-1.9, I.2.1-I.2.9 and I.3.6-I.3.9. All other thermocouples are for informative uses.

The temperature was determined by means of type-K sheathed thermocouples specified in, ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE.

The thermocouples named I.1.1-1.9, I.2.1-I.2.9 and I.3.6-I.3.9 were constructed of junctions of nickel chromium/nickel aluminium (type K) wire as defined in EN 60584-1 contained within mineral insulation in a heat resisting alloy sheath of nominal diameter 2.0 mm. Designated as a sheathed thermocouple.

The furnace plate thermocouples were constructed according to EN 1363-1 and all other thermocouples were made from type-k thermocouples wire with 0.5mm in diameter twisted together in the end.

The wood crib was constructed flowing the principles in ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE. The dimensions of the spruce sticks were approx. 45x45 mm and the external dimension of the 24-layer wood crib was 1.5m x 1m x 1.08m (width x depth x height). The wood crib was stored at approx. 20°C in dry conditions and was at the time of the fire test in equilibrium with the surroundings. The spruce sticks were nailed together to construct the crib and was installed on a closed bottom surface made of a 20 mm thick calcium silicate board with dimensions of 1300 mm x 1900 mm. The crib was placed 100 mm from the back wall and centred from the sidewalls of the combustion chamber. The average density of the wood was approx. 500 kg/m^3.

In front of the combustion chamber, a platform was placed which had a size of 1850 x 3200 mm. It was placed with the upper edge 100 mm below the floor of the combustion chamber. This was done to simulate a comparable air flow and buoyancy that will occur if the weight for fallings parts was used. which should have been placed in front of the facade according to ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE section 4.7.4.

The test was terminated after 18 minutes due to there was a risk to the safety of personnel or impending damage to equipment.

Test results

Duration of the test was 18 minutes.

Measurements

The enclosed graphs and tables show:

Enclosures 2.0 and 2.1	The temperature in the fire chamber during the test The temperatures are measured with furnace plate thermocouples

Enclosures 3.0 and 3.1	Ambient temperature The ambient temperature in the laboratory during the test
Enclosures 4.0 and 4.1	Flux measured in window
Enclosures 5.0 and 5.1	Flux in Location 1
Enclosures 6.0 and 6.1	Temperature rise measured on the formwork Thermocouple V.1.8 malfunctioned in beginning of test
Enclosures 7.0 and 7.1	Temperature rise measured on the formwork
Enclosures 8.0 and 8.1	Plate thermocouple Plate TC.1 Location 1 Plate TC.2 Location 2
Enclosures 10.0 and 10.1	Location 2. 5 m from facade 4.5 m height.
Enclosures 9.0 and 9.1	Thermocouple TC.1 Location 1 TC.2 Location 2
Enclosures 11.0 and 11.1	Flux TC Flux.TC.1 located in window Flux.TC.2 located 2 m from crib
Enclosures 12.0 and 12.1	Temperature rise measured 50mm from the facade
Enclosures 13.0 and 13.1	Temperature rise measured in ventilation layer
Enclosures 14.0 and 14.1	Temperature rise measured in middle of insulation
Enclosures 15.0 and 15.1	Temperature rise measured in Location 1 - 50 mm from facade. Minimum of 30 sec
Enclosures 16.0 and 16.1	Temperature rise measured in Location 2 - ventilation layer. Minimum of 30 sec
Enclosures 17.0 and 17.1	Temperature rise measured in Location 2 - insulation. Minimum of 30 sec
Enclosures 18.0 and 18.1	Vertical measurements on main facade Vertical measurements on the main facade F.1.1-8
Enclosures 19.0 and 19.1	Vertical measurements on main facade Vertical measurements on the main facade F.1.9-16
Enclosures 20.0 and 20.1	Vertical measurements on the wing Vertical measurements on the wing F.2.1-8
Enclosures 21.0 and 21.1	Vertical measurements on the wing Vertical measurements on the wing F2.9-14
Enclosures 22.0 and 22.1	Horizontal measurements Horizontal measurements F.3.1-9

Enclosures 23.0 and 23.1	Horizontal measurements Horizontal measurements F.3.9-14
Enclosures 24.0 and 24.1	Plate thermocouple on facade Plate thermocouple on facade

Visual observations:

Time / Minutes	Visual observations:
0	Test commences
1	Crib burning
2	Façade boards above crip starts to burn
4	Fire breaker above fire chamber starts to deform
4	Flame increases in façade above the fire chamber
5	Flames increases close to second fire breaker
5	Wing starting to smoke near fire chamber
7	Steel profiles on bottom and sides of window starts to deform
9	Flames increases below the second fire breaker
10	Wing starts burning at same height as the top of the fire chamber
11	Wing starts burning between fire breaker 1 and 2
12	All levels are burning
12	Flames are decreasing in the top of the main façade and the wing
13	Flames are decreasing in the top of the main façade and the wing. Only fire near the corner in the top level
14	Flames decreasing slightly
15	No changes
16	Flames slightly increases
18	Test stopped due to safety reasons

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.

Conclusion

Fire testing according to daft version of: ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE, the construction described in this test report showed that failure according to the performance criteria stated in the test method occurred at the following time:

Performance	Criterion	Test result
Fire spread		
	Vertical fire spread	11 minutes
	Horizontal fire spread	10 minutes
	Burning parts	12 minutes
Falling parts – Level 0		
	Falling parts – (Level 0)	12 minutes
Falling parts – Level 1		
	Falling parts – (Level 1)	No failure
Falling parts – Level 2		
	Falling parts – (Level 2)	No failure

The test was terminated after 18 minutes due to there was a risk to the safety of personnel or impending damage to equipment.

Remarks

The test was an Ad-Hoc test, there is no field of application.

This report details the method of construction, the test conditions and the results obtained when the specific element of construction described herein was tested following the procedure outlined in ASSESSMENT OF FIRE PERFORMANCE OF FACADES USING LARGE FIRE EXPOSURE.

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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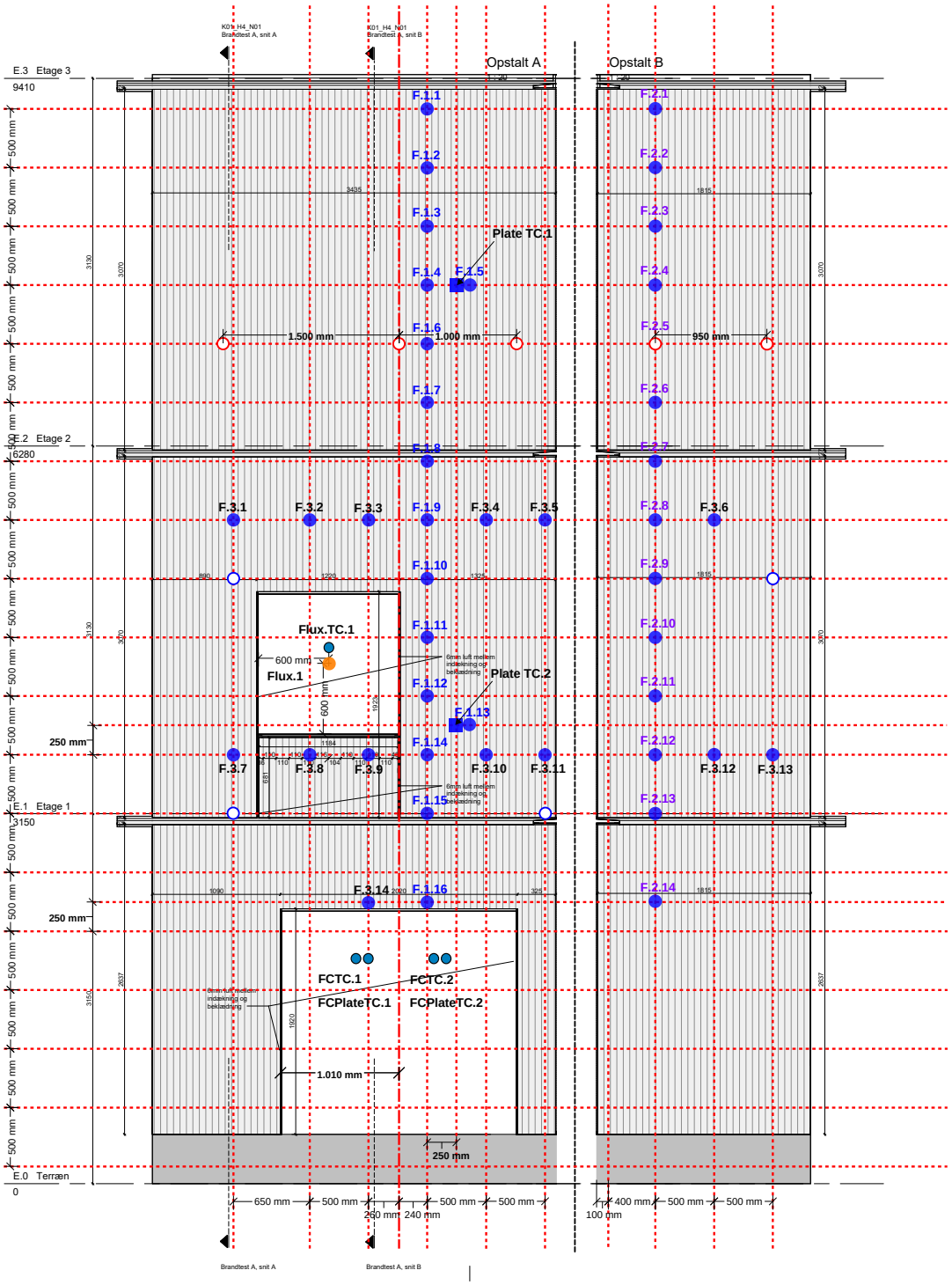
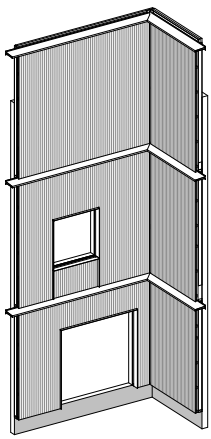
Enclosures:	**97**
DBI drawings:	4
DBI graphs and tables:	46
Photo sheets:	16
Sponsors drawings:	31

BEKLÆDNING



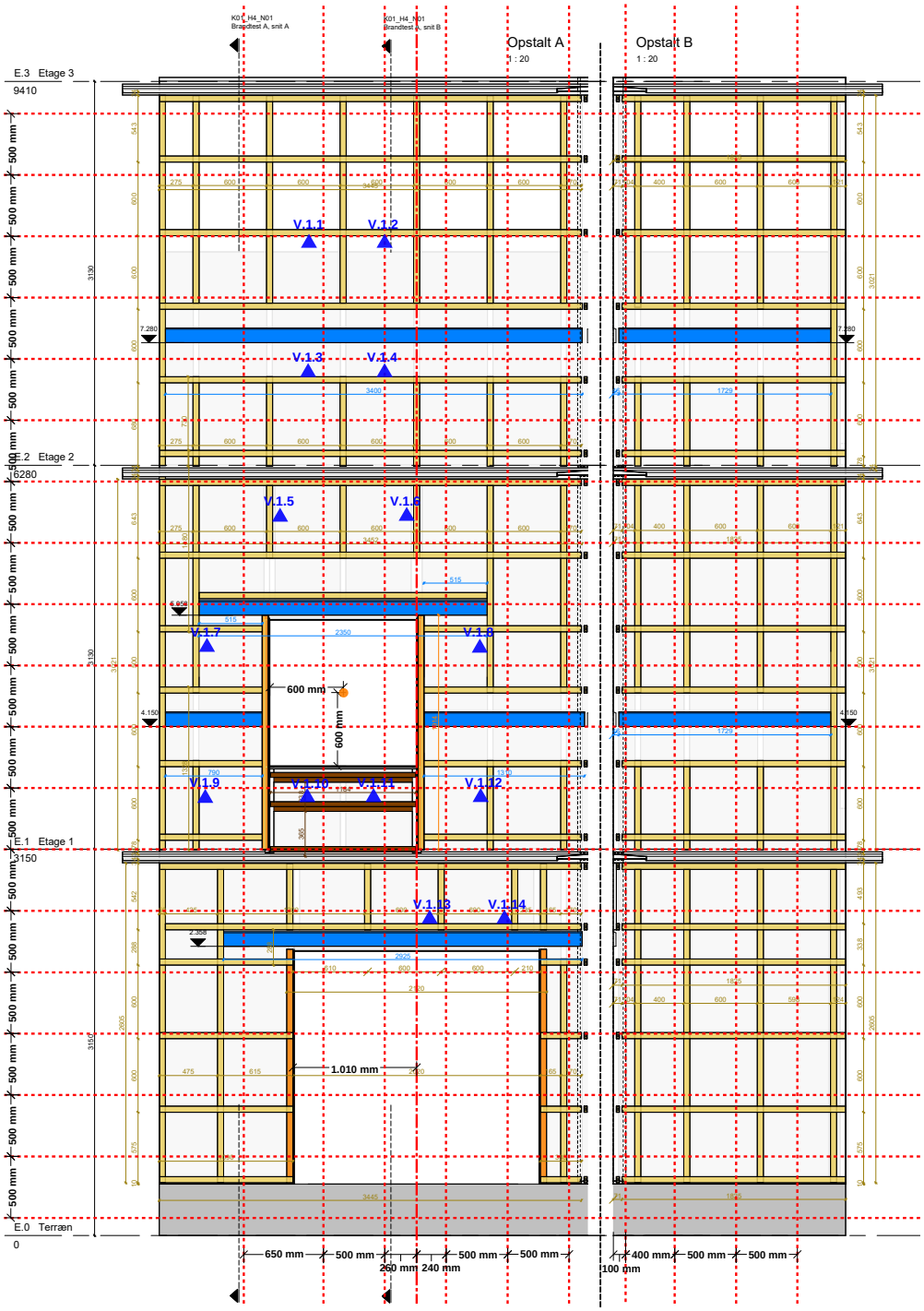
- Thermocouple location on the facade surface proposed by Guoxiang (5 cm from the wood panel surface).
- Thermocouple location on the facade surface required according to the standard (3 measurements: 5 cm out on exposed surface, middle of cavity and center of insulator).
- Thermocouple location on the facade surface required according to the standard (2 measurements: 5 cm out on exposed surface and middle of the cavity)
- Thermocouple within the ventilated cavity.
- Water cooled heat flux censor at the center of the secondary window.
- Plate thermometer at the surface of the facade, flush to the surface of the facade.



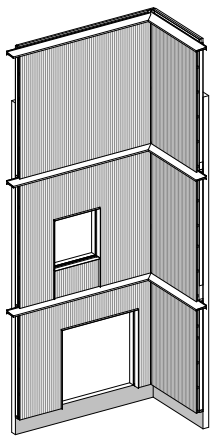
Danish Institute of Fire and security Technology
Sponsor: DBI
Subject: EU Facade test 1

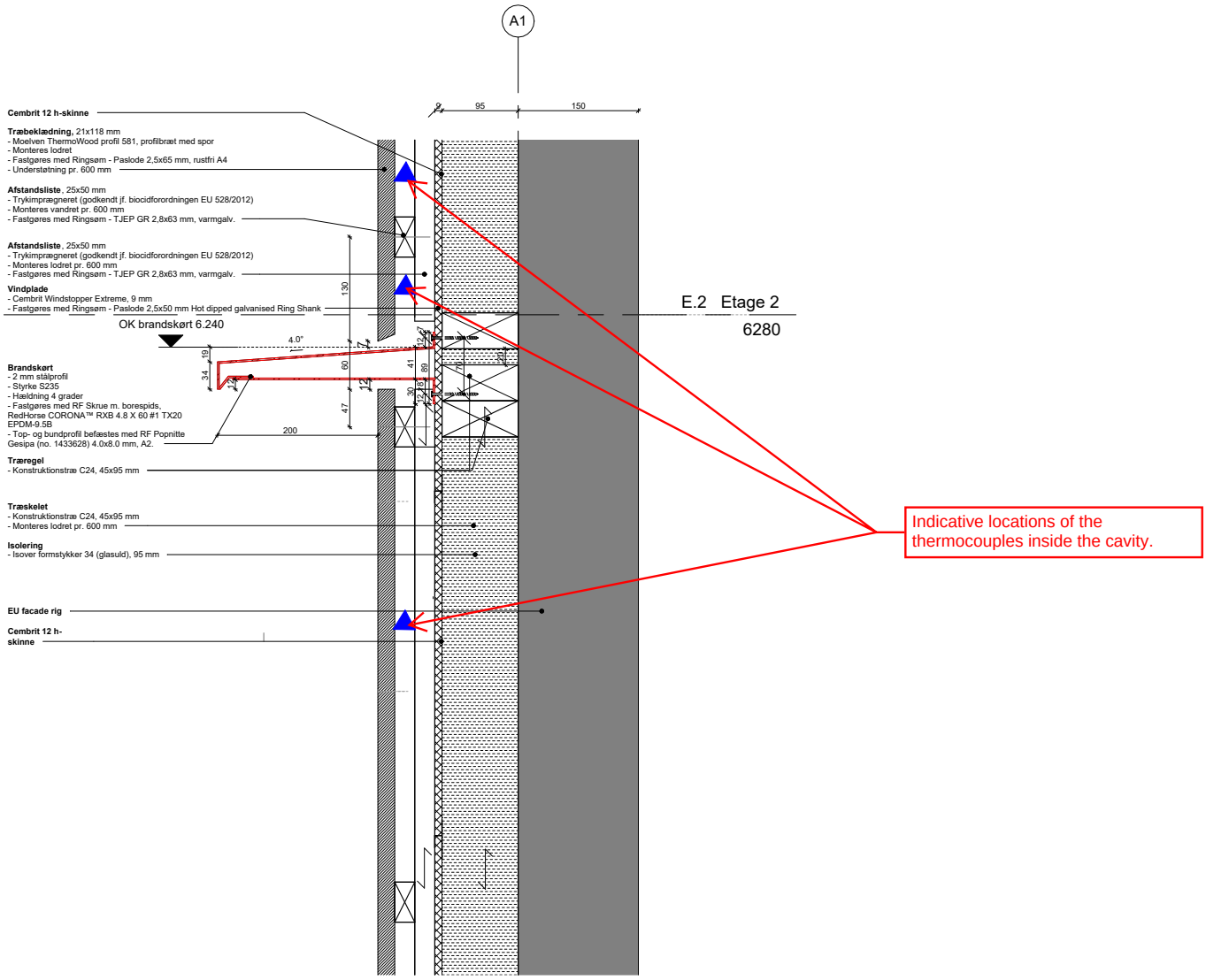
File No.: PGC10025A
Test date: 31-08-2023
Enclosure: 1.0

FORSKALLING OG BRANDSTOP

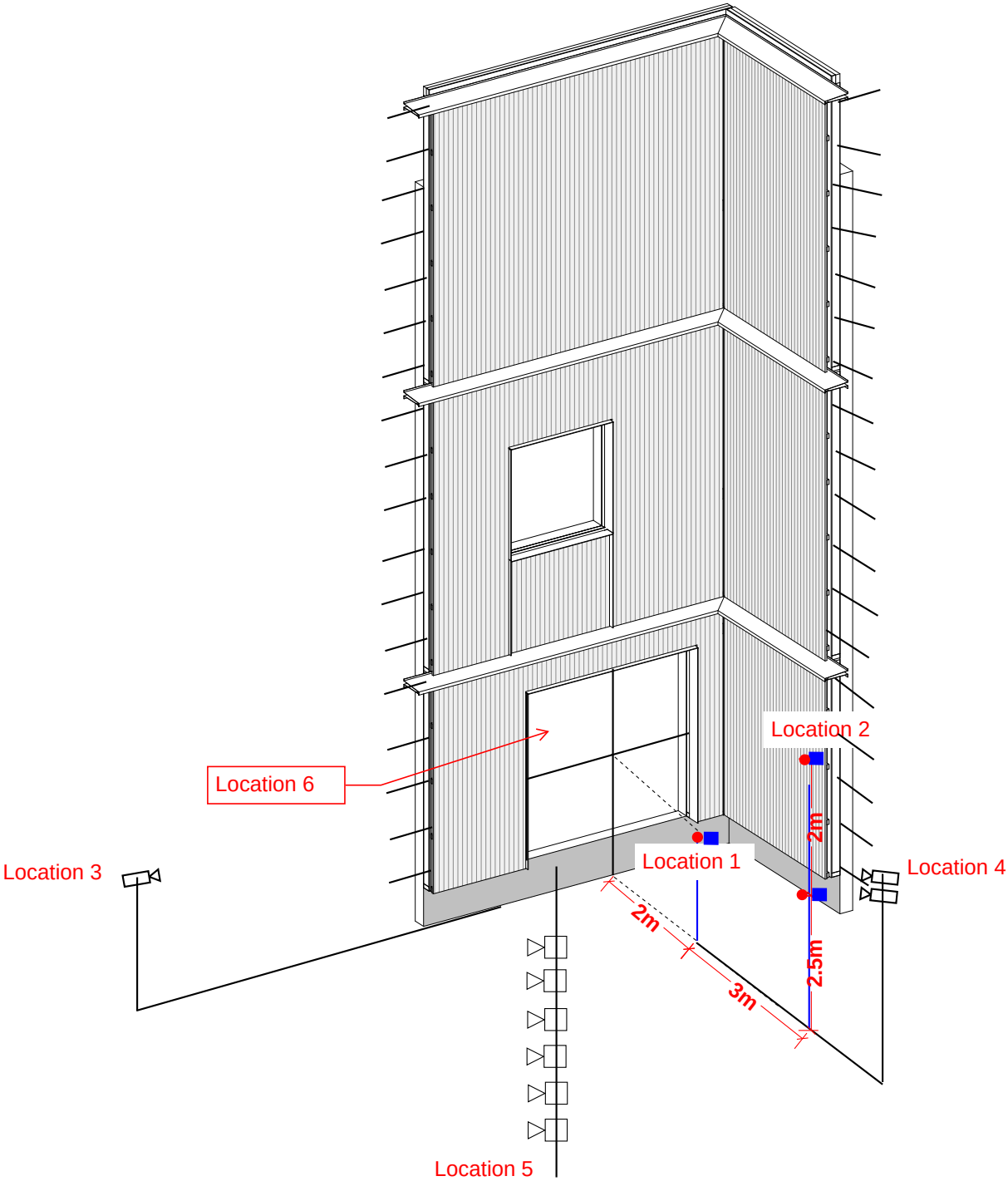


- Thermocouple location on the facade surface proposed by Guoxiang (5 cm from the wood panel surface).
- Thermocouple location on the facade surface required according to the standard (3 measurements: 5 cm out on exposed surface, middle of cavity and center of insulator).
- Thermocouple location on the facade surface required according to the standard (2 measurements: 5 cm out on exposed surface and middle of the cavity)
- Thermocouple within the ventilated cavity.
- Water cooled heat flux censor at the center of the secondary window.
- Plate thermometer at the surface of the facade, flush to the surface of the facade.





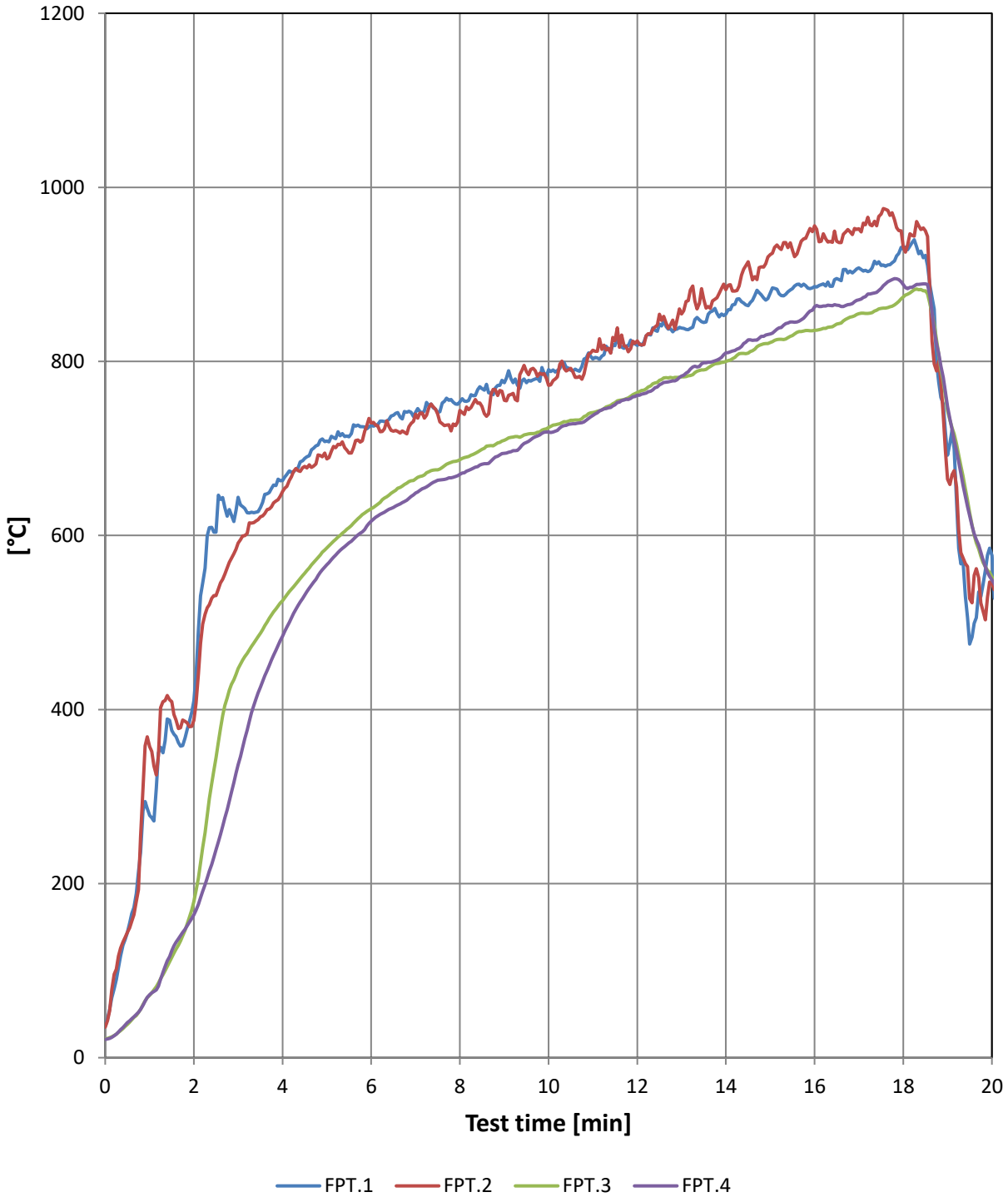
- Thermocouple location on the facade surface proposed by Guoxiang (5 cm from the wood panel surface).
- Thermocouple location on the facade surface required according to the standard (3 measurements: 5 cm out on exposed surface, middle of the cavity and center of insulator).
- Thermocouple location on the facade surface required according to the standard (2 measurements: 5 cm out on exposed surface and middle of the cavity).
- Thermocouple within the ventilated cavity.
- Water cooled heat flux censor at the center of the secondary window.
- Plate thermometer at the surface of the facade, flash to the surface of the facade.



- Location 1: 2 m away to the center of the combustion chamber (both horizontally and vertically), a plate thermometer, a thermocouple and a water cooled heat flux censor.
- Location 2: 5 m away from the facade wall, 2.5 m above the ground and 4.5 m above the ground, a plate thermometer and a thermocouple.
- Location 3 : 1 camera from the side view, exact locations to be confirmed, **but should be recorded and make sure the exact location will be used in all tests.**
- Location 4: 1 camera from the front and a second camera with lense filter, but should be recorded and make sure the exact location will be used in all tests.
- Location 5: 6 blue LED lights, light should focus on the second section of the facade.
- Location 6: two plate thermometers + two wire thermocouples inside the combustion chamber.
- Location 7 and 8: bi-direction velocity tube together with a wire temperature thermocouple to measure the measuring the flow speed towards the wood crib.
- Note: height indicator every 500 mm at two edges of the facade.

The temperature in the fire chamber during the test

The temperatures are measured with furnace plate thermocouples



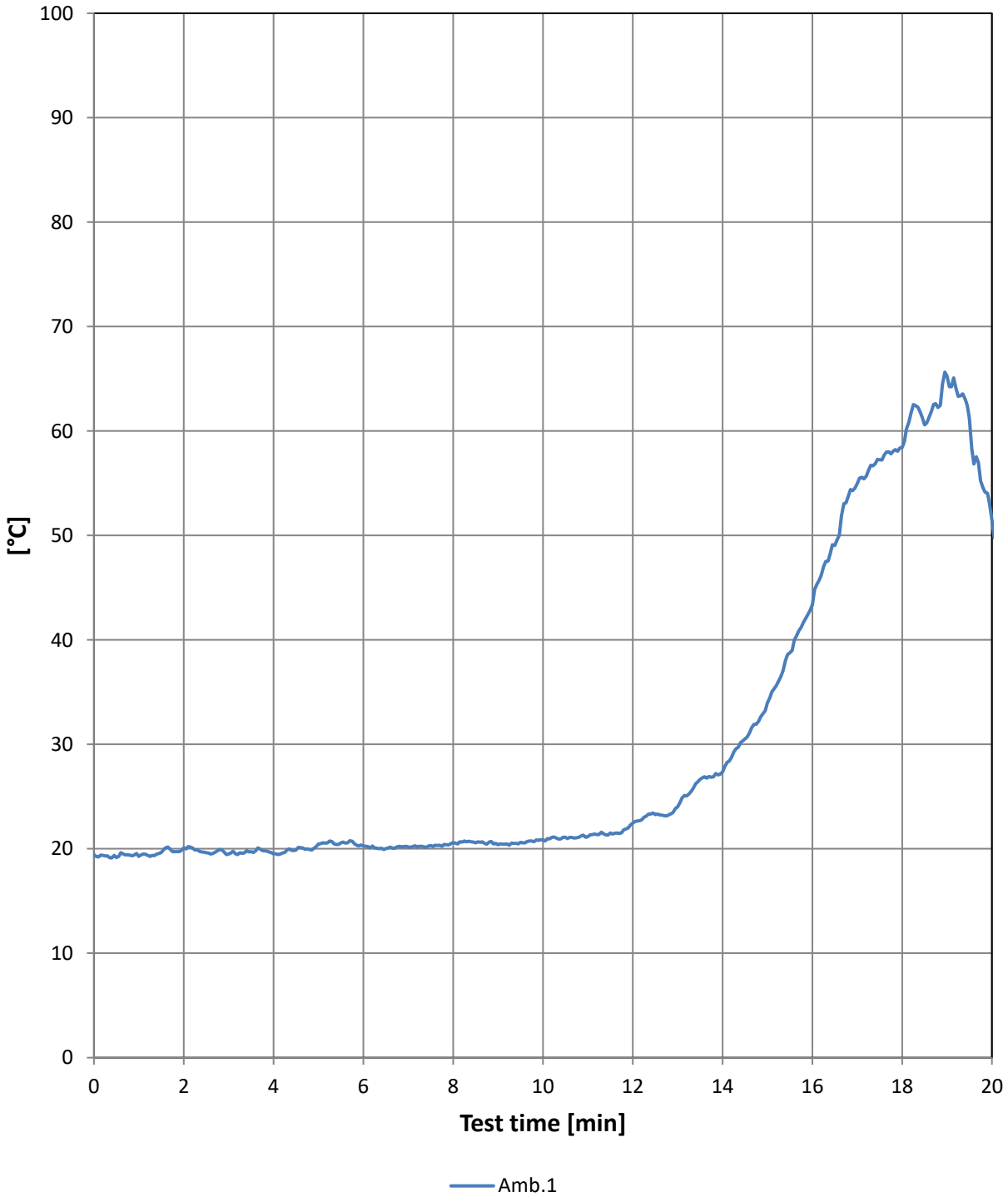
The temperature in the fire chamber during the test

The temperatures are measured with furnace plate thermocouples

Min. / °C	FPT.1	FPT.2	FPT.3	FPT.4
0	36	35	22	21
1	278	357	72	72
2	410	388	179	164
3	644	591	447	336
4	663	651	525	484
5	708	688	586	566
6	727	729	631	616
7	741	739	665	649
8	753	744	687	670
9	776	755	710	694
10	791	772	724	719
11	803	813	741	738
12	818	823	764	761
13	838	855	782	783
14	854	882	800	810
15	879	923	822	831
16	886	956	836	863
17	907	952	855	871
18	929	931	874	888
19	692	665	744	748
20	577	545	552	549

Ambient temperature

The ambient temperature in the laboratory during the test

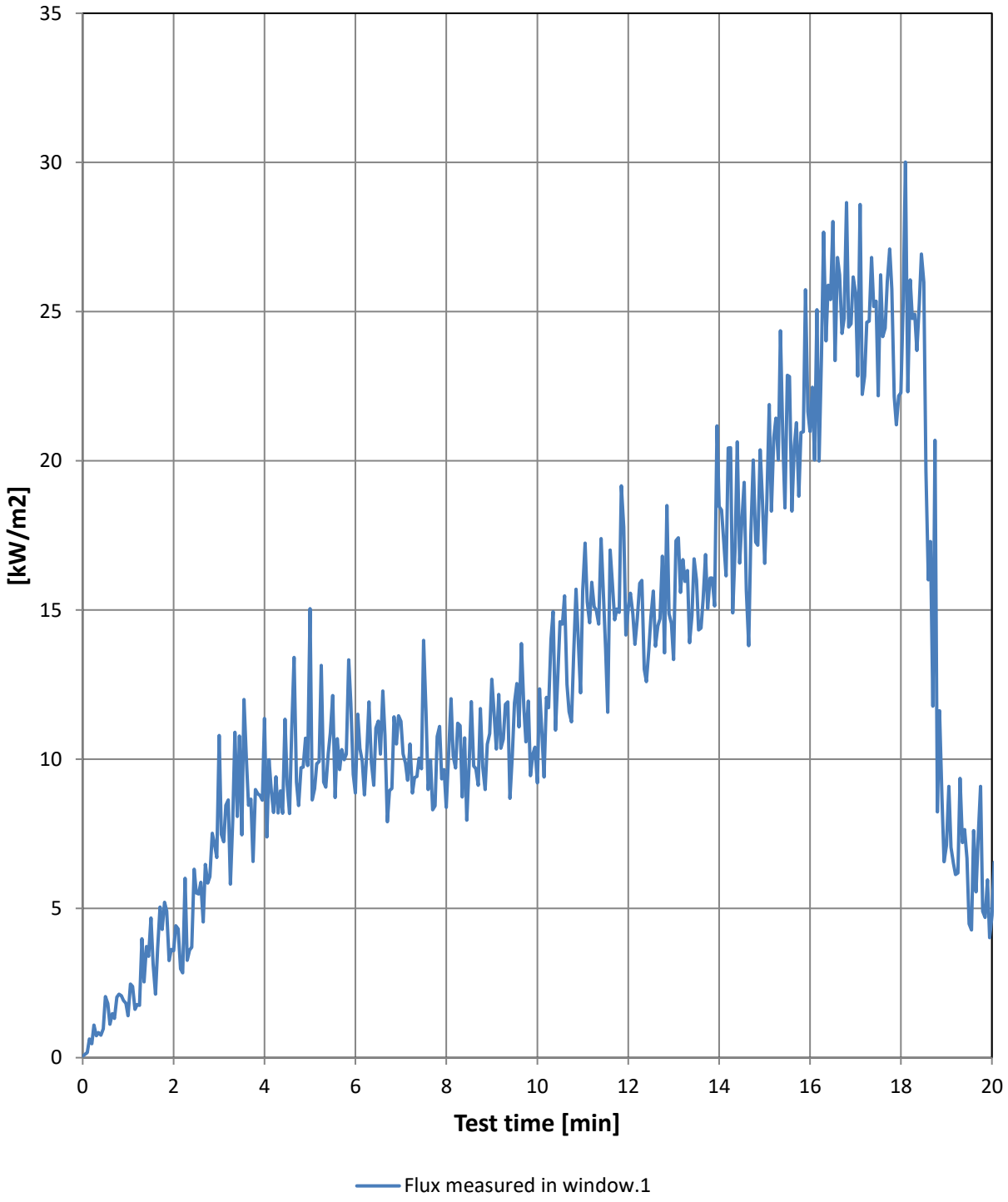


Ambient temperature

The ambient temperature in the laboratory during the test

Min. / °C	Amb.1
0	19
1	19
2	20
3	19
4	20
5	20
6	20
7	20
8	21
9	20
10	21
11	21
12	22
13	24
14	27
15	34
16	43
17	55
18	58
19	65
20	51

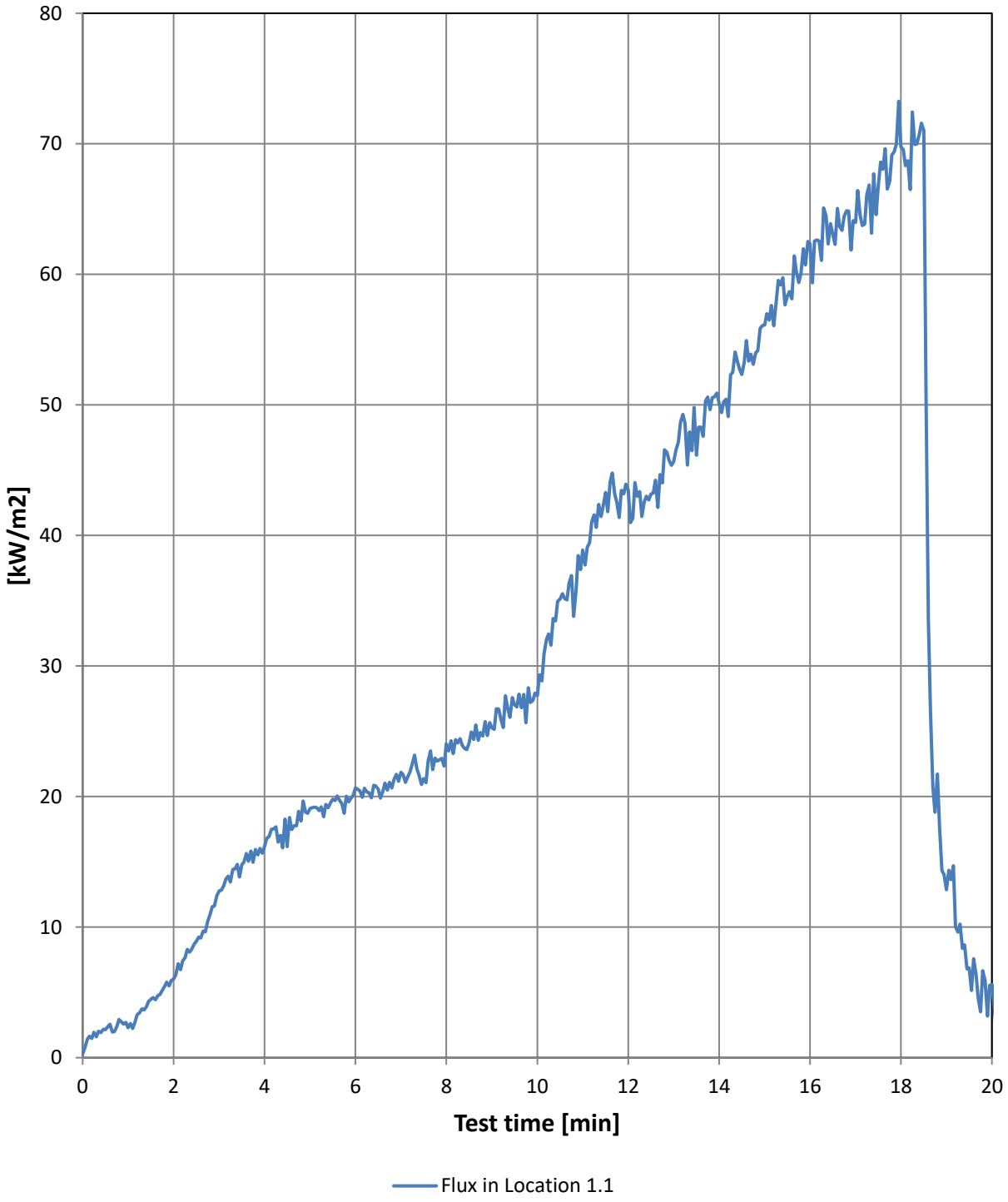
Flux mesured in window



Flux mesured in window

Min. / kW/m2	Flux measured in window.1
0	0
1	1
2	4
3	11
4	11
5	15
6	9
7	11
8	8
9	13
10	9
11	16
12	15
13	13
14	18
15	17
16	21
17	26
18	22
19	7
20	5

Flux in Location 1

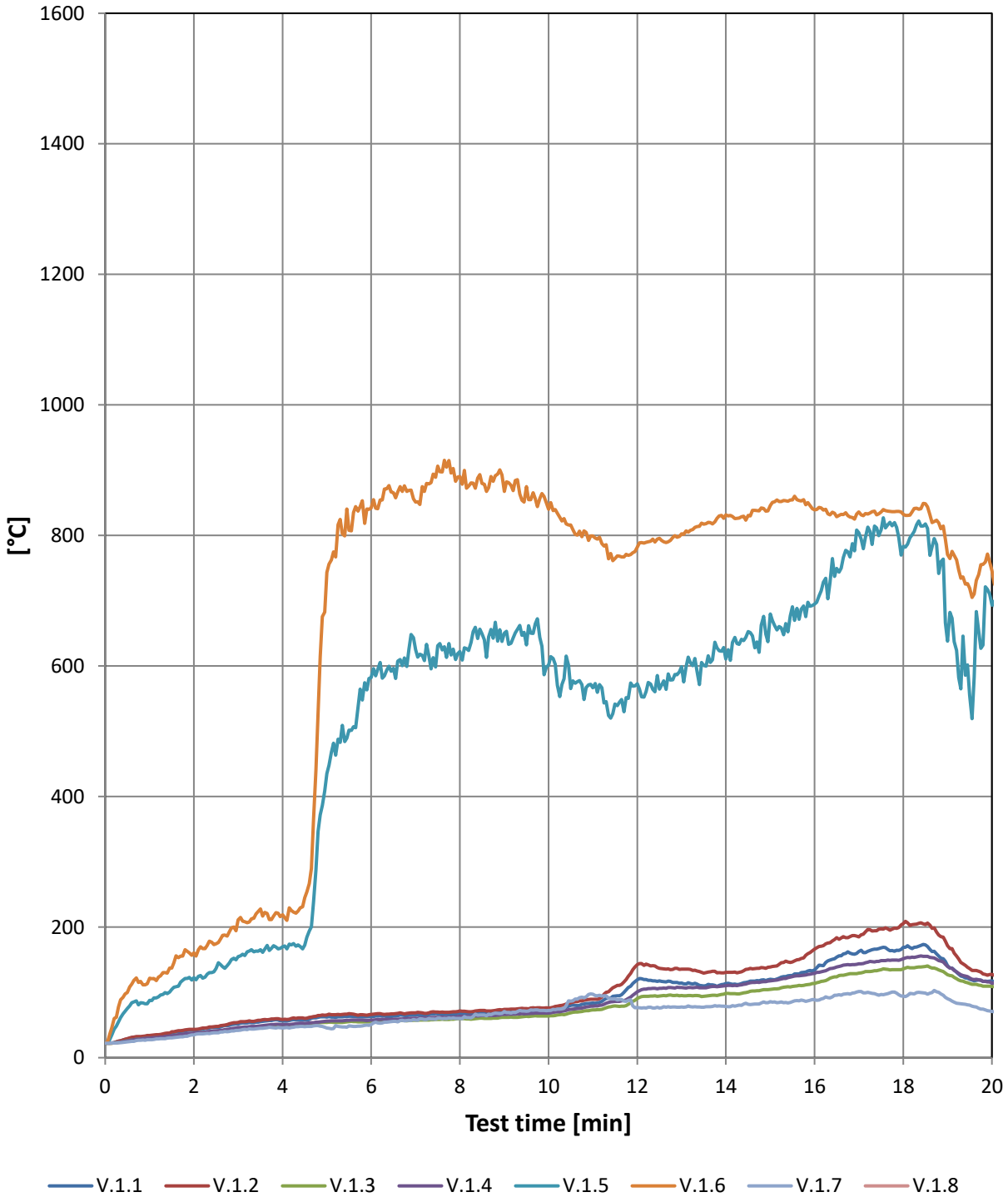


Flux in Location 1

Min. / kW/m2	Flux in Location 1.1
0	0
1	2
2	6
3	13
4	16
5	19
6	21
7	22
8	24
9	25
10	28
11	39
12	43
13	46
14	50
15	56
16	62
17	64
18	70
19	13
20	6

Temperature rise measured on the formwork

Thermocouple V.1.8 malfunctioned in beginning of test



Temperature's above 600° cant be trusted

Temperature rise measured on the formwork

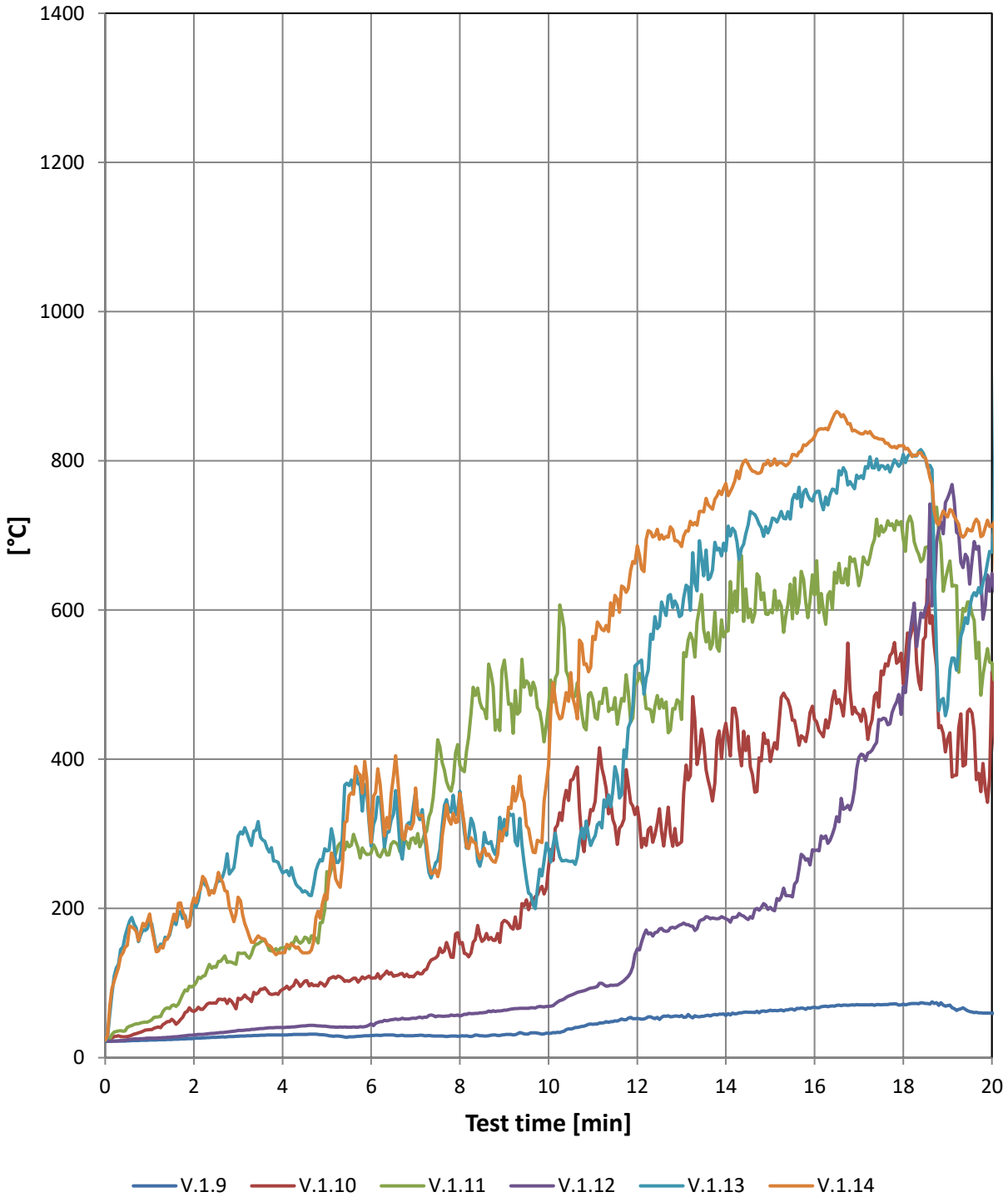
Thermocouple V.1.8 malfunctioned in beginning of test

Min. / °C	V.1.1	V.1.2	V.1.3	V.1.4	V.1.5	V.1.6	V.1.7	V.1.8	V.1.Max
0	22	22	22	23	23	23	22	0	23
1	33	34	30	30	88	122	28	0	122
2	43	43	37	38	122	161	35	0	161
3	52	54	45	46	155	211	42	0	211
4	56	59	49	51	170	219	46	0	219
5	62	65	54	56	435	743	46	0	743
6	63	66	55	58	582	842	51	0	842
7	66	69	57	61	625	851	58	0	851
8	68	71	60	63	622	890	60	0	890
9	70	74	62	66	650	867	71	0	867
10	72	76	64	68	601	840	72	0	840
11	84	90	73	79	567	799	97	0	799
12	119	142	91	101	573	782	77	0	782
13	115	136	95	107	599	803	78	0	803
14	114	131	99	111	611	832	78	0	832
15	120	139	105	118	680	846	86	0	846
16	134	166	114	129	695	839	89	0	839
17	163	185	130	144	804	836	101	0	836
18	169	205	136	152	783	832	94	0	832
19	141	172	127	140	638	771	90	0	771
20	118	127	109	114	693	745	71	0	745

Failure [min]	-	-	-	-	5.30	4.75	-	-	4.75
Failure°C	500	500	500	500	500	500	500	500	500

Temperature's above 600° cant be trusted

Temperature rise measured on the formwork



Temperature's above 600° cant be trusted

Temperature rise measured on the formwork

Min. / °C	V.1.9	V.1.10	V.1.11	V.1.12	V.1.13	V.1.14	V.1.Max
0	22	22	22	22	23	24	24
1	24	38	49	26	185	193	193
2	26	62	97	30	211	214	214
3	29	80	141	36	297	215	297
4	31	92	148	41	248	140	248
5	30	100	249	42	277	212	277
6	30	106	274	46	284	288	288
7	30	112	287	53	357	362	362
8	29	153	392	56	357	354	392
9	31	184	533	64	319	307	533
10	33	256	472	69	279	392	472
11	45	331	480	94	292	565	565
12	53	336	504	146	528	686	686
13	57	290	453	179	593	685	685
14	57	448	571	186	679	770	770
15	64	397	600	201	712	794	794
16	68	453	620	278	755	833	833
17	71	461	632	402	776	837	837
18	72	501	695	498	809	821	821
19	70	427	654	750	471	725	750
20	59	517	529	649	678	712	712

Failure [min]	-	16.70	8.60	18.05	11.90	10.05	8.60
Failure°C	500	500	500	500	500	500	500

Temperature's above 600° cant be trusted

Plate thermocouple

Plate TC.1 Location 1
Plate TC.2 Location 2

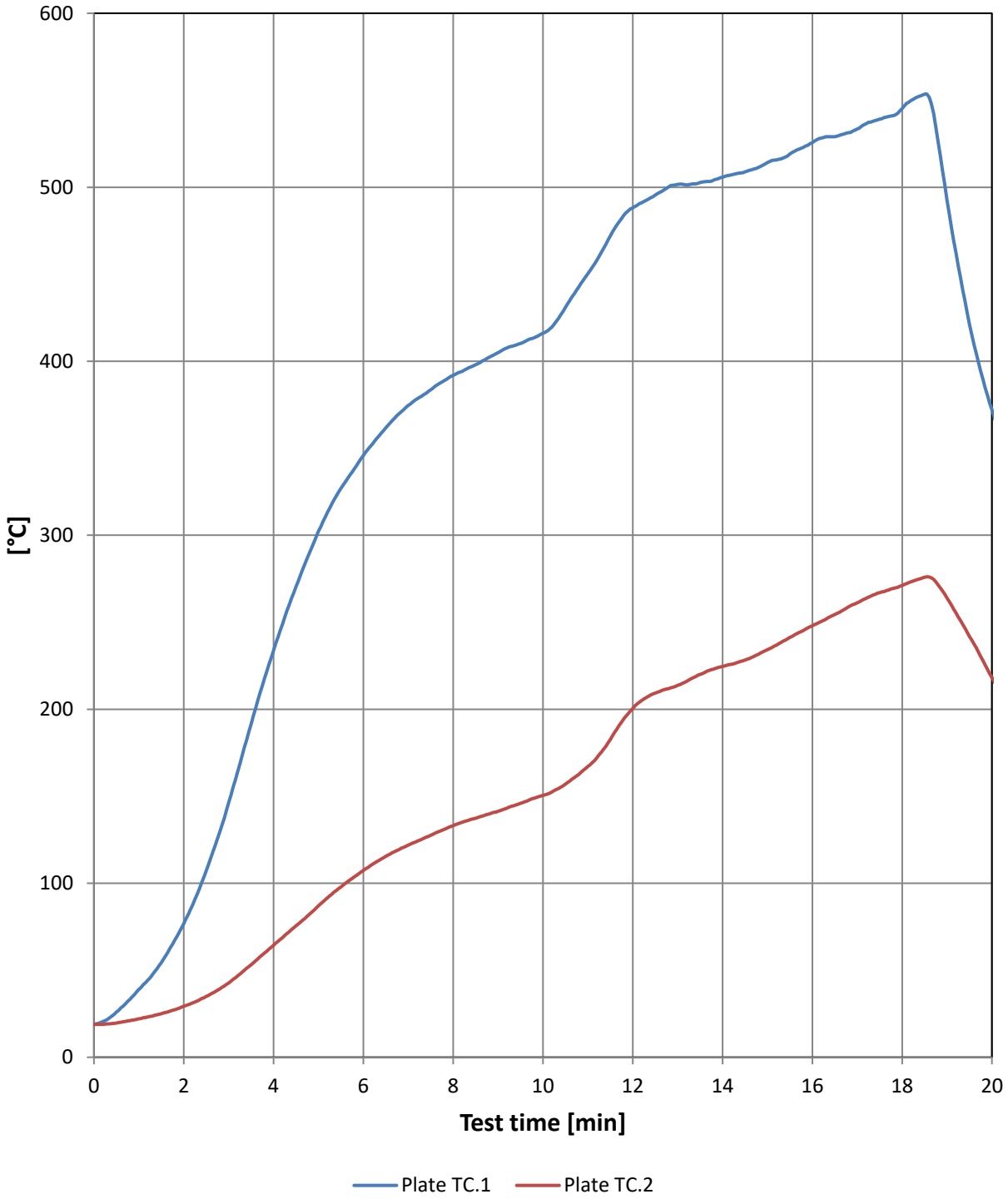
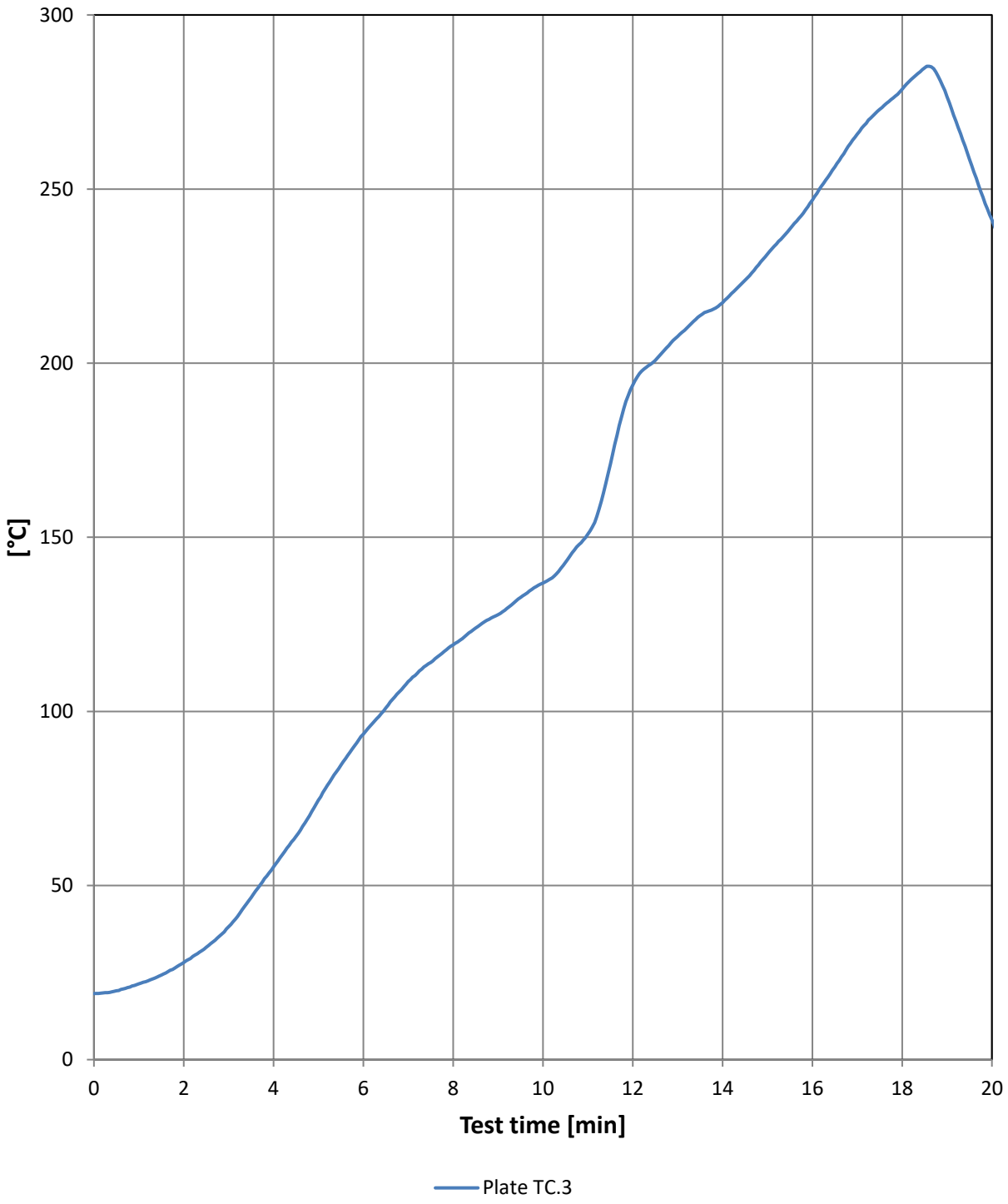


Plate thermocouple

Plate TC.1 Location 1
Plate TC.2 Location 2

Min. / °C	Plate TC.1	Plate TC.2
0	19	19
1	39	22
2	77	29
3	146	43
4	234	64
5	302	87
6	346	107
7	375	122
8	392	133
9	405	141
10	416	151
11	450	167
12	488	200
13	502	214
14	506	225
15	514	234
16	526	248
17	533	261
18	545	271
19	493	264
20	372	218

Location 2. 5 m from facade 4.5 m height.

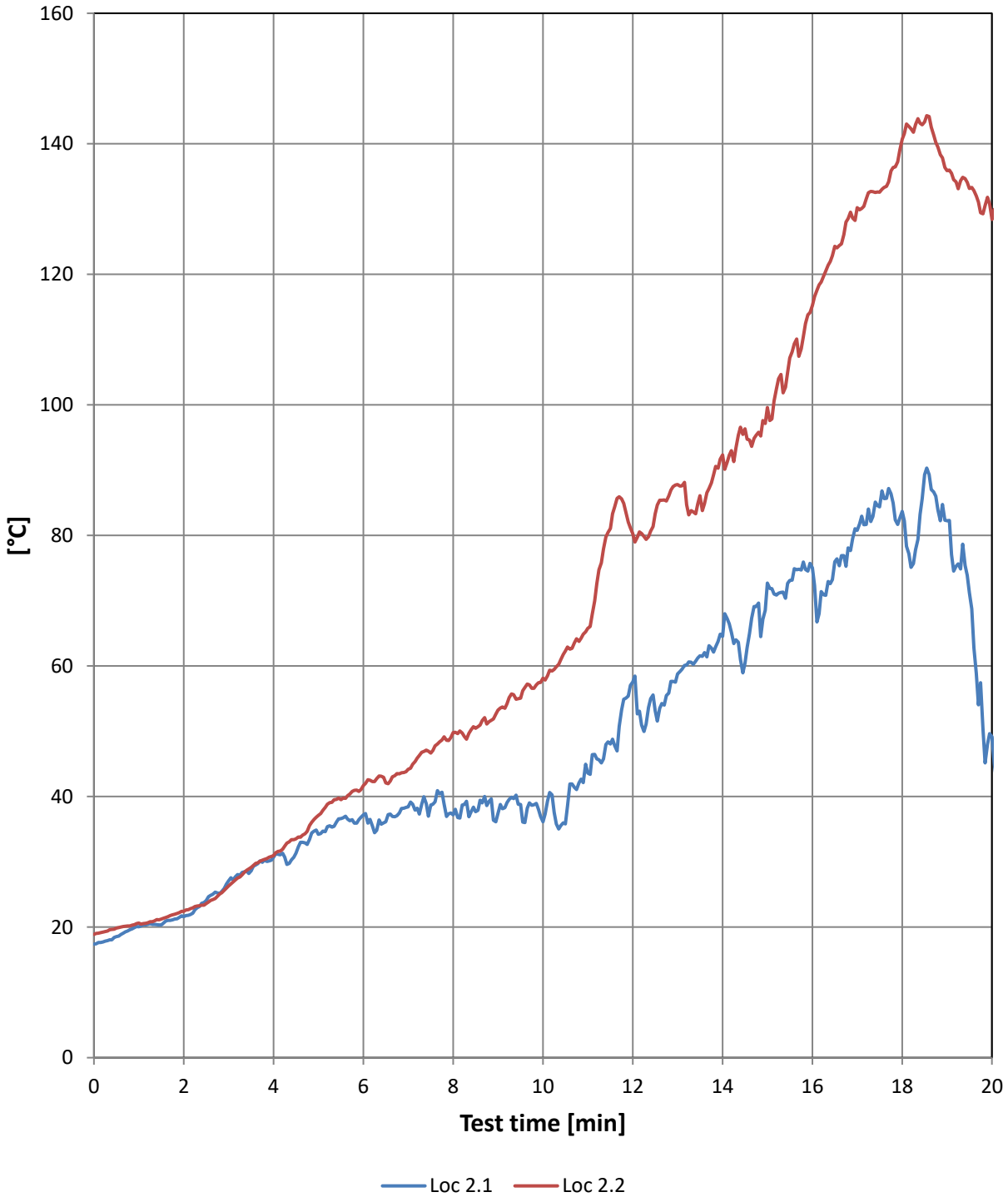


Location 2. 5 m from facade 4.5 m height.

Min. / °C	Plate TC.3
0	19
1	22
2	28
3	38
4	55
5	74
6	94
7	109
8	119
9	128
10	137
11	151
12	194
13	208
14	217
15	231
16	247
17	266
18	279
19	277
20	241

Thermocouple

TC.1 Location 1
TC.2 Location 2



Temperature's above 600° cant be trusted

Thermocouple

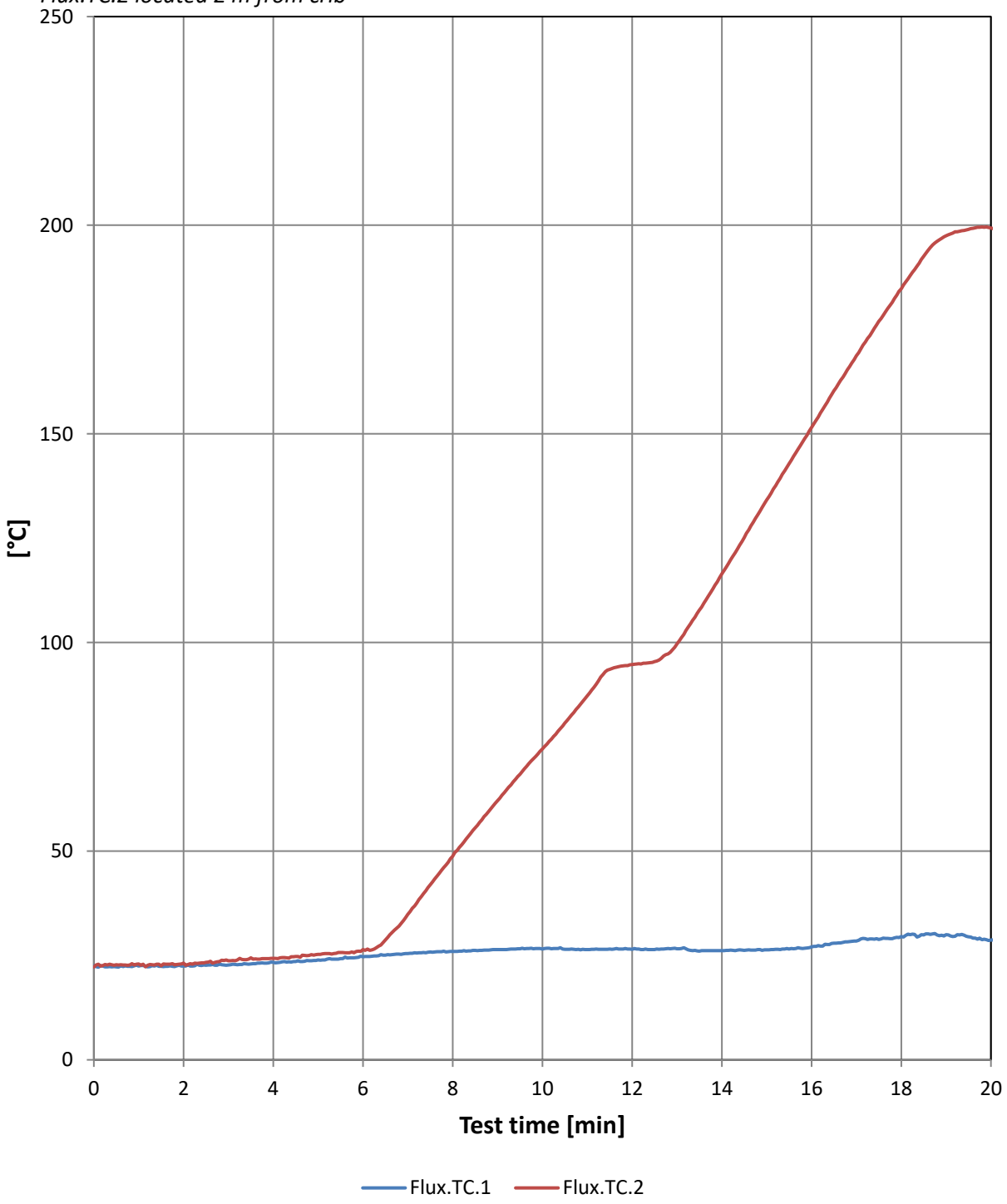
TC.1 Location 1
TC.2 Location 2

Min. / °C	Loc 2.1	Loc 2.2
0	17	19
1	20	21
2	22	22
3	27	26
4	31	31
5	34	37
6	37	42
7	38	44
8	37	50
9	37	53
10	36	58
11	44	66
12	58	80
13	59	88
14	65	92
15	73	100
16	75	115
17	81	130
18	84	141
19	82	136
20	49	128

Temperature's above 600° cant be trusted

Flux TC

Flux.TC.1 located in window
Flux.TC.2 located 2 m from crib



Temperature's above 600° cant be trusted

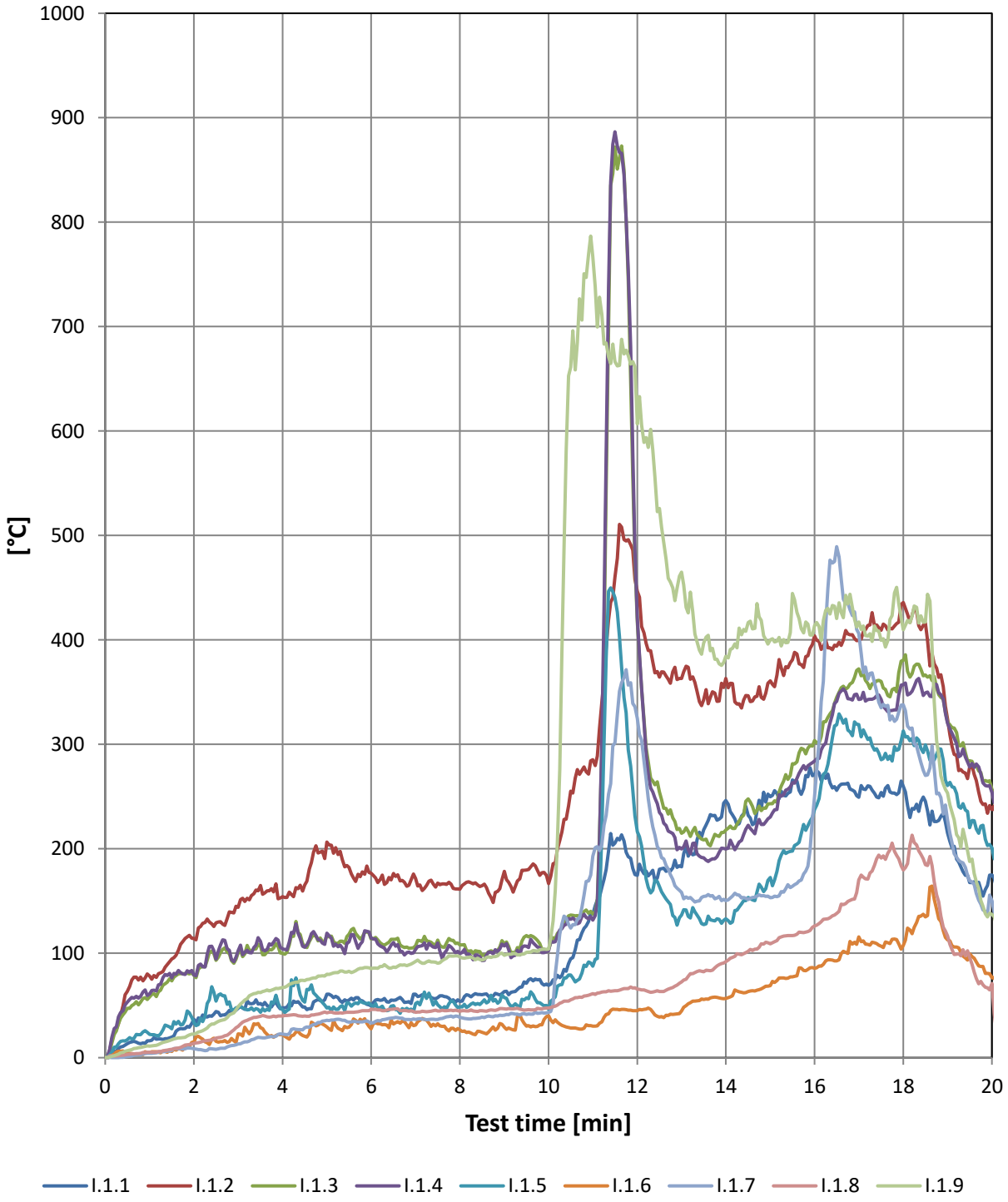
Flux TC

Flux.TC.1 located in window
Flux.TC.2 located 2 m from crib

Min. / °C	Flux.TC.1	Flux.TC.2
0	23	22
1	22	23
2	22	23
3	23	24
4	23	24
5	24	25
6	25	26
7	25	35
8	26	49
9	26	62
10	27	75
11	26	87
12	26	95
13	27	100
14	26	116
15	26	134
16	27	152
17	28	169
18	30	185
19	30	197
20	29	199

Temperature's above 600° cant be trusted

Temperature rise measured 50mm from the facade



Temperature's above 600° cant be trusted

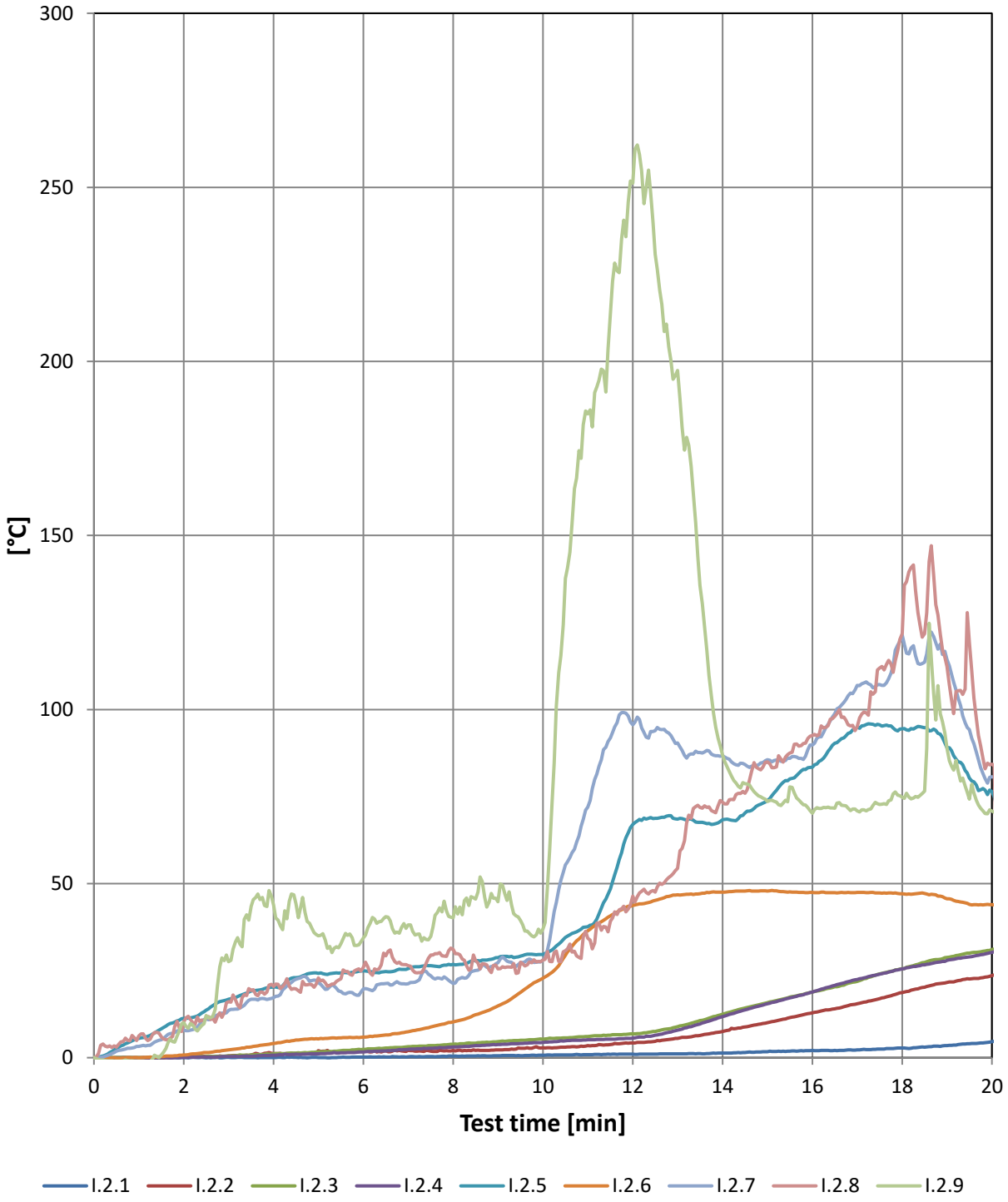
Temperature rise measured 50mm from the facade

Min. / °C	I.1.1	I.1.2	I.1.3	I.1.4	I.1.5	I.1.6	I.1.7	I.1.8	I.1.9	I.1.Max
0	0	0	0	0	0	0	0	0	0	0
1	16	78	58	61	22	5	4	5	11	78
2	37	114	79	79	34	15	9	14	23	114
3	47	144	100	102	48	23	13	30	49	144
4	48	154	100	104	46	22	23	40	67	154
5	61	206	117	119	48	29	36	43	80	206
6	50	177	114	114	50	28	33	46	85	177
7	61	171	107	104	52	31	36	43	92	171
8	54	161	108	99	49	27	39	45	96	161
9	63	178	109	107	58	29	41	47	98	178
10	69	167	104	102	46	40	43	48	104	167
11	137	285	138	132	88	30	193	61	767	767
12	175	446	417	421	216	45	325	66	607	607
13	183	363	215	200	137	45	158	73	465	465
14	246	363	218	200	133	57	150	92	384	384
15	250	361	243	230	172	69	153	109	400	400
16	271	404	304	284	238	86	250	126	414	414
17	249	400	372	343	319	116	406	170	417	417
18	260	436	380	357	313	107	338	180	410	436
19	215	324	321	320	260	113	228	117	253	324
20	175	238	256	254	201	76	150	71	137	256

Failure [min]	-	11.55	11.25	11.25	-	-	-	-	10.35	10.35
Failure°C	500	500	500	500	500	500	500	500	500	500

Temperature's above 600° cant be trusted

Temperature rise measured in ventilation layer



Temperature's above 600° cant be trusted

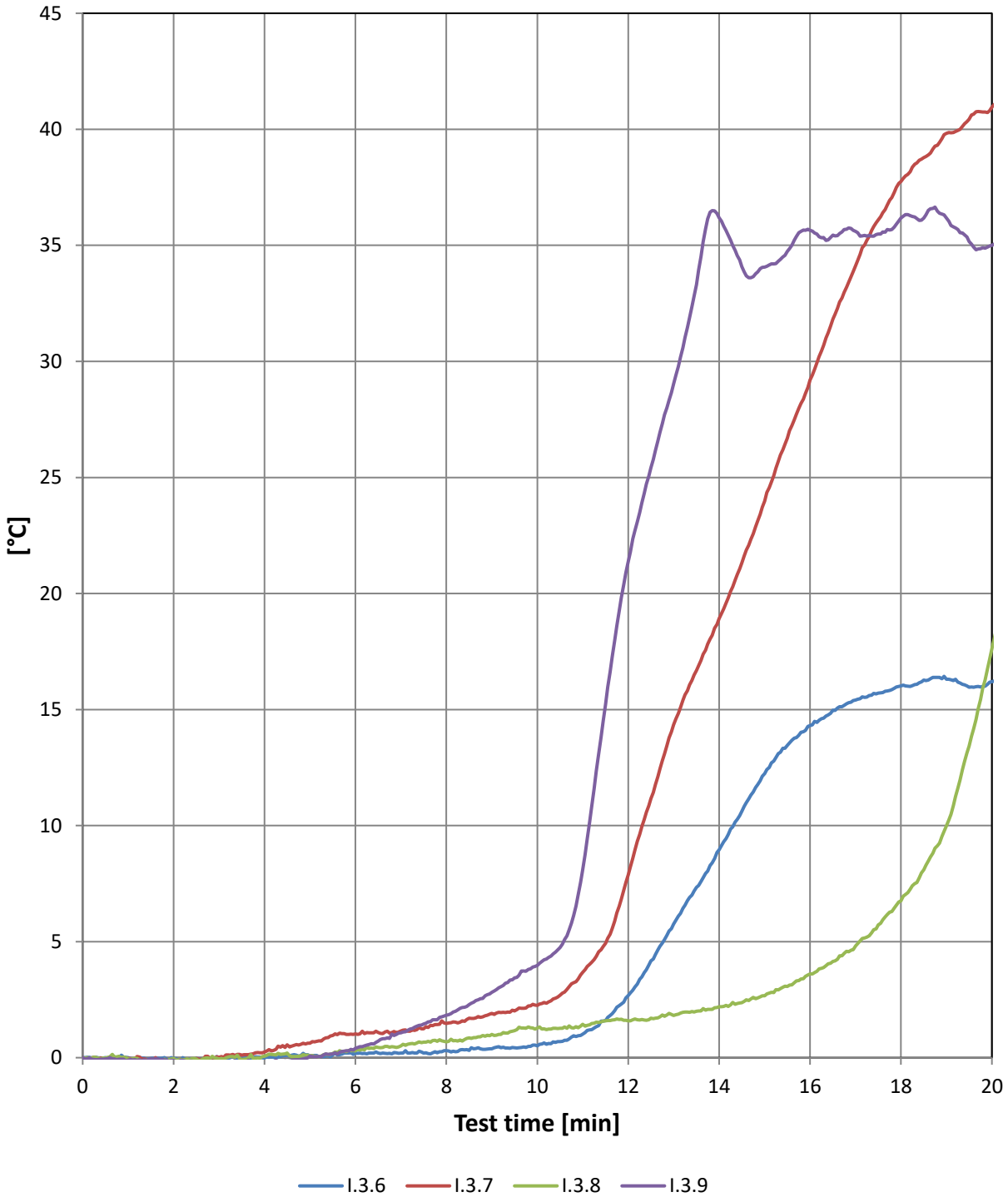
Temperature rise measured in ventilation layer

Min. / °C	I.2.1	I.2.2	I.2.3	I.2.4	I.2.5	I.2.6	I.2.7	I.2.8	I.2.9	I.2.Max
0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	6	0	3	6	-1	6
2	0	0	0	0	11	1	8	10	10	11
3	0	0	1	0	17	2	14	16	28	28
4	0	1	1	1	20	4	17	20	44	44
5	0	2	2	1	24	5	22	23	35	35
6	0	2	2	2	25	6	20	26	34	34
7	0	2	3	2	26	7	21	26	38	38
8	0	2	4	3	27	10	21	31	40	40
9	1	2	5	4	29	15	27	26	45	45
10	1	3	5	4	30	23	28	28	37	37
11	1	3	6	5	38	36	72	34	185	185
12	1	4	7	6	67	44	96	46	251	251
13	1	6	9	8	69	47	90	54	197	197
14	1	8	13	12	68	48	87	73	87	87
15	2	10	16	15	74	48	86	85	74	86
16	2	13	19	19	83	47	90	93	70	93
17	2	15	22	22	95	47	107	95	71	107
18	3	19	26	26	94	47	121	122	75	122
19	3	22	29	28	89	46	114	112	89	114
20	5	24	31	30	76	44	81	84	71	84

Failure [min]	-	-	-	-	-	-	-	-	-	-
Failure°C	500	500	500	500	500	500	500	500	500	500

Temperature's above 600° cant be trusted

Temperature rise measured in middle of insulation



Temperature's above 600° cant be trusted

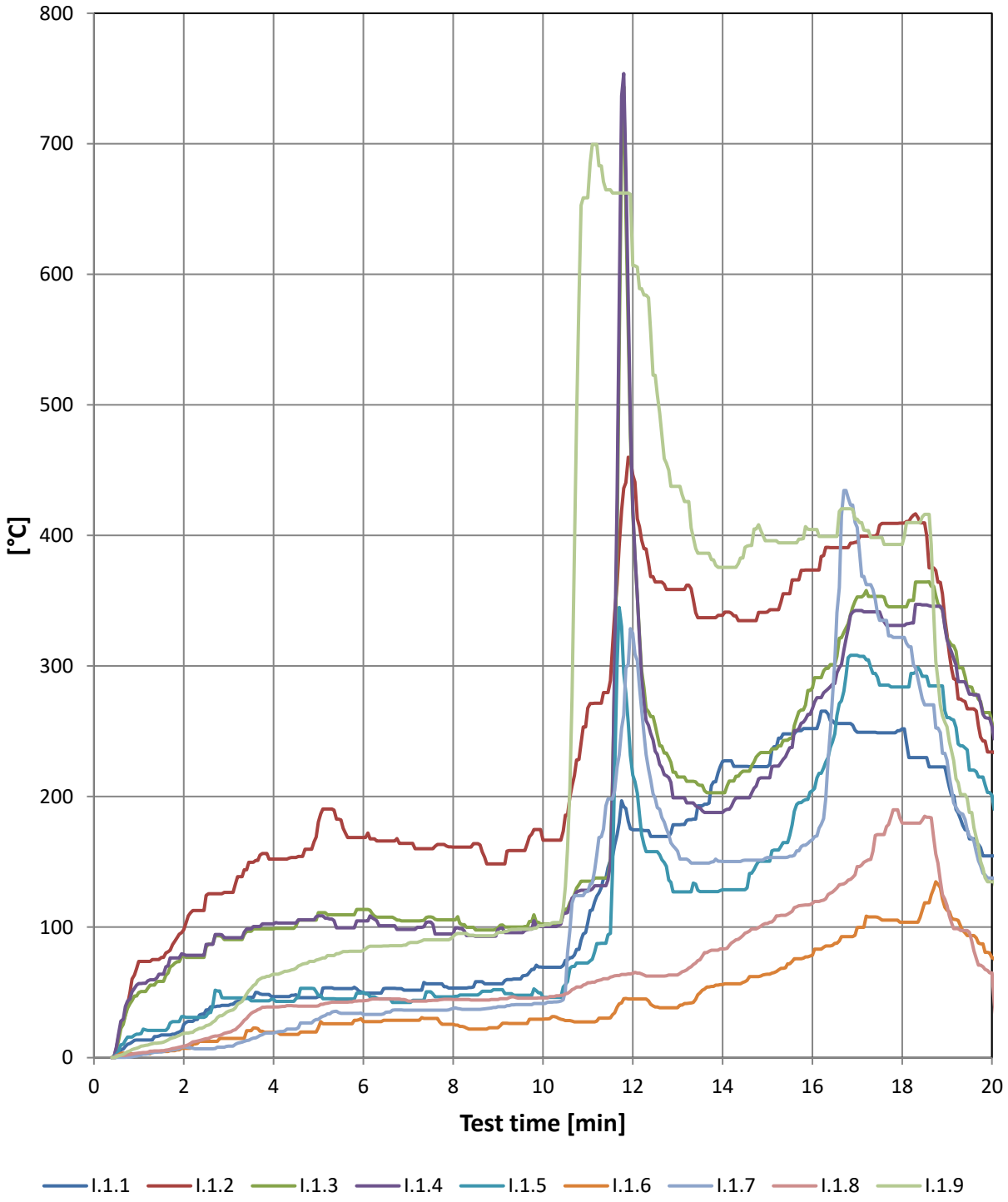
Temperature rise measured in middle of insulation

Min. / °C	I.3.6	I.3.7	I.3.8	I.3.9	I.3.Max
0	0	0	0	0	0
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	1	0	0	1
6	0	1	0	0	1
7	0	1	1	1	1
8	0	1	1	2	2
9	0	2	1	3	3
10	1	2	1	4	4
11	1	4	1	8	8
12	3	8	2	21	21
13	6	14	2	29	29
14	9	19	2	36	36
15	12	24	3	34	34
16	14	29	4	36	36
17	15	34	5	36	36
18	16	38	7	36	38
19	16	40	10	36	40
20	16	41	18	35	41

Failure [min]	-	-	-	-	-
Failure°C	500	500	500	500	500

Temperature's above 600° cant be trusted

Temperature rise measured in Location 1 - 50 mm from facade. Minimum of 30 sec



Temperature's above 600° cant be trusted

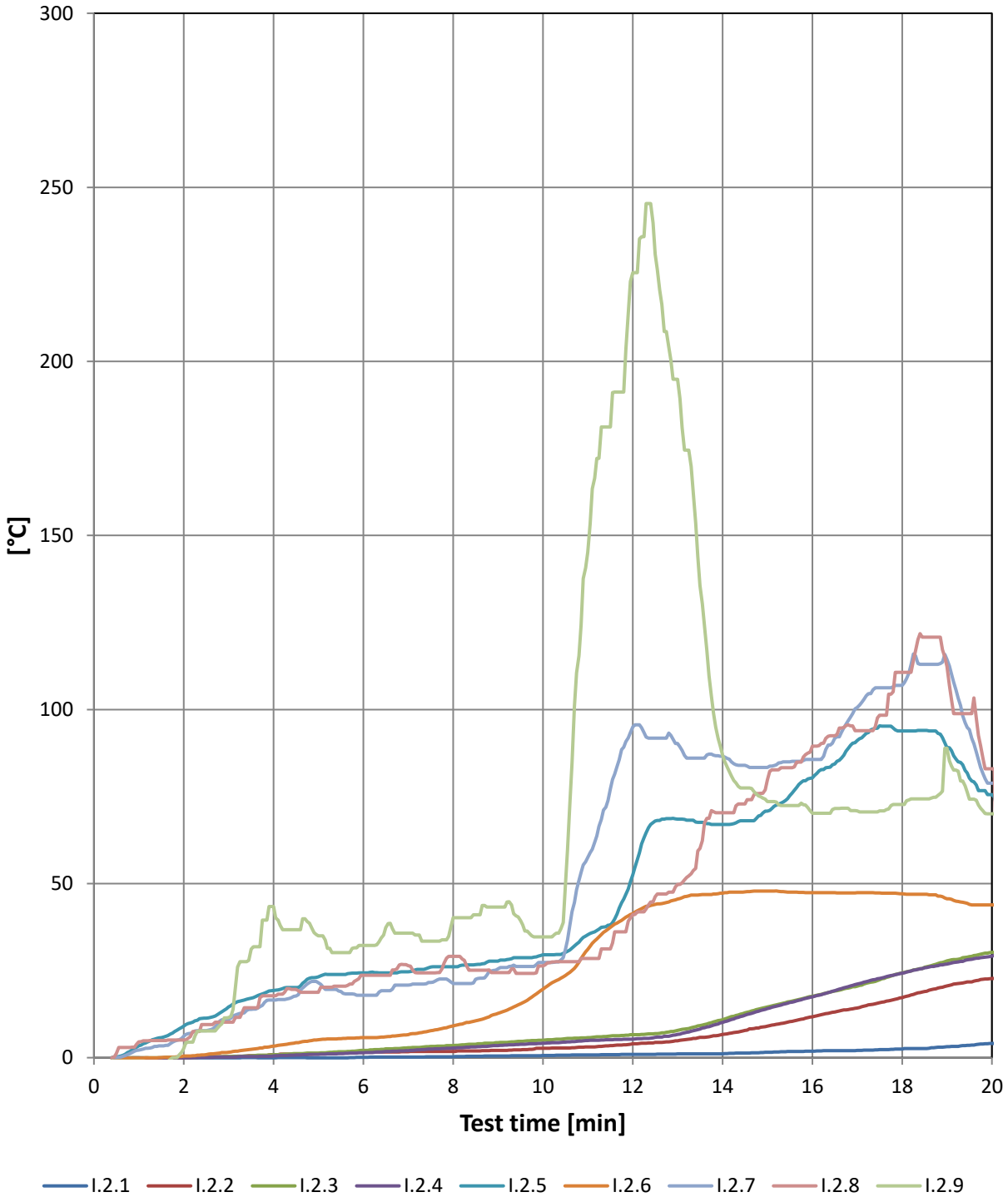
Temperature rise measured in Location 1 - 50 mm from facade. Minimum of 30 sec

Min. / °C	I.1.1	I.1.2	I.1.3	I.1.4	I.1.5	I.1.6	I.1.7	I.1.8	I.1.9	I.1.Max
0	0	0	0	0	0	0	0	0	0	0
1	13	74	50	57	18	3	2	4	8	74
2	25	98	79	79	32	7	8	9	19	98
3	40	127	90	92	46	15	9	19	36	127
4	47	152	99	102	45	20	19	39	64	152
5	47	180	111	109	48	23	29	40	75	180
6	50	169	114	105	50	28	33	44	82	169
7	52	164	105	98	42	29	36	43	88	164
8	53	161	106	95	47	26	38	45	93	161
9	57	149	99	98	52	23	39	45	96	149
10	69	167	102	101	46	30	42	46	101	167
11	103	268	135	128	72	27	127	57	659	659
12	175	446	417	421	216	45	325	65	607	607
13	178	359	215	199	127	38	158	63	438	438
14	227	339	203	188	129	56	150	83	376	376
15	223	341	234	214	150	64	153	103	396	396
16	252	374	283	267	204	78	167	118	405	405
17	249	395	353	342	308	100	406	146	412	412
18	252	410	345	331	284	104	322	180	393	410
19	215	324	321	320	260	113	228	117	253	324
20	155	234	256	254	201	76	138	65	135	256

Failure [min]	-	-	11.65	11.65	-	-	-	-	10.75	10.75
Failure°C	500	500	500	500	500	500	500	500	500	500

Temperature's above 600° cant be trusted

Temperature rise measured in Location 2 - ventilation layer. Minimum of 30 sec

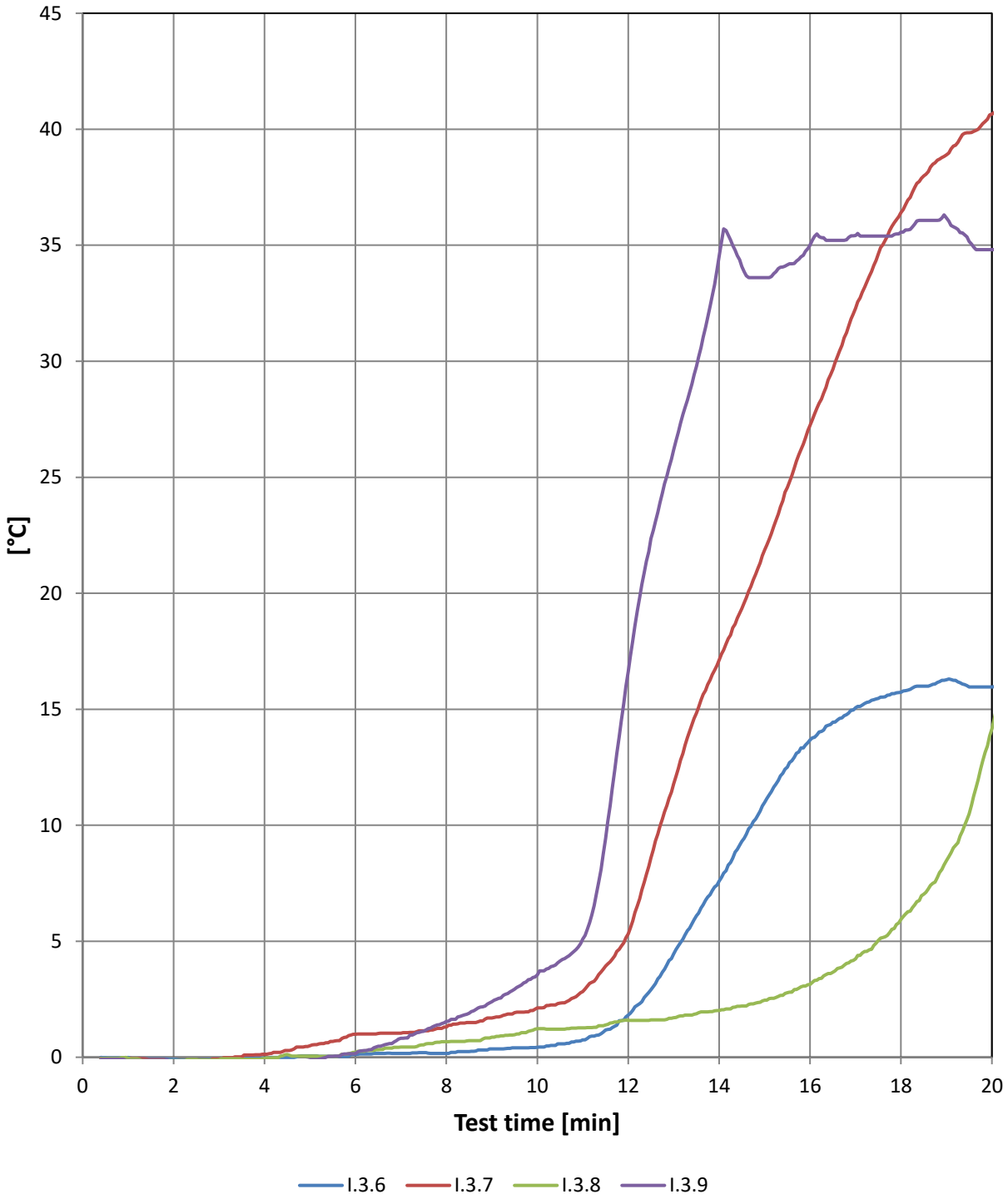


Temperature rise measured in Location 2 - ventilation layer. Minimum of 30 sec

Min. / °C	I.2.1	I.2.2	I.2.3	I.2.4	I.2.5	I.2.6	I.2.7	I.2.8	I.2.9	I.2.Max
0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	3	0	2	5	-1	5
2	0	0	0	0	9	0	6	5	3	9
3	0	0	0	0	15	2	11	10	12	15
4	0	1	1	0	19	3	17	18	43	43
5	0	1	1	1	23	5	22	19	35	35
6	0	2	2	1	24	6	18	24	32	32
7	0	2	3	2	25	7	21	26	36	36
8	0	2	4	3	26	9	21	29	40	40
9	0	2	4	3	28	13	26	24	43	43
10	1	3	5	4	30	20	27	26	35	35
11	1	3	6	5	35	31	57	28	145	145
12	1	4	7	5	53	41	95	41	225	225
13	1	5	8	7	69	46	90	50	195	195
14	1	7	11	10	67	47	87	70	87	87
15	2	9	15	14	71	48	83	80	74	83
16	2	12	18	17	80	47	86	90	70	90
17	2	14	21	21	91	47	101	94	71	101
18	2	17	24	24	94	47	107	111	73	111
19	3	21	28	27	89	46	114	112	89	114
20	4	23	30	29	76	44	79	83	70	83

Failure [min]	-	-	-	-	-	-	-	-	-	-
Failure°C	500	500	500	500	500	500	500	500	500	500

Temperature rise measured in Location 2 - insulation. Minimum of 30 sec



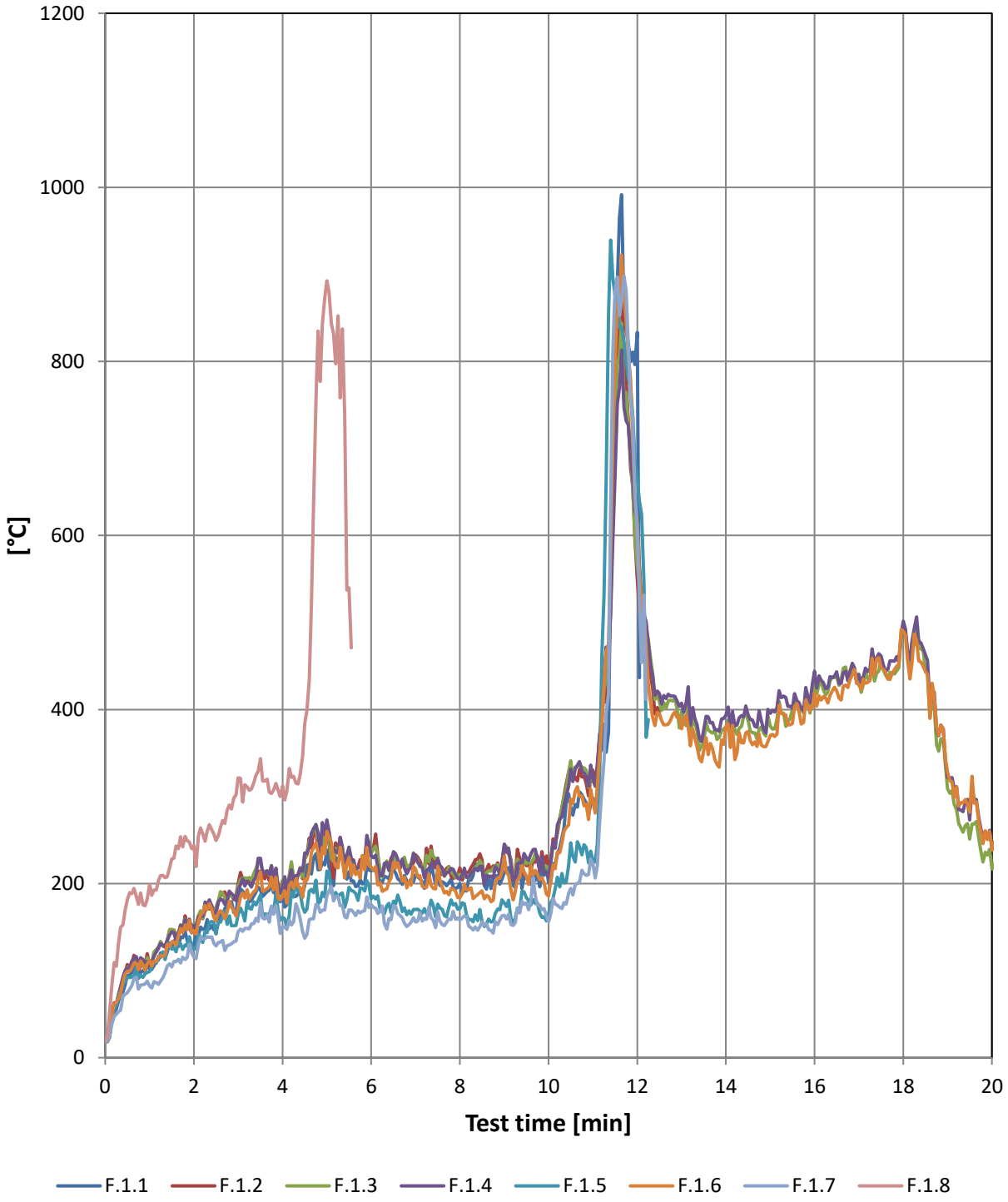
Temperature rise measured in Location 2 - insulation. Minimum of 30 sec

Min. / °C	I.3.6	I.3.7	I.3.8	I.3.9	I.3.Max
0	0	0	0	0	0
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	1	0	0	1
7	0	1	0	1	1
8	0	1	1	2	2
9	0	2	1	2	2
10	0	2	1	4	4
11	1	3	1	5	5
12	2	5	2	17	17
13	4	12	2	26	26
14	8	17	2	35	35
15	11	22	2	34	34
16	14	27	3	35	35
17	15	32	4	35	35
18	16	36	6	36	36
19	16	39	8	36	39
20	16	41	14	35	41

Failure [min]	-	-	-	-	-
Failure°C	500	500	500	500	500

Vertical measurements on main facade

Vertical mesurments on the main facade F.1.1-8



TC F.1.1 Failed after 12 minutes of testing. TC F.1.2 Failed after 13 minutes of testing
TC F.1.5 Failed after 13 minutes of testing.TC F.1.7 Failed after 13 minutes of testing

Vertical measurements on main facade

Vertical mesurments on the main facade F.1.1-8

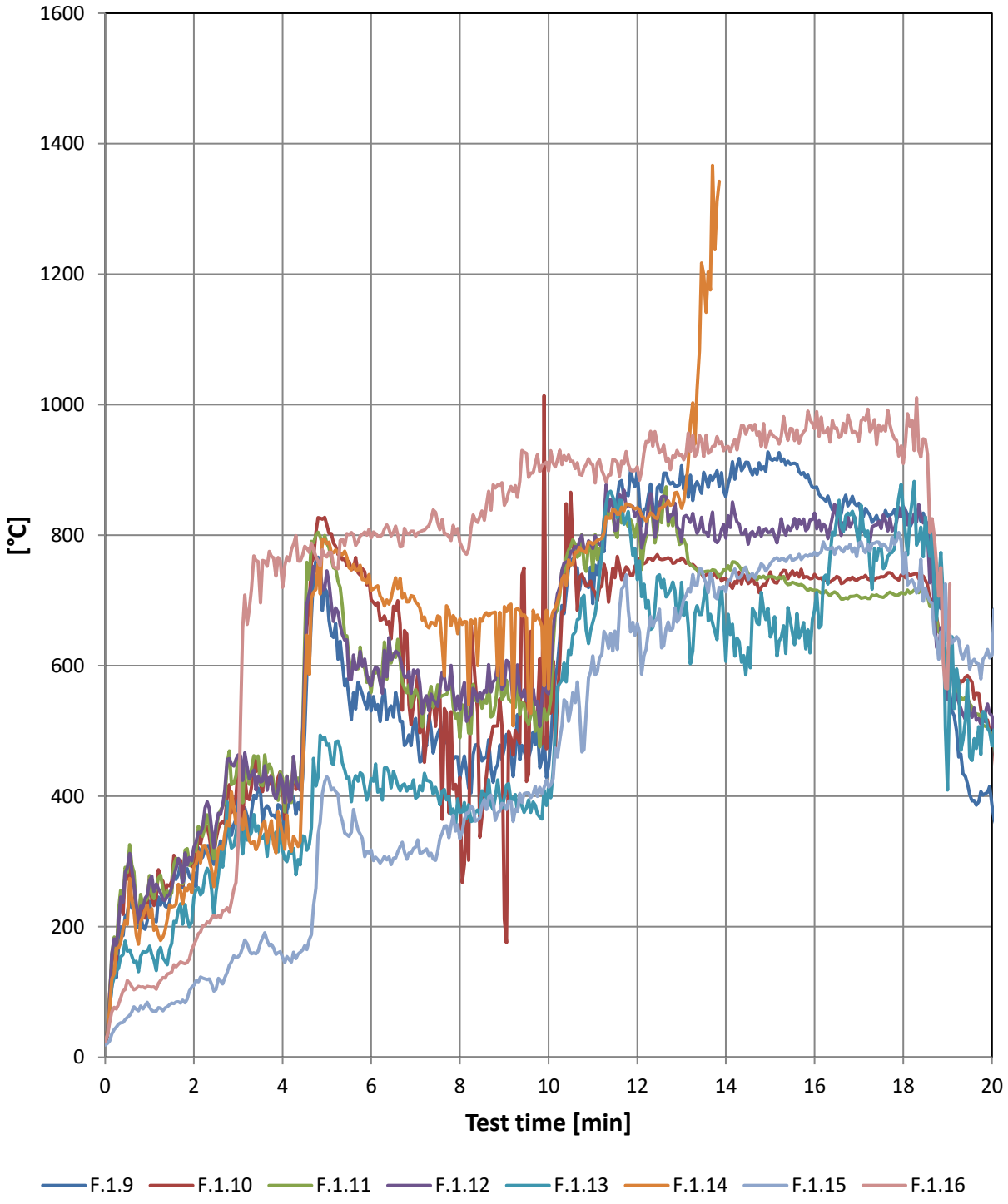
Min. / °C	F.1.1	F.1.2	F.1.3	F.1.4	F.1.5	F.1.6	F.1.7	F.1.8	F.1.Max
0	18	18	18	18	18	18	18	19	19
1	102	106	110	110	99	112	82	199	199
2	130	148	154	152	125	146	116	244	244
3	186	200	196	193	164	172	145	321	321
4	185	203	204	197	161	186	150	312	312
5	239	262	258	273	214	260	186	893	893
6	215	240	235	232	182	219	176	0	240
7	210	233	231	231	170	217	156	0	233
8	200	218	210	205	171	184	158	0	218
9	213	239	245	245	178	232	164	0	245
10	201	217	216	207	165	186	156	0	217
11	298	330	319	321	227	294	223	0	330
12	834	549	566	617	664	614	603	0	834
13	0	0	398	407	0	378	0	0	407
14	0	0	379	393	0	380	0	0	393
15	0	0	381	396	0	370	0	0	396
16	0	0	431	444	0	419	0	0	444
17	0	0	441	440	0	428	0	0	441
18	0	0	493	501	0	490	0	0	501
19	0	0	309	322	0	328	0	0	328
20	0	0	217	241	0	238	0	0	241

Failure [min]	11.35	11.35	11.35	11.35	11.20	11.35	11.35	4.60	4.60
Failure°C	500	500	500	500	500	500	500	500	500

TC F.1.1 Failed after 12 minutes of testing. TC F.1.2 Failed after 13 minutes of testing
TC F.1.5 Failed after 13 minutes of testing.TC F.1.7 Failed after 13 minutes of testing

Vertical measurements on main facade

Vertical mesurments on the main facade F.1.9-16



TC F.1.14 Failed after 14 minutes of testing
Temperature's above 600° cant be trusted

Vertical measurements on main facade

Vertical mesurments on the main facade F.1.9-16

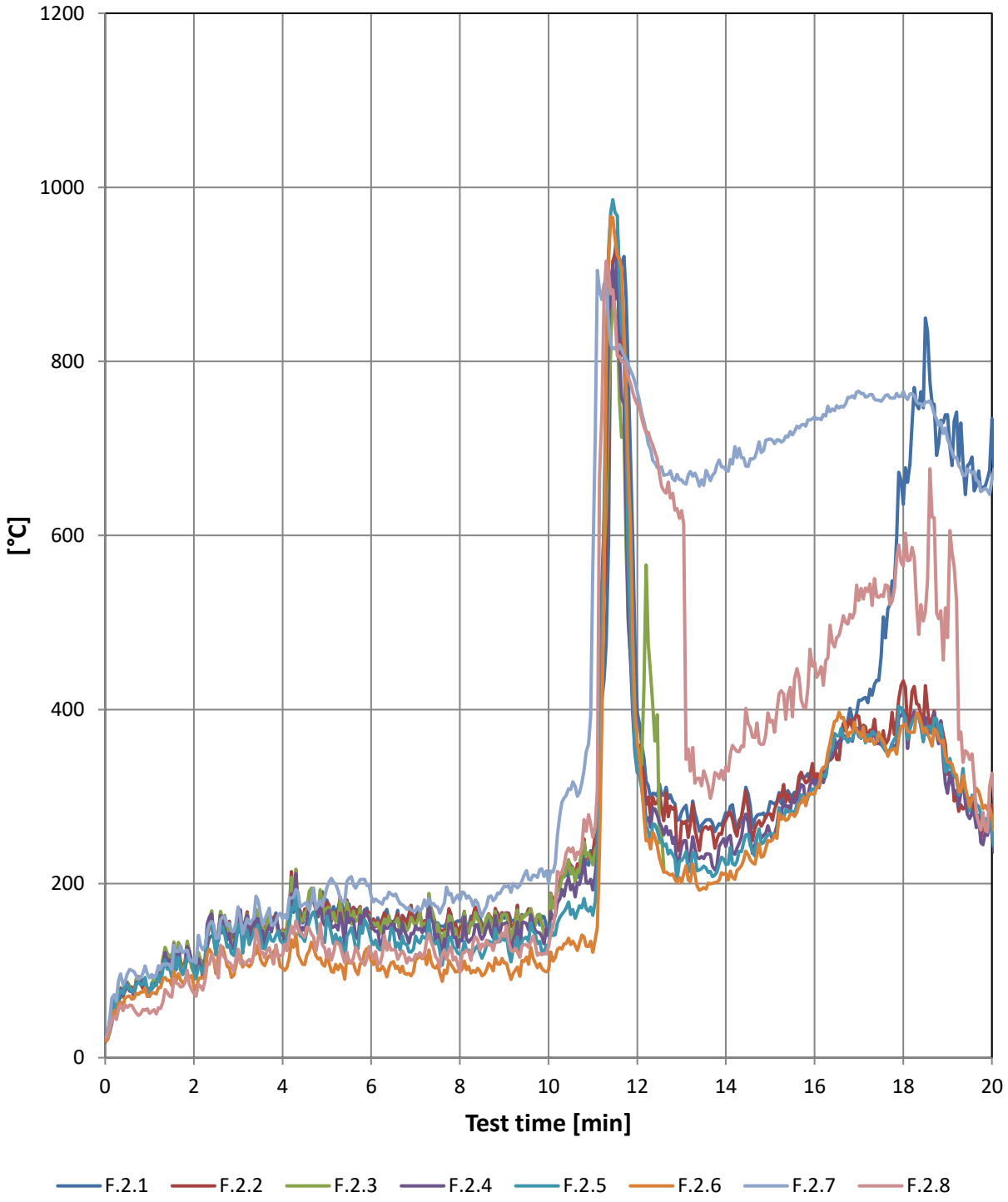
Min. / °C	F.1.9	F.1.10	F.1.11	F.1.12	F.1.13	F.1.14	F.1.15	F.1.16	F.1.Max
0	20	24	24	23	25	23	19	24	25
1	239	278	278	271	171	214	77	108	278
2	283	316	321	322	245	292	110	172	322
3	400	444	462	463	369	374	154	323	463
4	376	412	428	420	317	339	153	720	720
5	713	816	788	746	478	787	430	767	816
6	531	701	559	569	427	716	318	796	796
7	519	561	563	589	397	698	322	798	798
8	428	429	490	533	375	672	335	789	789
9	474	212	554	569	398	691	387	846	846
10	446	655	527	557	414	565	414	898	898
11	695	718	745	780	667	786	615	908	908
12	898	758	817	835	732	842	665	905	905
13	907	765	788	789	728	841	687	923	923
14	859	733	746	796	607	0	713	935	935
15	917	744	736	805	644	0	756	959	959
16	873	740	716	834	685	0	774	964	964
17	849	733	706	808	782	0	788	944	944
18	836	740	711	844	839	0	741	910	910
19	559	600	601	548	409	0	639	564	639
20	386	493	494	523	477	0	617	0	617

Failure [min]	4.50	4.45	4.45	4.45	10.15	4.45	10.25	3.00	3.00
Failure°C	500	500	500	500	500	500	500	500	500

TC F.1.14 Failed after 14 minutes of testing
Temperature's above 600° cant be trusted

Vertical measurements on the wing

Vertical mesurments on the wing F.2.1-8



TC F.2.3 Failed after 12 minutes of testing.
Temperature's above 600° cant be trusted

Vertical measurements on the wing

Vertical mesurments on the wing F.2.1-8

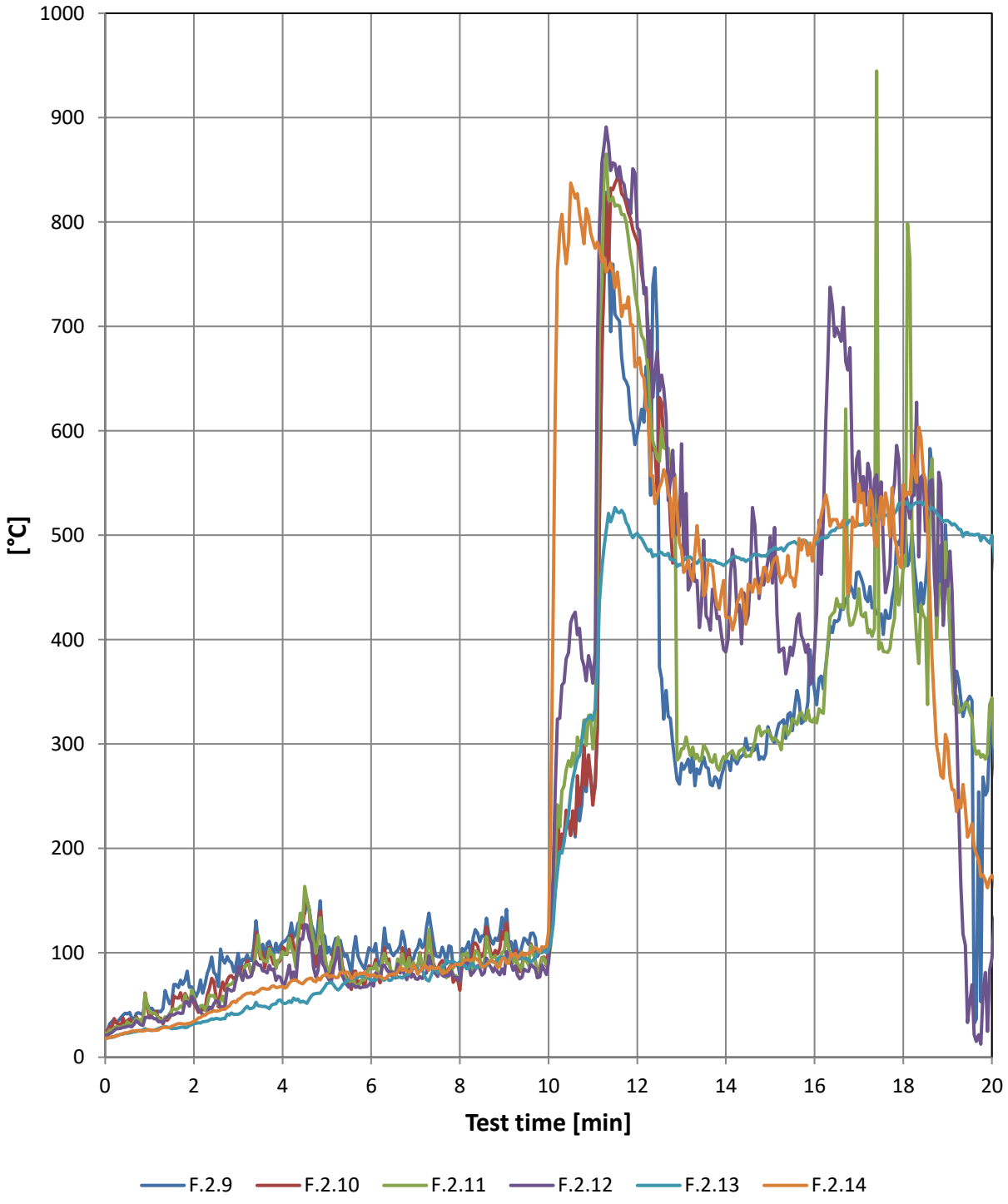
Min. / °C	F.2.1	F.2.2	F.2.3	F.2.4	F.2.5	F.2.6	F.2.7	F.2.8	F.2.Max
0	18	18	18	18	19	19	23	22	23
1	79	75	74	71	72	71	92	51	92
2	105	102	97	99	99	82	114	74	114
3	144	159	169	171	152	118	173	125	173
4	144	147	146	143	132	103	160	118	160
5	181	178	172	166	163	117	196	115	196
6	152	149	152	154	135	111	186	121	186
7	163	158	151	151	140	113	169	118	169
8	157	149	138	136	119	98	181	99	181
9	160	165	165	154	135	109	197	139	197
10	143	142	144	140	127	101	201	129	201
11	231	234	221	193	164	121	564	253	564
12	397	340	343	327	330	362	765	750	765
13	282	272	0	243	226	201	664	629	664
14	282	273	0	243	222	212	675	334	675
15	294	280	0	258	257	248	711	385	711
16	323	315	0	314	308	303	736	454	736
17	411	392	0	379	369	374	766	525	766
18	636	433	0	399	395	381	765	565	765
19	739	326	0	304	330	340	710	483	739
20	734	290	0	256	259	276	665	327	734

Failure [min]	11.30	11.15	11.15	11.15	11.20	11.20	10.95	11.10	10.95
Failure°C	500	500	500	500	500	500	500	500	500

TC F.2.3 Failed after 12 minutes of testing.
Temperature's above 600° cant be trusted

Vertical measurements on the wing

Vertical mesurments on the wing F2.9-14



TC F.2.10 Failed after 13 minutes of testing.
Temperature's above 600° cant be trusted

Vertical measurements on the wing

Vertical mesurments on the wing F2.9-14

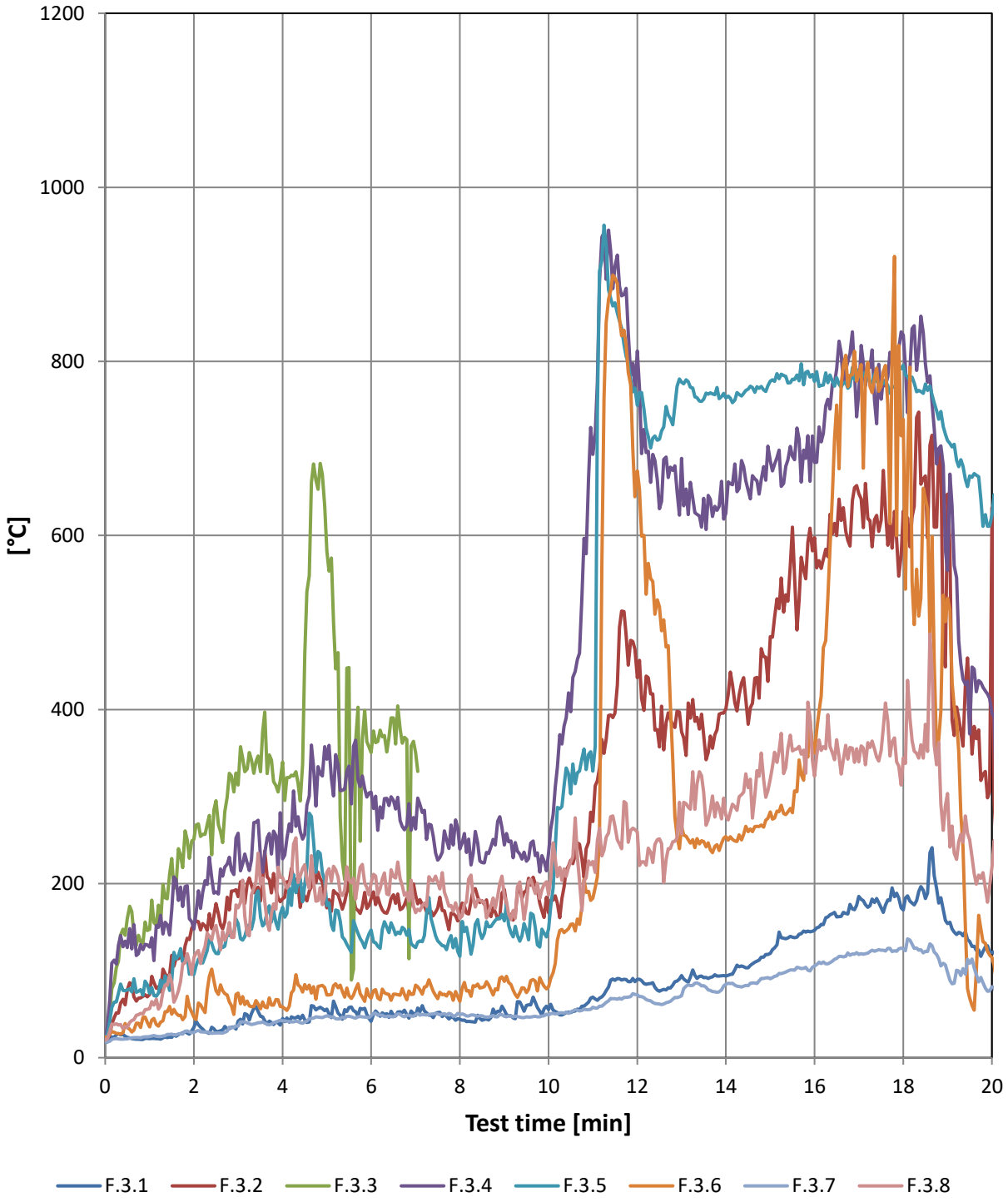
Min. / °C	F.2.9	F.2.10	F.2.11	F.2.12	F.2.13	F.2.14	F.2.Max
0	24	25	23	21	18	18	25
1	46	38	43	37	26	26	46
2	63	52	59	56	32	35	63
3	100	87	81	87	41	55	100
4	110	106	101	71	52	68	110
5	100	80	86	78	71	80	100
6	103	85	85	73	73	78	103
7	102	85	87	75	87	85	102
8	79	64	72	73	91	88	91
9	120	113	102	80	96	95	120
10	111	105	95	91	104	121	121
11	248	241	295	358	323	782	782
12	597	781	719	794	502	664	794
13	282	0	296	588	472	486	588
14	285	0	286	388	473	422	473
15	309	0	308	499	486	462	499
16	351	0	325	391	490	498	498
17	465	0	449	580	510	549	580
18	506	0	469	484	534	549	549
19	461	0	467	451	514	302	514
20	317	0	344	95	500	174	500

Failure [min]	11.10	11.10	11.10	11.05	11.25	10.10	10.10
Failure°C	500	500	500	500	500	500	500

TC F.2.10 Failed after 13 minutes of testing.
Temperature's above 600° cant be trusted

Horizontal measurements

Horizontal mesurments F.3.1-9



TC F.3.3 Failed after 7 minutes of testing.
Temperature's above 600° cant be trusted

Horizontal measurements

Horizontal mesurments F.3.1-9

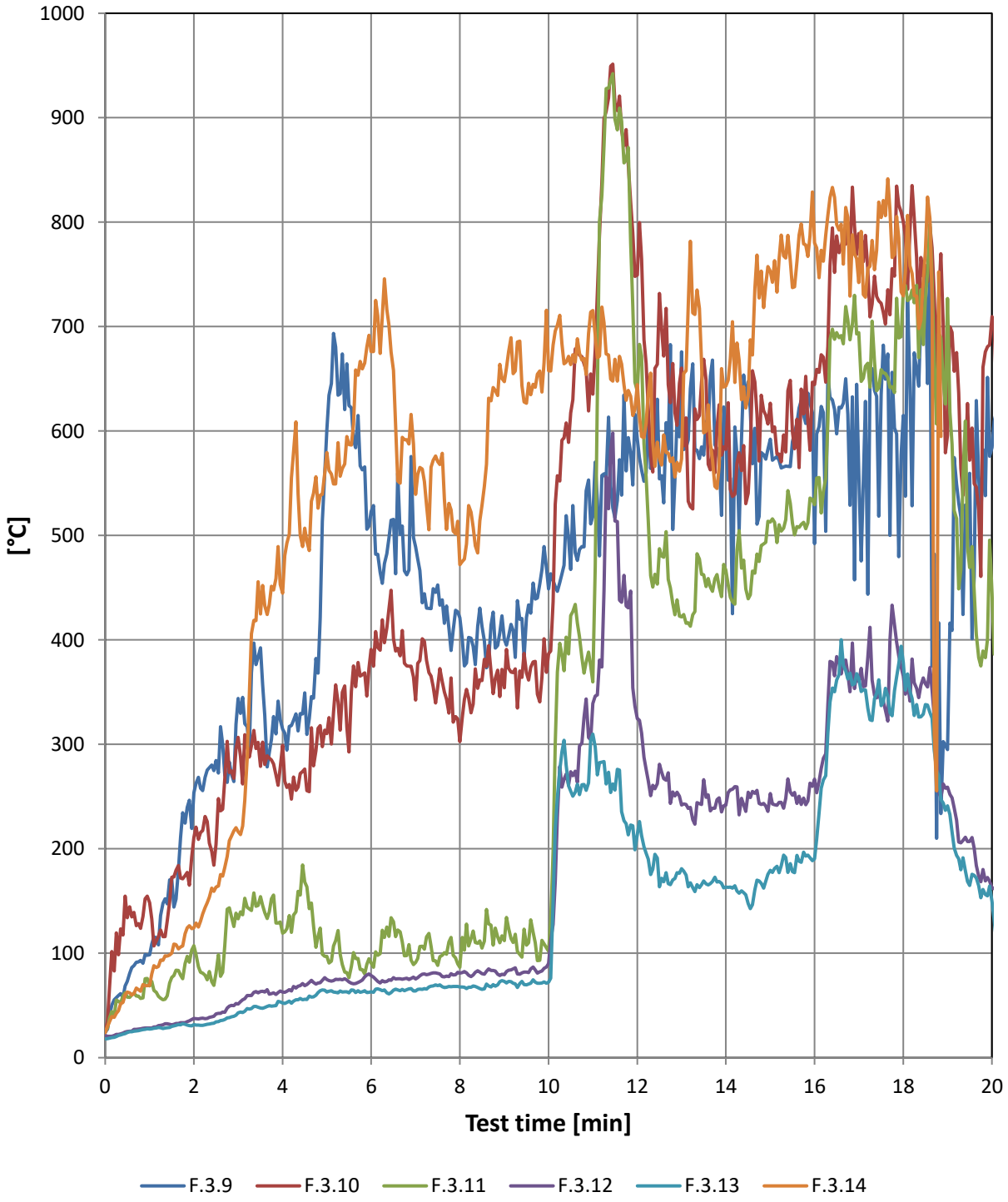
Min. / °C	F.3.1	F.3.2	F.3.3	F.3.4	F.3.5	F.3.6	F.3.7	F.3.8	F.3.Max
0	18	19	22	21	21	24	18	20	24
1	22	73	147	127	74	35	24	57	147
2	35	153	251	148	96	47	29	115	251
3	42	185	313	258	154	74	36	172	313
4	45	182	340	229	173	58	42	207	340
5	56	172	582	343	175	72	48	213	582
6	42	183	351	305	147	68	48	200	351
7	49	187	351	263	127	83	49	167	351
8	44	170	0	240	116	65	49	160	240
9	54	193	0	244	157	88	48	186	244
10	55	166	0	235	148	81	49	187	235
11	69	271	0	693	329	183	58	225	693
12	90	436	0	812	749	674	72	259	812
13	94	374	0	689	776	266	71	257	776
14	94	401	0	625	758	254	84	279	758
15	120	484	0	686	777	282	91	320	777
16	146	598	0	684	777	350	106	323	777
17	185	648	0	765	783	785	118	340	785
18	170	628	0	830	796	733	125	345	830
19	154	648	0	560	709	528	98	303	709
20	121	632	0	396	624	115	81	219	632

Failure [min]	-	11.60	4.50	10.70	11.05	11.15	-	-	4.50
Failure°C	500	500	500	500	500	500	500	500	500

TC F.3.3 Failed after 7 minutes of testing.
Temperature's above 600° cant be trusted

Horizontal mesurments

Horizontal mesurments F.3.9-14



TC F.3.14 Failed after 18 minutes of testing
Temperature's above 600° cant be trusted

Horizontal mesurments

Horizontal mesurments F.3.9-14

Min. / °C	F.3.9	F.3.10	F.3.11	F.3.12	F.3.13	F.3.14	F.3.Max
0	24	24	25	21	18	24	25
1	99	148	69	28	27	69	148
2	254	211	107	38	32	124	254
3	344	307	133	51	43	216	344
4	315	299	119	63	52	445	445
5	601	310	97	75	63	580	601
6	523	391	91	79	63	676	676
7	489	342	91	75	64	539	539
8	421	303	87	81	68	472	472
9	400	354	112	80	73	647	647
10	449	387	102	90	72	658	658
11	518	635	360	339	310	715	715
12	592	749	638	324	214	645	749
13	676	660	422	242	181	573	676
14	595	583	467	242	163	643	643
15	592	627	513	253	180	753	753
16	492	644	529	267	191	780	780
17	560	789	694	360	363	742	789
18	615	801	734	366	378	729	801
19	295	596	727	259	241	0	727
20	584	709	444	162	149	0	709

Failure [min]	4.85	10.10	11.05	11.25	-	4.10	4.10
Failure°C	500	500	500	500	500	500	500

TC F.3.14 Failed after 18 minutes of testing
Temperature's above 600° cant be trusted

Plate thermocouple on facade

Plate thermocouple on facade

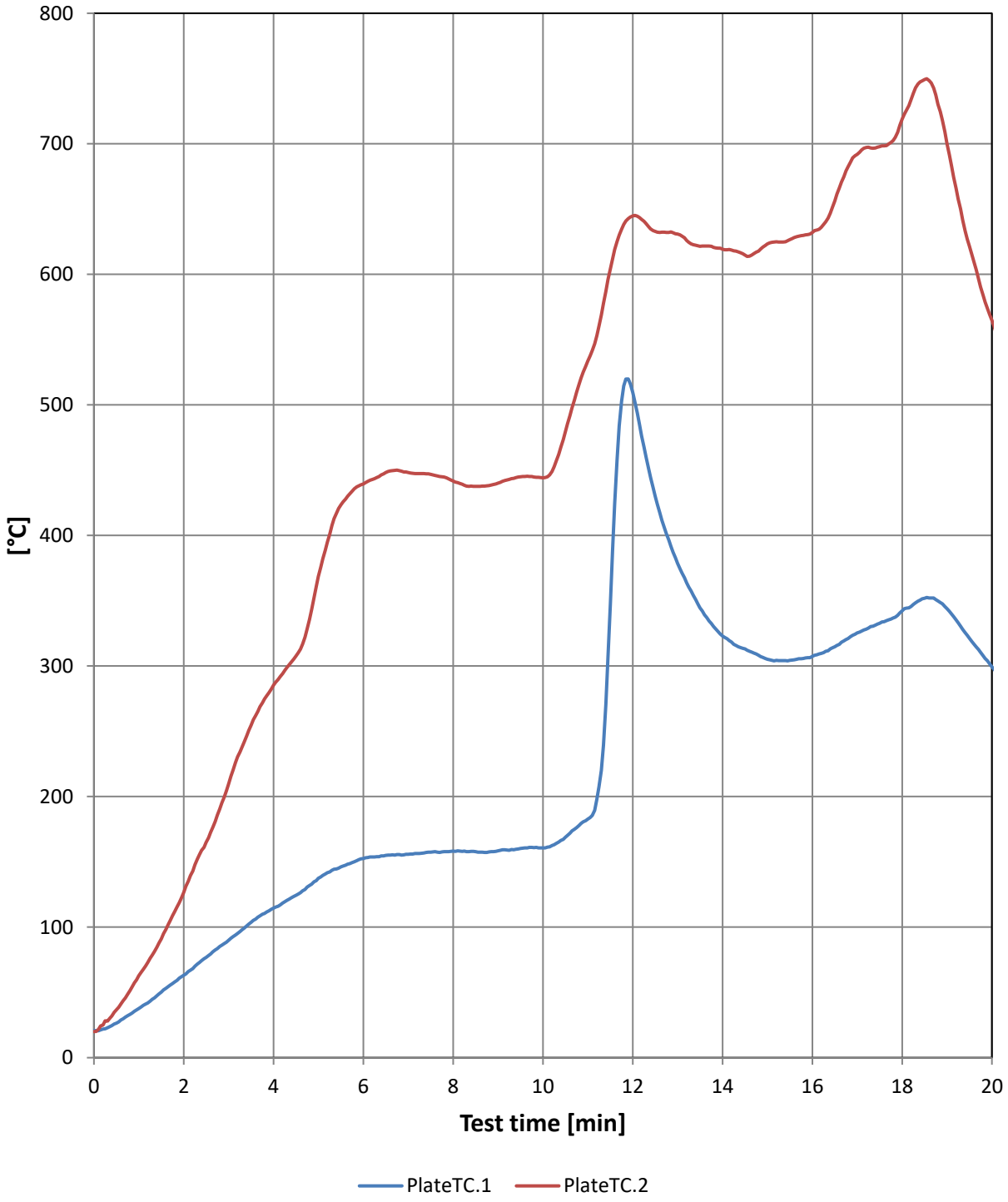


Plate thermocouple on facade

Plate thermocouple on facade

Min. / °C	PlateTC.1	PlateTC.2
0	21	20
1	38	63
2	63	127
3	90	210
4	114	285
5	137	369
6	153	440
7	156	448
8	158	442
9	159	440
10	161	444
11	183	533
12	510	645
13	379	631
14	323	619
15	305	623
16	307	632
17	325	692
18	342	719
19	344	700
20	299	565

Photo No. 1 Prefabricated cassettes.

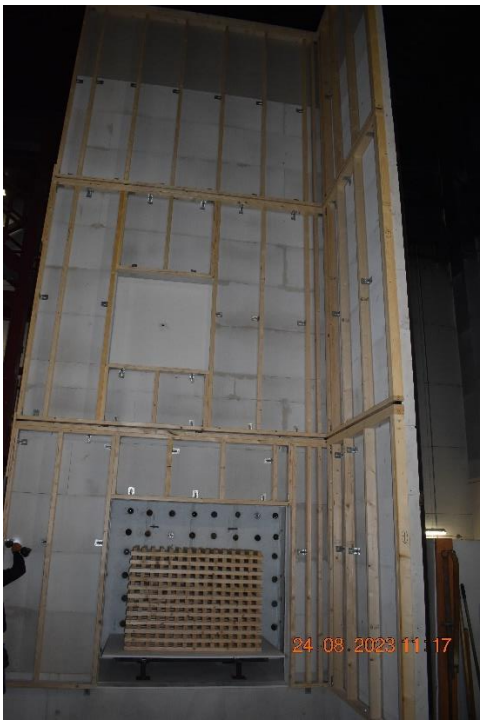


Photo No. 2 Prefabricated cassettes mounted on the façade rig.

Photo No. 3 Isolation layer applied to the façade.

Photo No. 4 Cembrit boards mounted to the prefabricated cassettes.

Photo No. 5 Steel profiles around window and fire chamber has been installed.

Photo No. 6 Fire breakers are being mounted.

Photo No. 7 Cross formwork and firestop have been mounted.

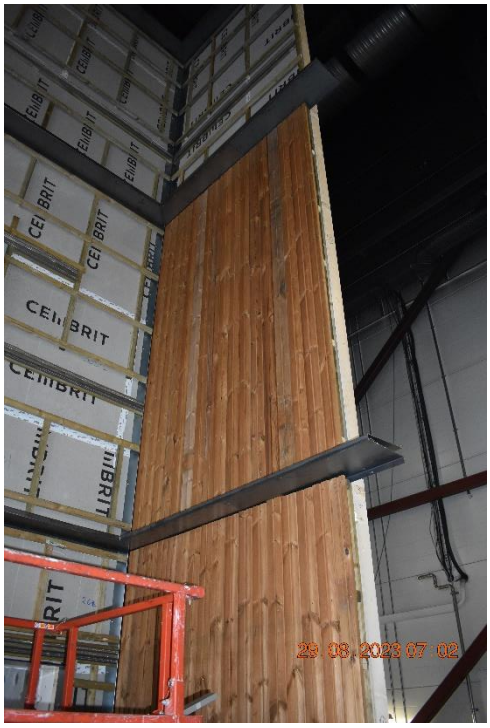


Photo No. 8 Cladding is being mounted.

Photo No. 9 Detail of firestop and cladding.

Photo No. 10 Cladding have been mounted on the two lower levels.

Photo No. 11 Connection between the main façade and wing.

Photo No. 12 Detail of side in fire chamber.

Photo No. 13 Façade before start test.

Photo No. 14 Test specimen at start test.

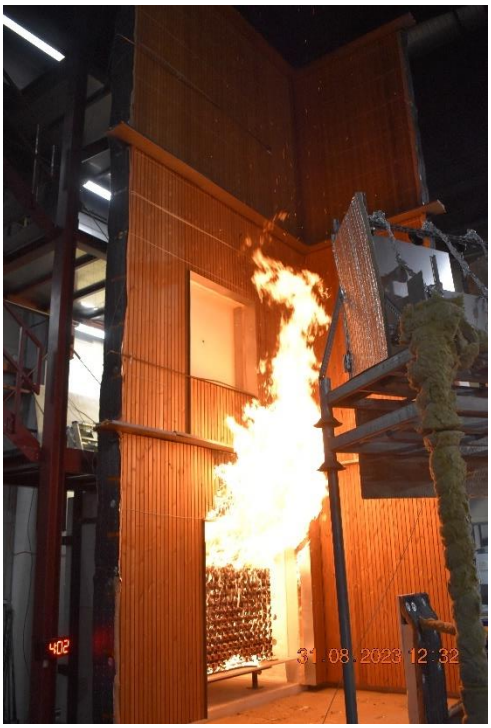


Photo No. 15 Test specimen 3 minutes into the test.

Photo No. 16 Test specimen 6 minutes into the test.

Photo No. 17 Test specimen 8 minutes into the test.

Photo No. 18 Test specimen 10 minutes into the test.

Photo No. 19 Test specimen 11 minutes into the test.

Photo No. 20 Test specimen 12 minutes into the test.

Photo No. 21 Test specimen 15 minutes into the test.

Photo No. 22 Test specimen 18 minutes into the test.

Photo No. 23 Test specimen after the test. Detail photo of cladding in the corner below the first flame breaker.

Photo No. 24 Test specimen after the test. Detail photo of cladding above the fire chamber.

Photo No. 25 Test specimen after the test. Detail photo of cladding above the fire chamber.

Photo No. 26 Test specimen after the test.

Photo No. 27 Test specimen after the test. Top of main façade.

Photo No. 28 All cladding has been removed.

Photo No. 29 Windstopper and insulation has been removed.

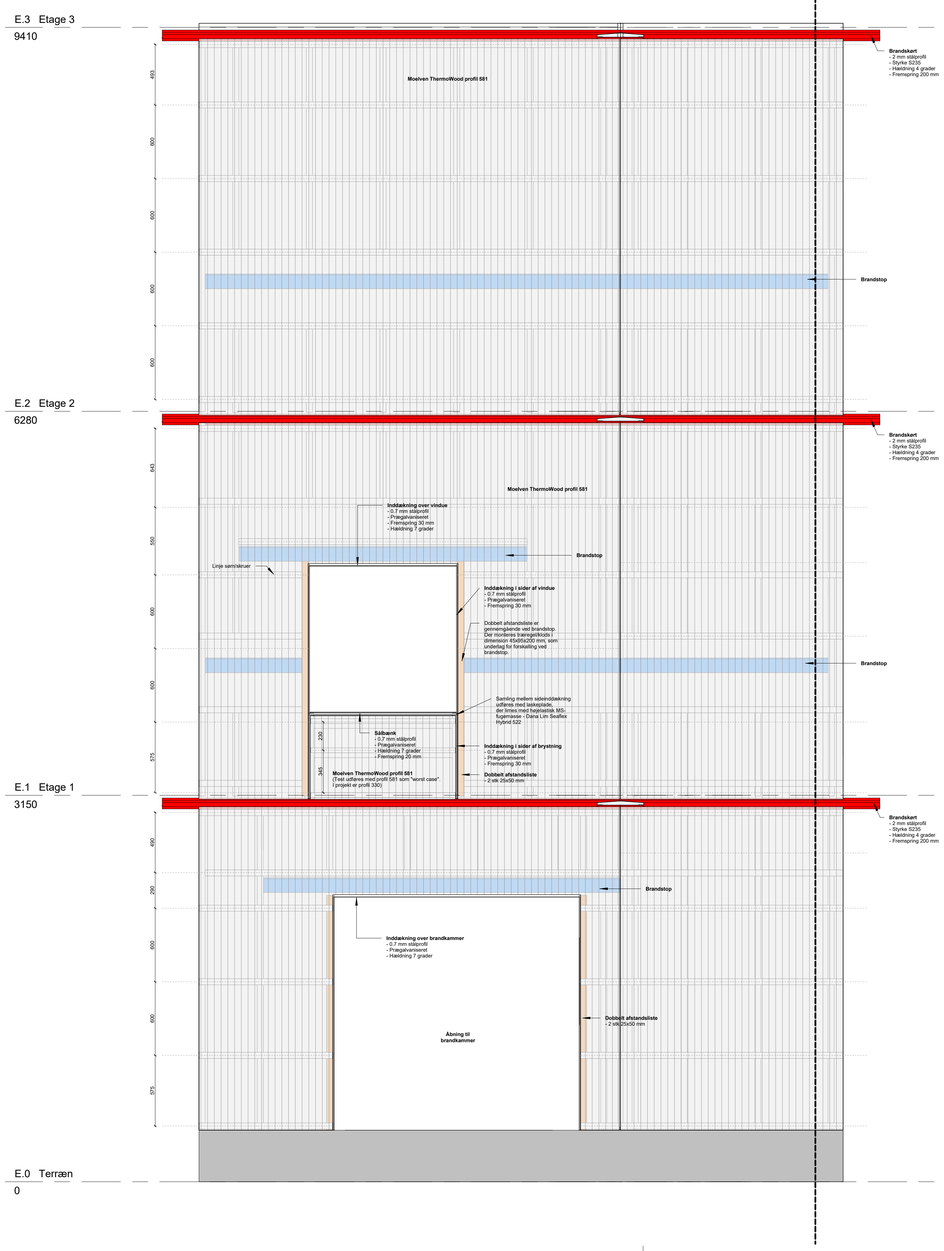
Photo No. 30 Construction wood in the corner at first level.

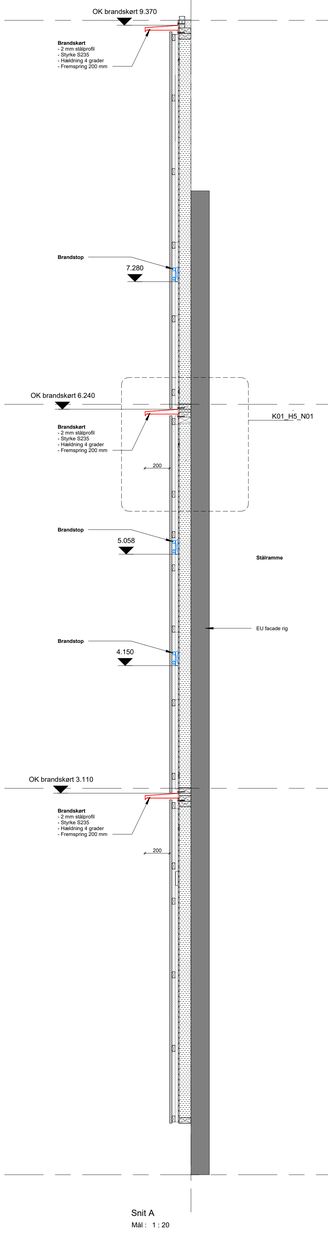
Photo No. 31 Construction wood in at first level.

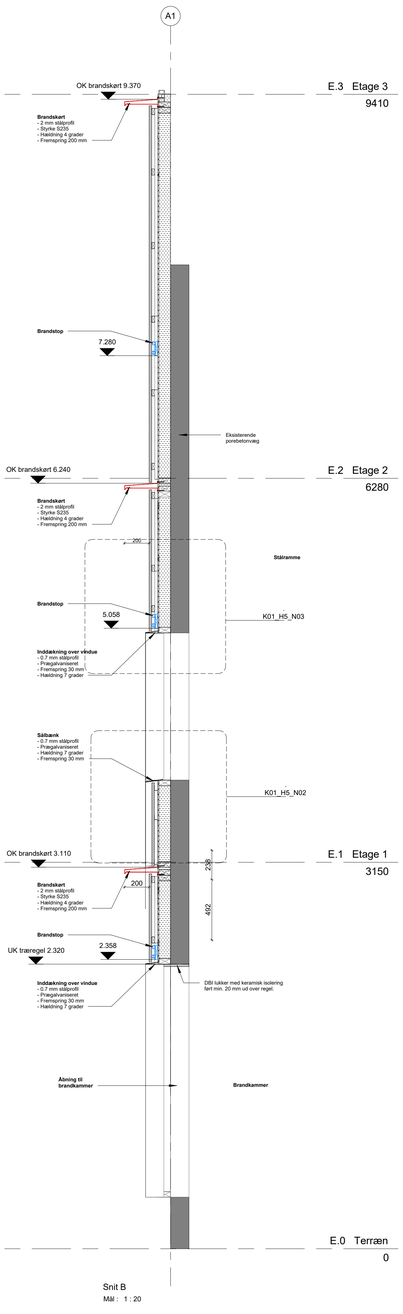
Photo No. 32 Construction wood in the top corner.

Opstalt A
Mål: 1 : 20

Opstalt B
Mål: 1 : 20

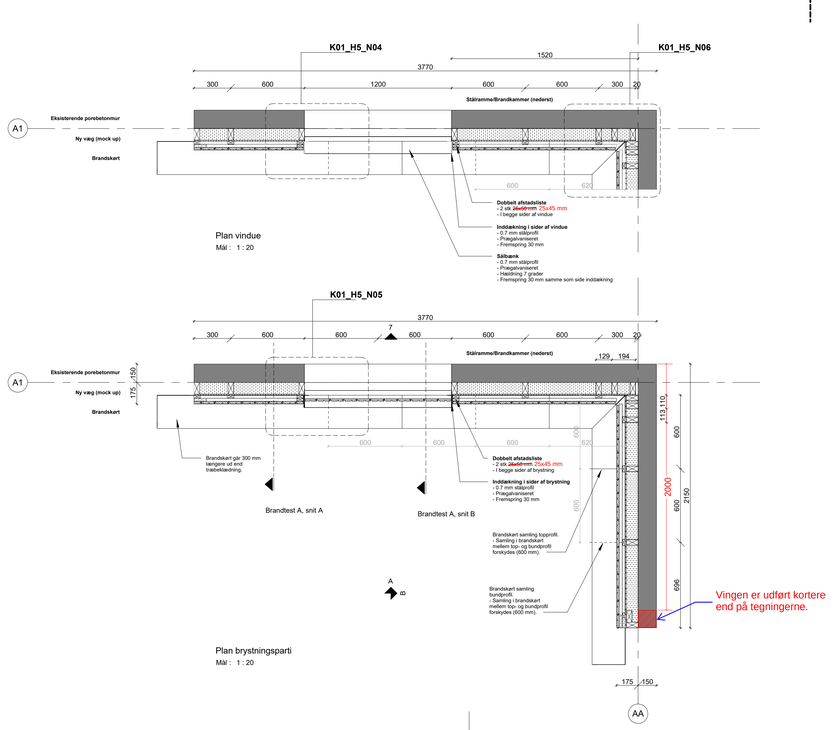






Snit A
Mål: 1 : 20

Snit B
Mål: 1 : 20



Brandstop:
FB Hulrumsventil 28 mm, EI30 (23x1130x105 mm).
Hulrumsventilen fastgøres med 3 rustfrie skruer pr. 1130 mm. Rustfrie skruer - RedHorse ETX MH RX5, 4,8 x 29 mm TX20. Fastgørelsen udføres i nettes flade del mod forskallingsbræt. Skruerne monteres 40 mm fra enden, midt på og 40 mm fra modsatte ende. Ventilen monteres således at det sorte ekspanderende grafitindlæg er nederst. Grafitten skal ligge centreret og vertikalt i ventilen.
Mellemrummet mellem FB Hulrumsventilen og regnskærmen skal være mindre end 2 mm.
Tilskæring af længden skal udføres med en vinkelskærer for at undgå at friktionsvarmen aktiverer grafitindlægget. Skærebladet skal være af rustfrit stål.
Det er vigtigt at hulrumsventilen har en fast overflade på begge sider, så grafitten har noget at ekspandere ud mod i tilfælde af brand.
Monteringsfladen kan være af massivt træ, træpanel, gips eller beton.

Montage i øvrigt iht. leverandørens anvisninger.

Brandskørt:
Brandskørt udført med 2 mm stålprofil med 4 graders hældning på overside.
Fastgøres pr. max. 200 mm med RF Skrue m. borespids, RedHorse CORONA™ RXB 4.8 X 60 #1 TX20 EPDM-9.5B. Top- og bundprofil befæstes med RF Popnitte Gesipa (no. 1433628) 4.0x8.0 mm, A2.
Samling i brandskørt mellem top- og bundprofil forskydes jf. tegning.
Langsgående huller er min. 20 mm aflange, skruer placeres i midten af aflangt hul ved montage, så ekspansion kan ske. Skruer må ikke skrues for hårdt fast.

Afstandslister i træ:
Lodrette og vandrette afstandslister i trykimprægneret træ (godkendt jf. biocidforordningen EU 528/2012). Dimension 25x~~50~~ 45 mm. Monteres pr. 600 mm. Fastgøres med Ringsøm - TJEP GR 2,8x63 mm, varmgalv.

Træbeklædning:
Træbeklædning som Moelven ThermoWood profil 581, 21x118 mm, uden nogen malerbehandling ab fabrik. Et helt identisk produkt kan anvendes, hvis det er varmebehandlet svensk fyrtræ i mindste densitet 430 kg/m3. Det skal være varmebehandlet og udført i et kammer med damp op til 215 grC. Et identisk produkt må i geometri ikke have større geometrisk overflade (eksponeret overflade) eller volumen (brandbelastning) end Moelven ThermoWood profil 581.
Høvling og mekanisk overfladebehandling af forside og bagside skal være identisk med Moelven ThermoWood profil 581.

Vandret underlag monteres med max. c-c 600 mm afstand og sømmes med max. 600 mm afstand.
Profilbrædderne fastgøres med Ringsøm - Paslode 2,5x65 mm, rustfri A4.
OBS! Ved skruemontage skal der forbores i profilernes ender for at undgå at listen flækker.
Fastgørelse min. 25 mm fra endetræ.
Anbefalet længde på fastgørelse er: Profilbræddets tykkelse + vandret underlag tykkelse = min. længde på fastgørelse (21+25=46 mm).
OBS! Fastgørelser må ikke være i overlængde, så de rammer bagkonstruktionen.
OBS! Søm og skruehoved må max. lande på profilbræddets overflade og ikke gå under niveau. Dette er vigtigt for at undgå at profilbræddet flækker.
Ved profilbrædder til og med 6" er 1 stk. befæstigelse tilstrækkelig.
Profilbrædderne udføres med afvanding i top og bund, stødsamlinger udføres også med afvanding og med en stødafstand på 3-5 mm mod hjørner, vinduer og døre.
Ved samling udføres bredere underlag.

Montage i øvrigt iht. leverandørens anvisninger.

Konstruktion/kassetter:
Konstruktionstræ C24. Monteres lodret pr. max. 600 mm. Dimension 45x95 mm.

Isolering:
Isover formstykker 34 (glasuld), 95 mm

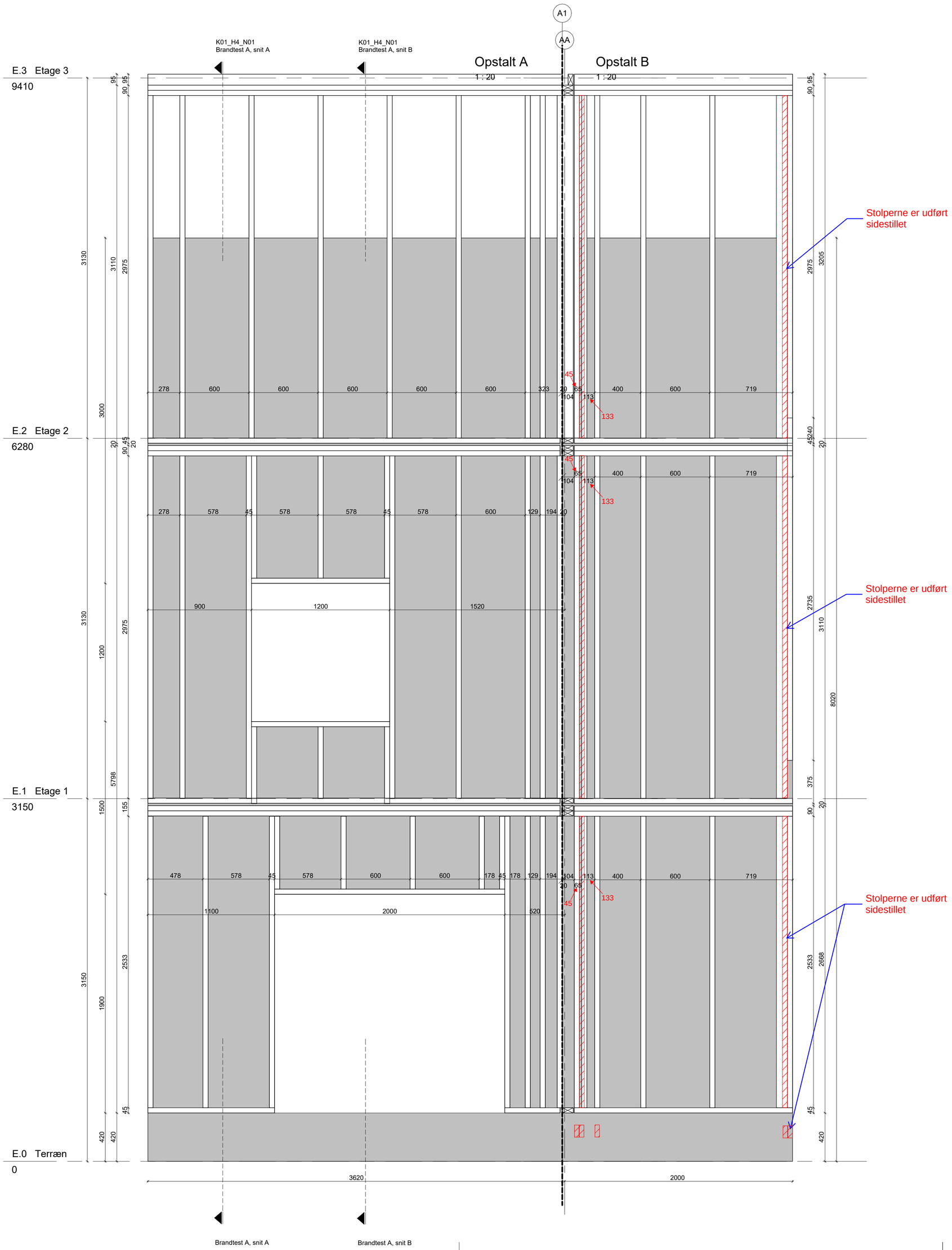
Vindplade som Cembrit Windstopper Extreme, 9 mm:
Fastgøres med Ringsøm - ~~Paslode 2,5x50~~ mm Hot dipped galvanised Ring Shank Tjep 2.5 x 65 mm
Montage i øvrigt iht. leverandørens anvisninger.

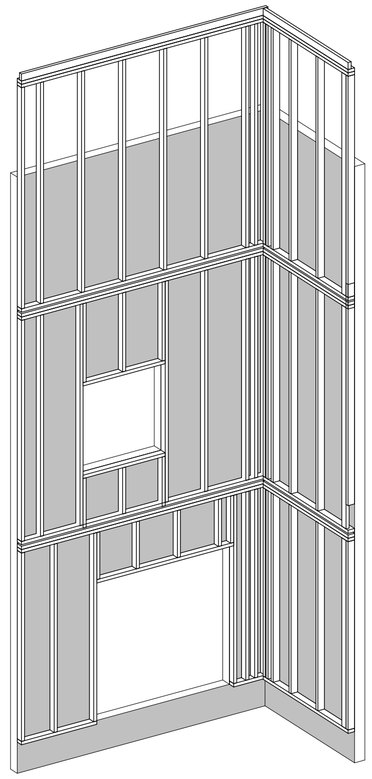
DBI PGC10025A
Christian Bosbøl

Brandtest A - Plan, snit og opstalt
41009004
Biofacades Uphigh

Dato: 17-07-2023
Rev:
Mål: 1:20
Rev dato:
K01_H4_N01

KONSTRUKTIONSTRÆ



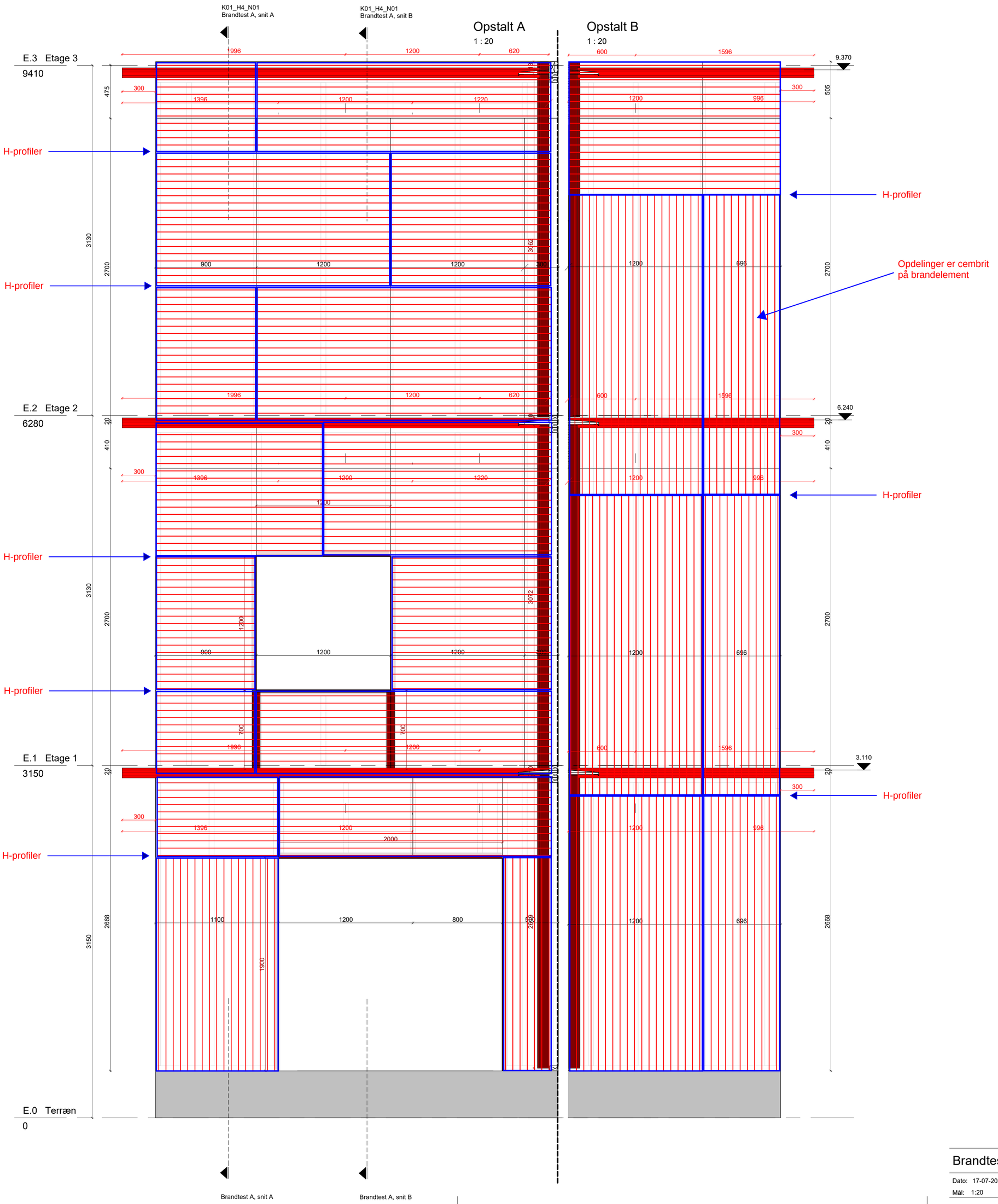


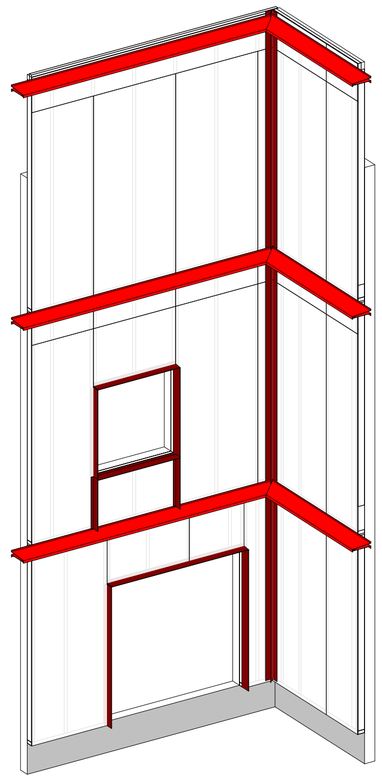
DBI
PGC10025A

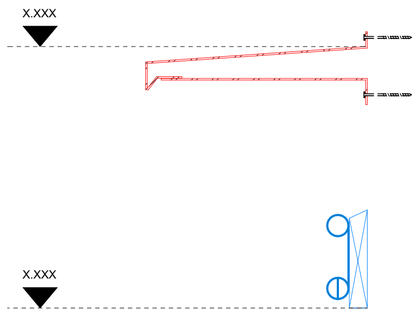
Christian Basbøll

Brandtest A - Opstalt for konstruktionstræ			41009004 Biofacades Uphigh
Dato: 17-07-2023	Rev:		
Mål: 1:20	Rev dato:		K01_H4_N02

CEMBRIT, BRANDSKØRTER OG INDÆKNING





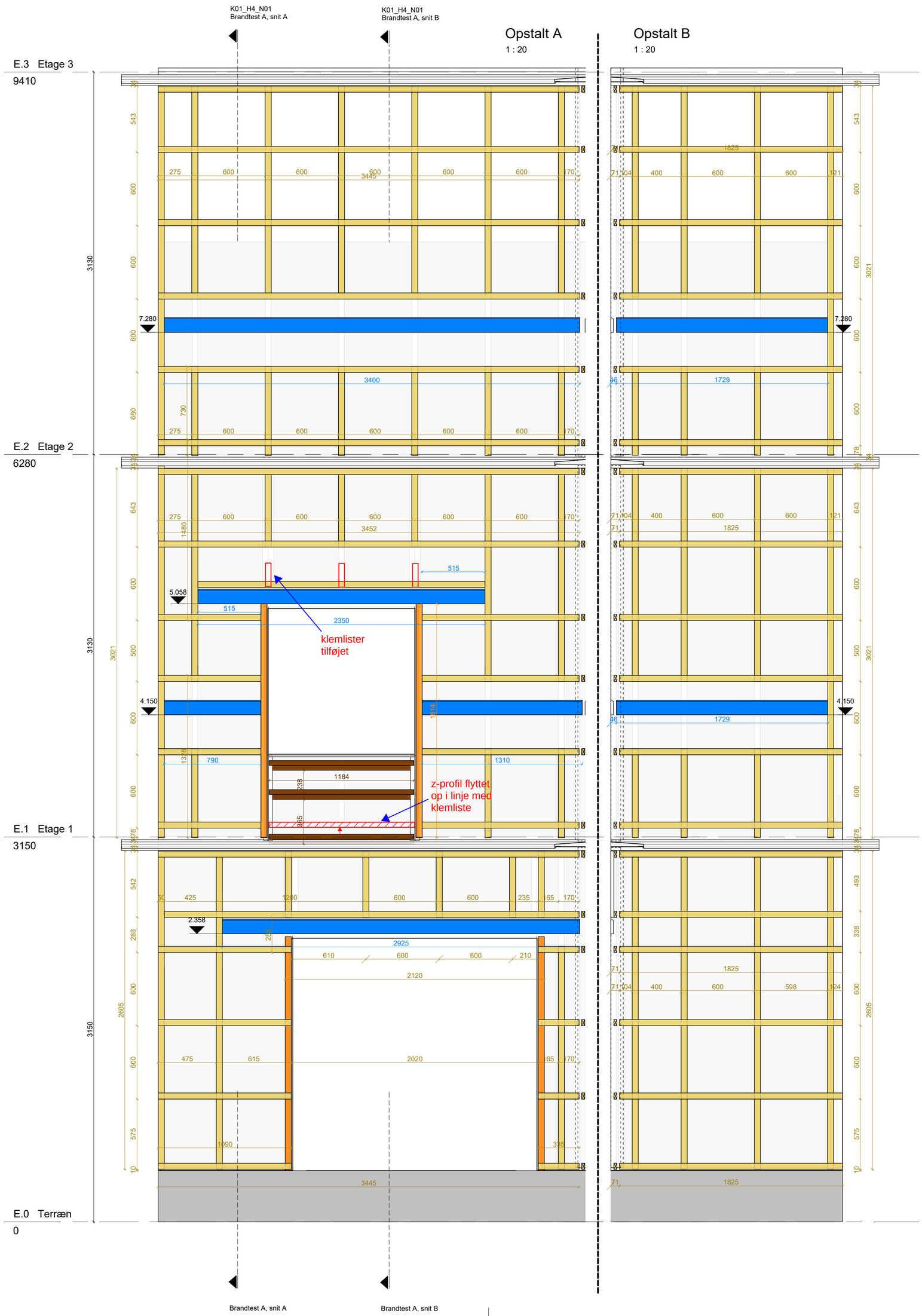


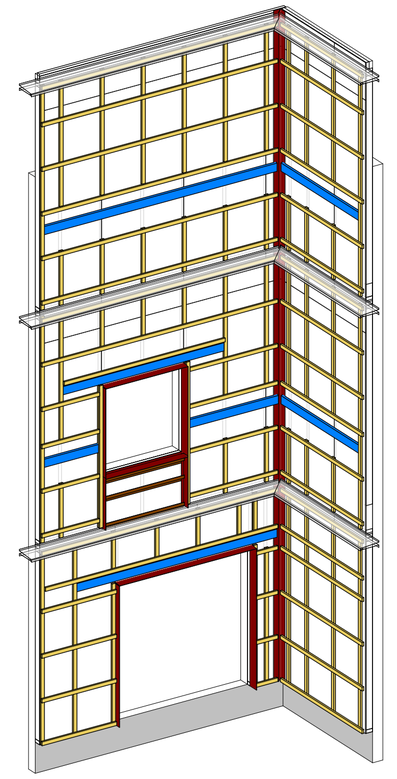
DBI
PGC10025A

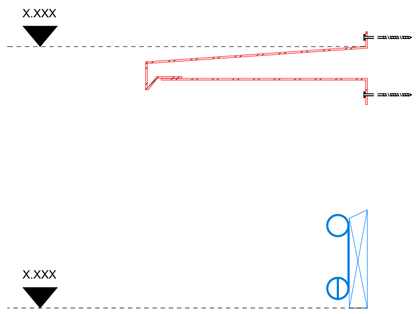
Christian Basbøll

Brandtest A - Opstalt for cembrit, brandskørter og indækning			41009004 Biofacades Uphigh
Dato: 17-07-2023	Rev:	K01_H4_N03	
Mål: 1:20	Rev dato:		

FORSKALLING OG BRANDSTOP





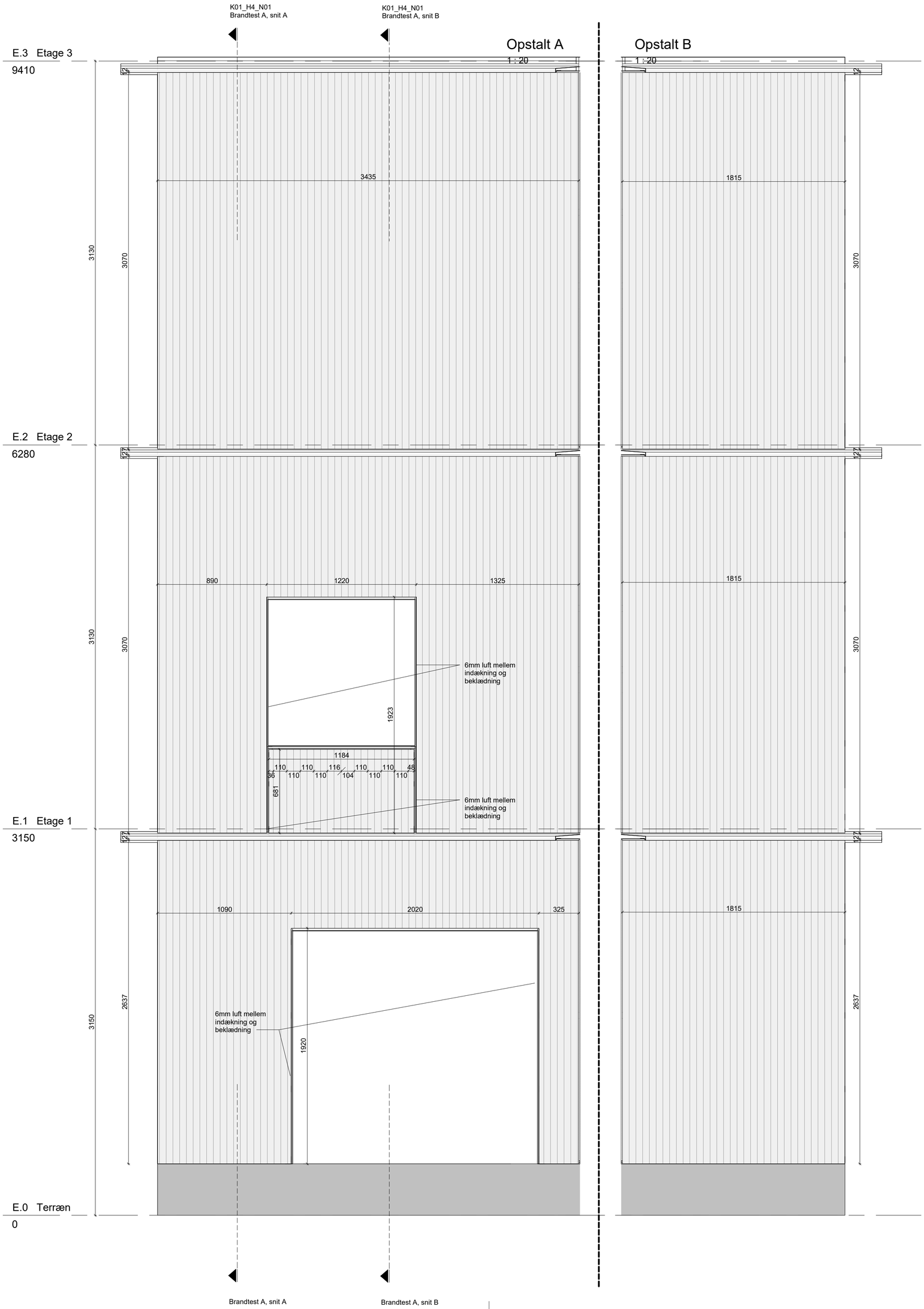


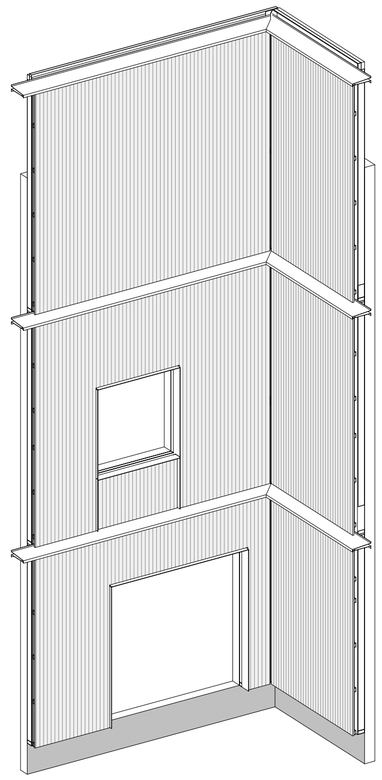
DBI
PGC10025A

Christian Basbøll

Brandtest A - Opstalt for forskalling og brandstop			41009004 Biofacades Uphigh
Dato: 17-07-2023	Rev:		
Mål: 1:20	Rev dato:		K01_H4_N04

BEKLÆDNING

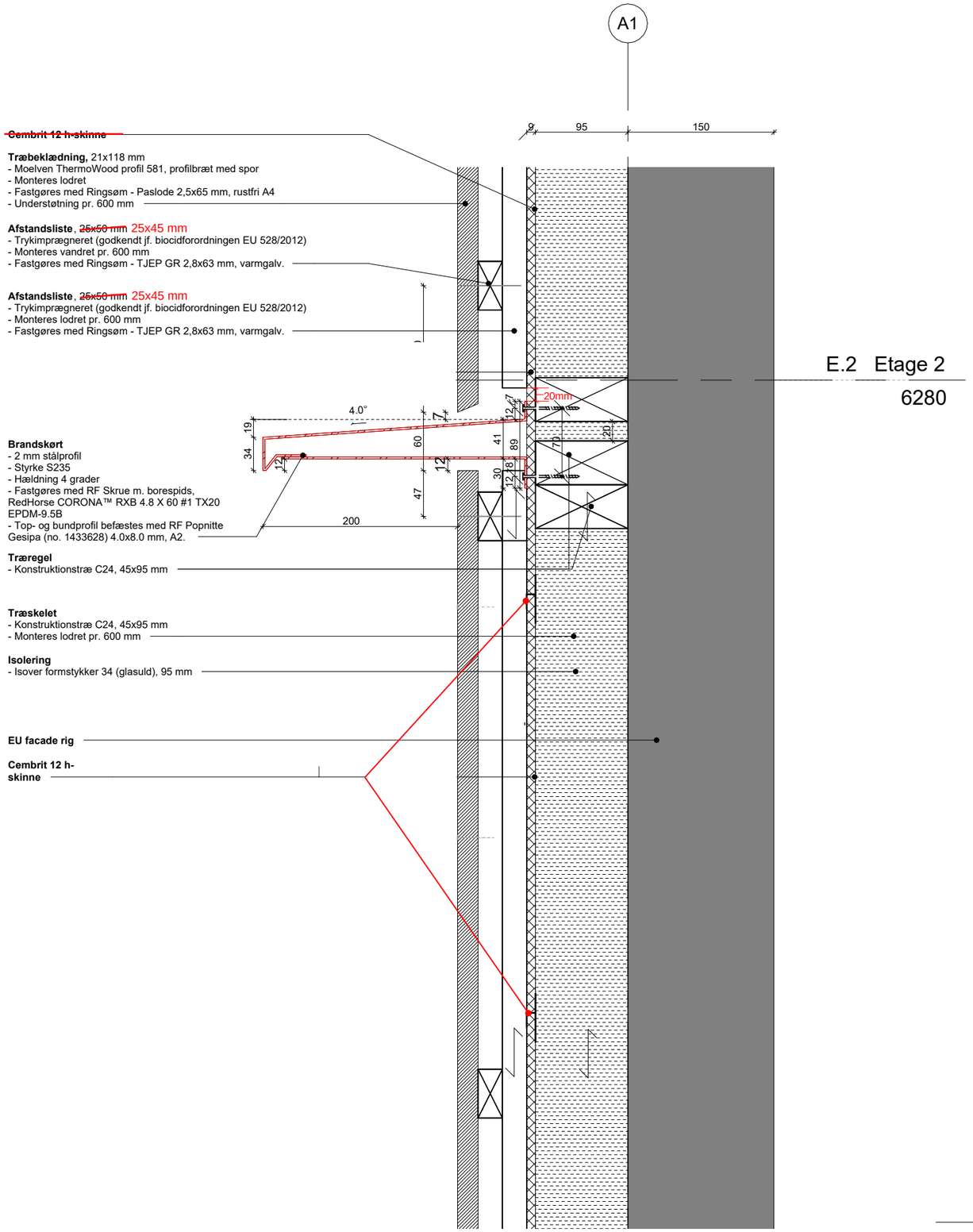




DBI
PGC10025A

Christian Basbøll

Brandtest A - Opstalt for beklædning			41009004 Biofacades Uphigh
Dato: 17-07-2023	Rev:		
Mål: 1:20	Rev dato:		K01_H4_N05



DBI
PGC10025A

Christian Basbøll

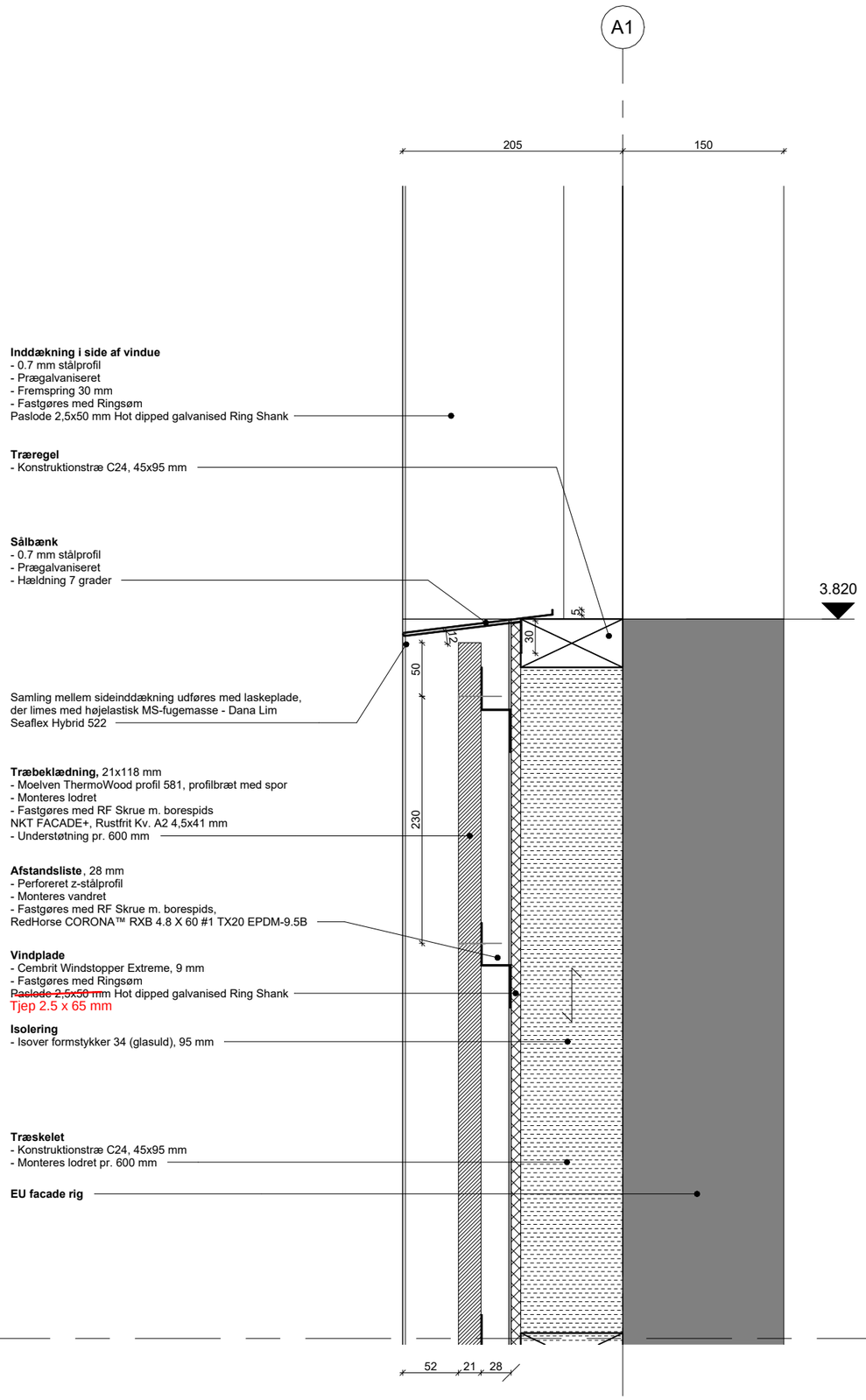
Brandtest A - Lodret detalje af brandskørt

41009004
Biofacades Uphigh

Dato: 17-07-2023
Rev:

Mål: 1:5
Rev dato:

K01_H5_N01



DBI
PGC10025A

Christian Basbøll

E.1 Etage 1

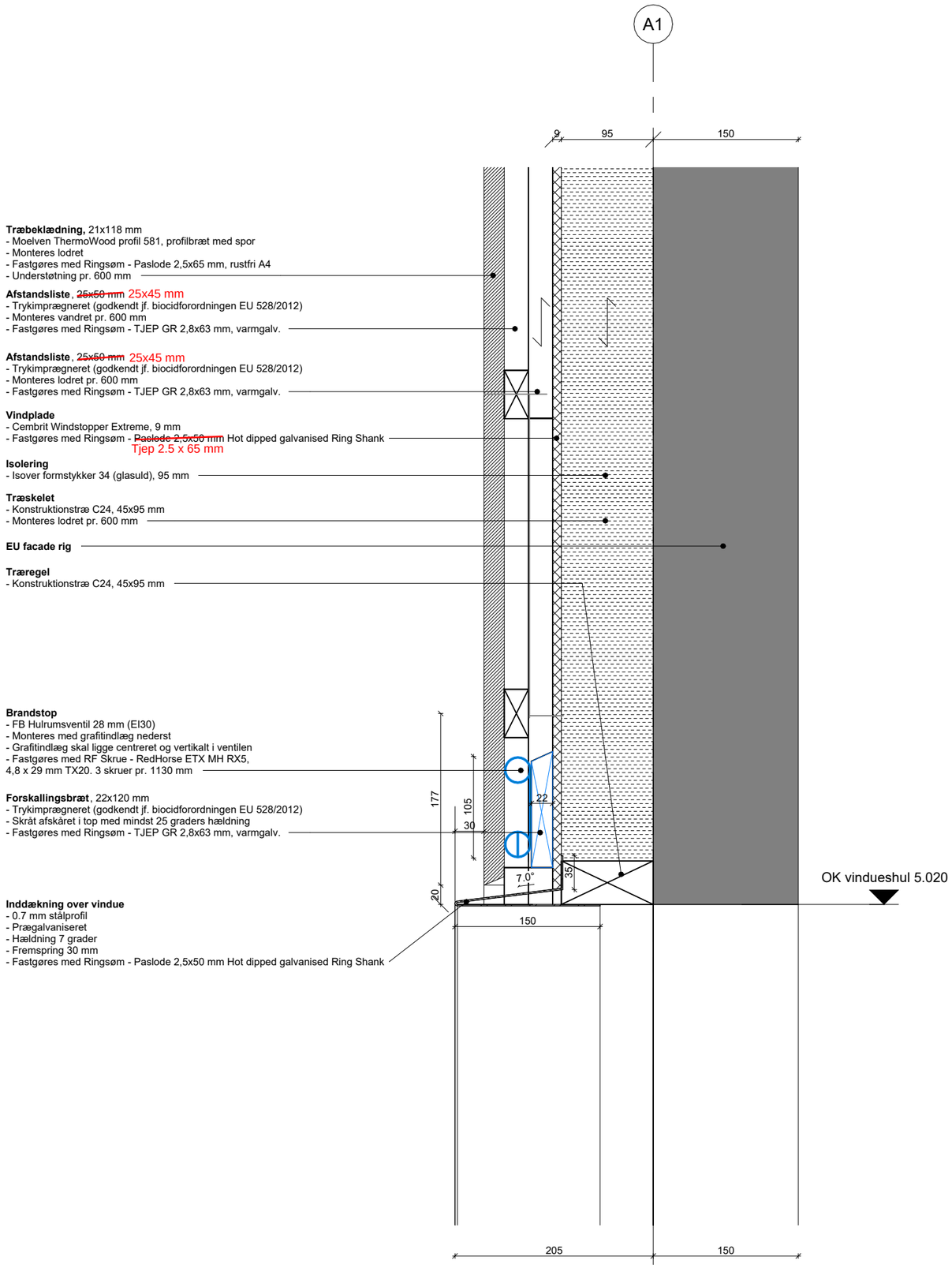
Brandtest A - Lodret detalje af bund af vindue

41009004
Biofacades Uphigh

Dato: 17-07-2023
Rev:

Mål: 1:5
Rev dato:

K01_H5_N02



DBI
PGC10025A

Christian Basbøll

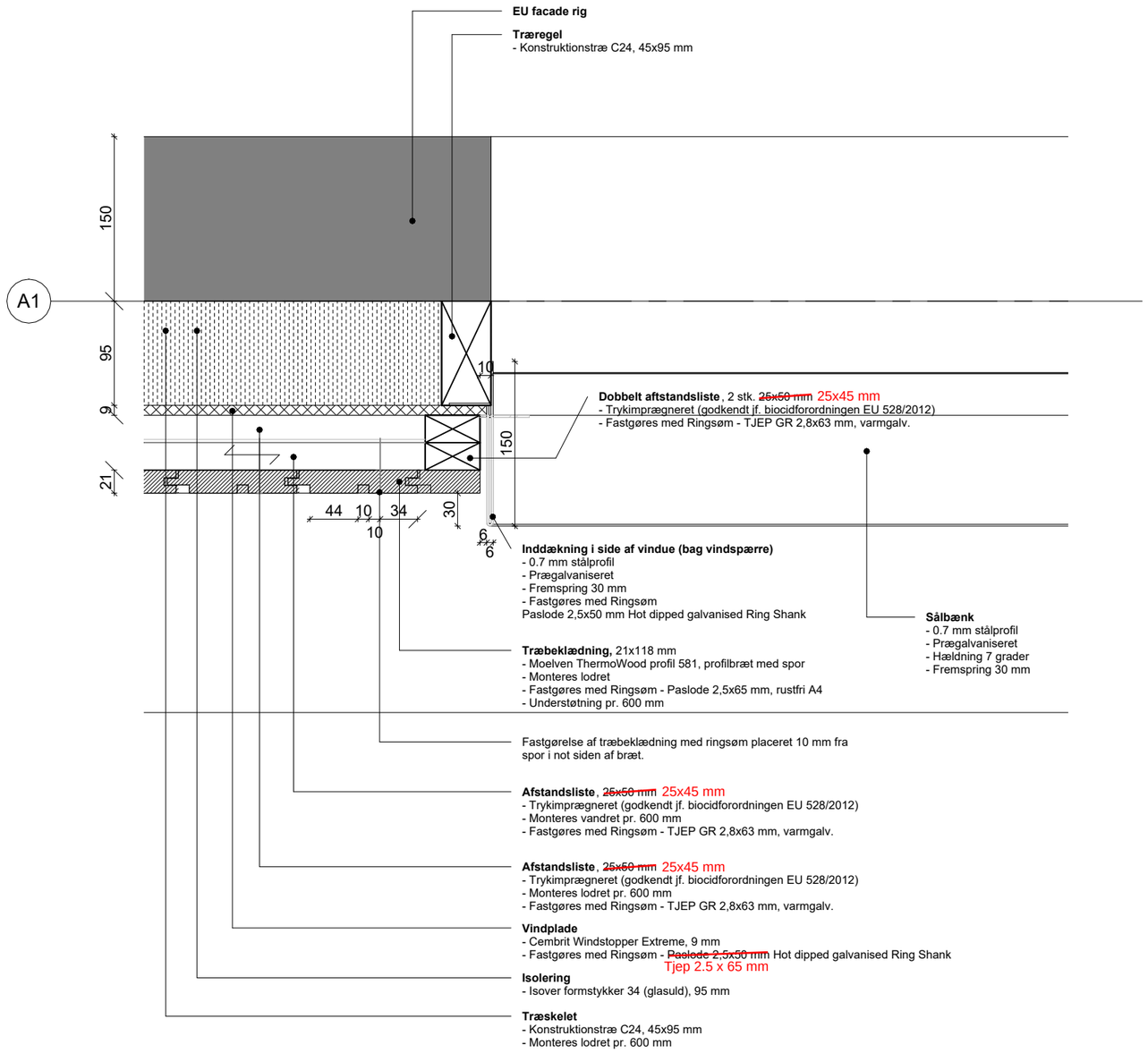
Brandtest A - Lodret detalje over vindue inkl. brandskørt

41009004
Biofacades Uphigh

Dato: 17-07-2023
Rev:

Mål: 1:5
Rev dato:

K01_H5_N03



EU facade rig

Træregel
- Konstruktionstræ C24, 45x95 mm

Dobbelt aftstandsliste, 2 stk. ~~25x50 mm~~ 25x45 mm
- Trykimprægneret (godkendt jf. biocidforordningen EU 528/2012)
- Fastgøres med Ringsøm - TJEP GR 2,8x63 mm, varmgalv.

Inddækning i side af vindue (bag vindspærre)
- 0.7 mm stålprofil
- Prægalvaniseret
- Fremspring 30 mm
- Fastgøres med Ringsøm
Paslode 2,5x50 mm Hot dipped galvanised Ring Shank

Sålbænk
- 0.7 mm stålprofil
- Prægalvaniseret
- Hældning 7 grader
- Fremspring 30 mm

Træbeklædning, 21x118 mm
- Moelven ThermoWood profil 581, profilbræt med spor
- Monteres lodret
- Fastgøres med Ringsøm - Paslode 2,5x65 mm, rustfri A4
- Understøtning pr. 600 mm

Fastgørelse af træbeklædning med ringsøm placeret 10 mm fra spor i not siden af bræt.

Afstandsliste, ~~25x50 mm~~ 25x45 mm
- Trykimprægneret (godkendt jf. biocidforordningen EU 528/2012)
- Monteres vandret pr. 600 mm
- Fastgøres med Ringsøm - TJEP GR 2,8x63 mm, varmgalv.

Afstandsliste, ~~25x50 mm~~ 25x45 mm
- Trykimprægneret (godkendt jf. biocidforordningen EU 528/2012)
- Monteres lodret pr. 600 mm
- Fastgøres med Ringsøm - TJEP GR 2,8x63 mm, varmgalv.

Vindplade
- Cembrit Windstopper Extreme, 9 mm
- Fastgøres med Ringsøm - ~~Paslode 2,5x50 mm~~ Hot dipped galvanised Ring Shank
Tjep 2.5 x 65 mm

Isolering
- Isover formstykker 34 (glasuld), 95 mm

Træskelet
- Konstruktionstræ C24, 45x95 mm
- Monteres lodret pr. 600 mm

DBI
PGC10025A

Christian Basbøll

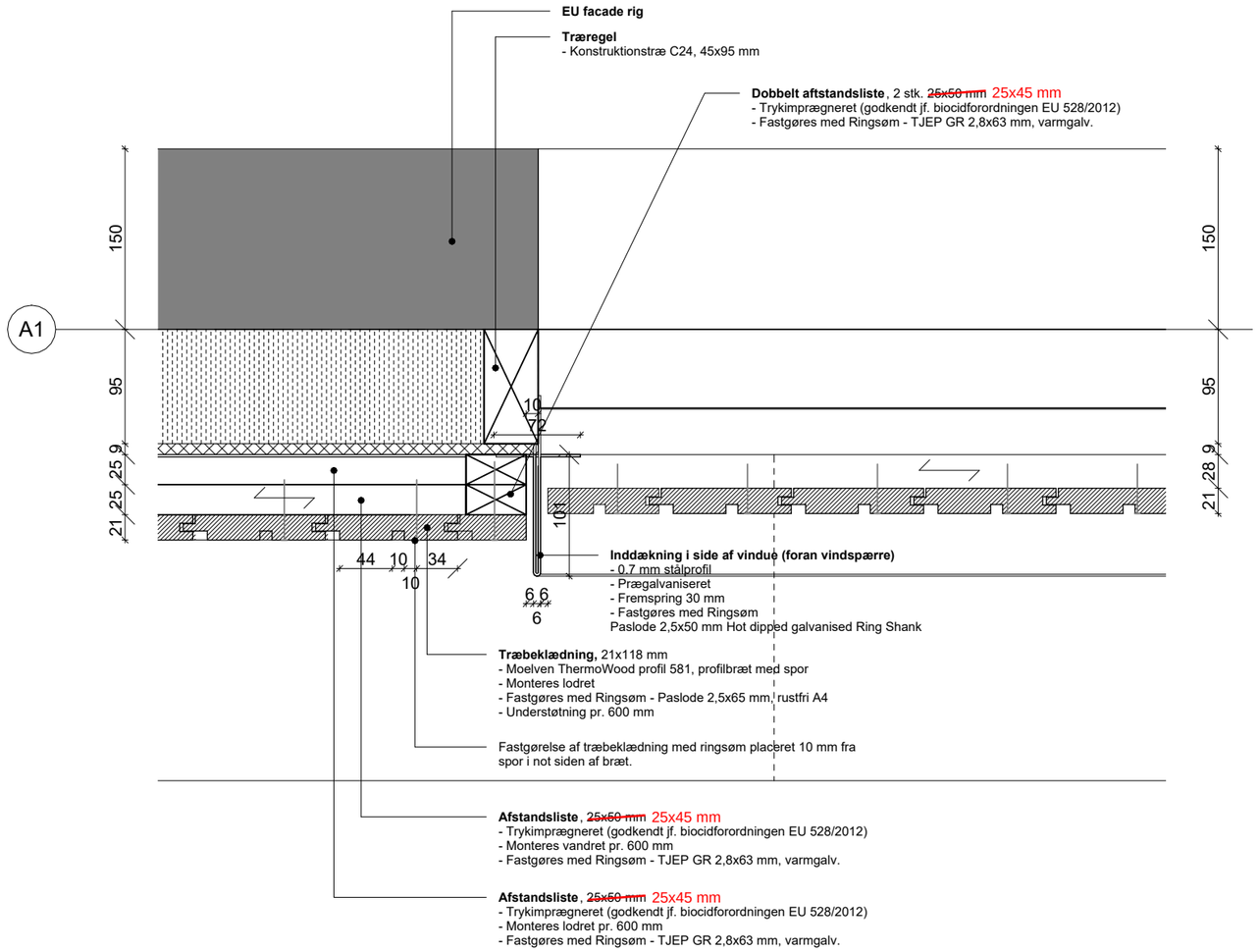
Brandtest A - Vandret detalje af ydervæg og vindue

41009004
Biofacades Uphigh

Dato: 17-07-2023
Rev:

Mål: 1:5
Rev dato:

K01_H5_N04



DBI
PGC10025A

Christian Basbøll

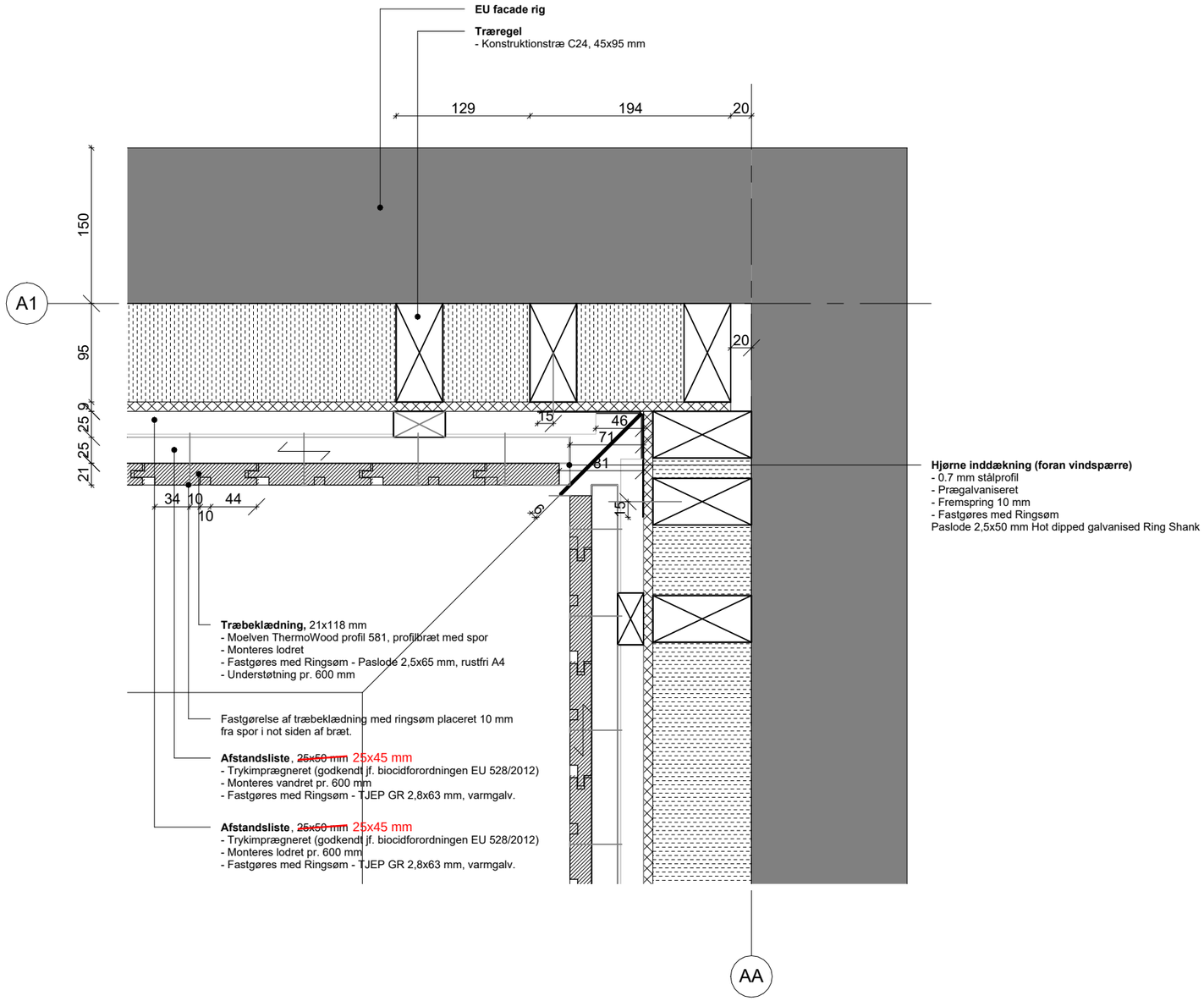
Brandtest A - Vandret detalje af ydervæg og brystningsparti

41009004
Biofacades Uphigh

Dato: 17-07-2023
Rev:

Mål: 1:5
Rev dato:

K01_H5_N05



DBI
PGC10025A

Christian Basbøll

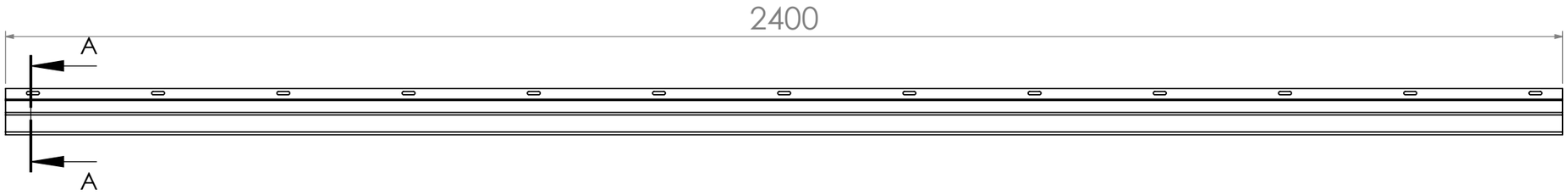
Brandtest A - Vandret detalje af hjørnet

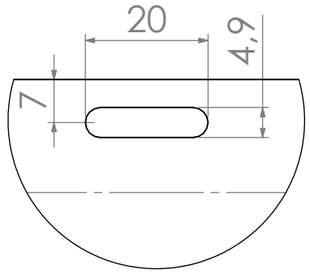
41009004
Biofacades Uphigh

Dato: 17-07-2023
Rev:

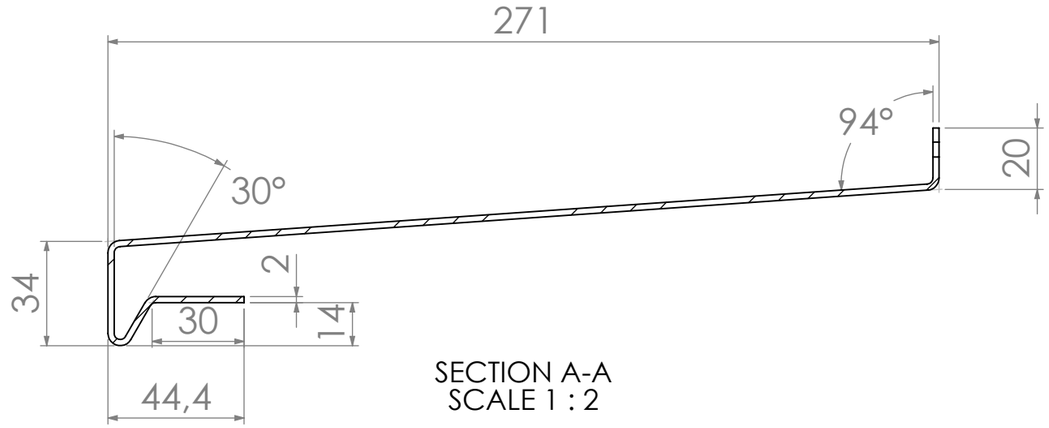
Mål: 1:5
Rev dato:

K01_H5_N06

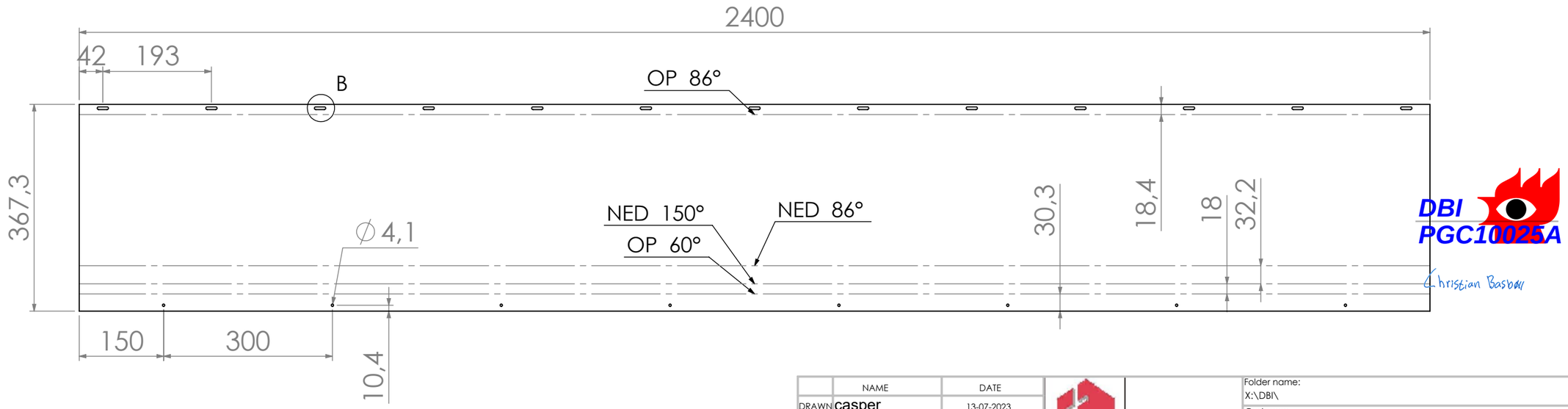




DETAIL B
SCALE 1 : 1



SECTION A-A
SCALE 1 : 2



DBI
PGC10025A
Christian Basbøll

OV: R1
UV: Spor 12-30°
BT: 0,5 mm

	NAME	DATE
DRAWN	casper	13-07-2023

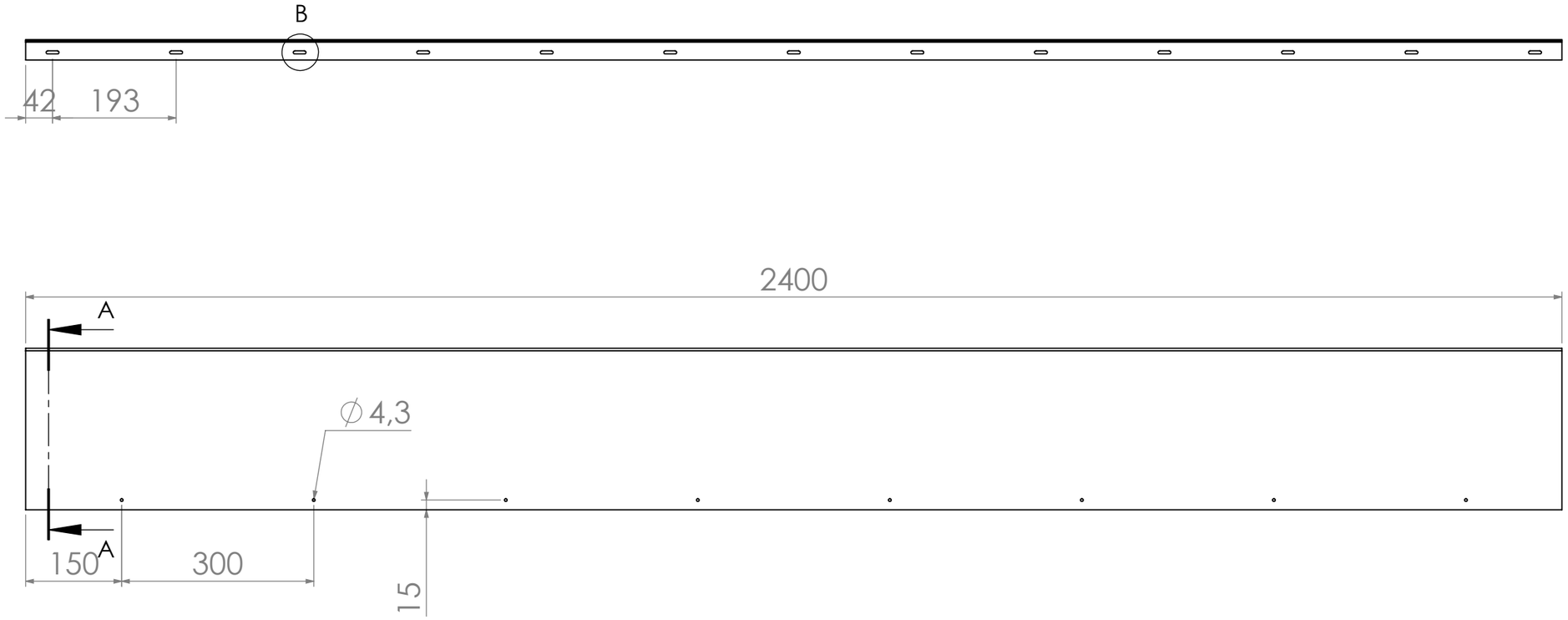
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

GLADSAXE KLIP & BUK

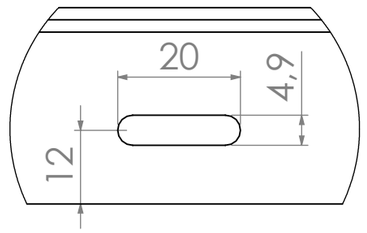
Folder name: X:\DBI\
Customer: DBI
TITLE: Overdel, 2 mm plade, Lg. 2400

MATERIAL:
DWG NO. GKB-114938-10
REVISION

WEIGHT: 13.76
SCALE:1:8
A3
SHEET 1 OF 1



SECTION A-A
SCALE 1 : 2



DETAIL B
SCALE 1 : 1

DBI
PGC10025A

Christian Basbøll

OV: R1
UV: Spor 12-30°
BT: 0,5 mm

	NAME	DATE
DRAWN	casper	13-07-2023

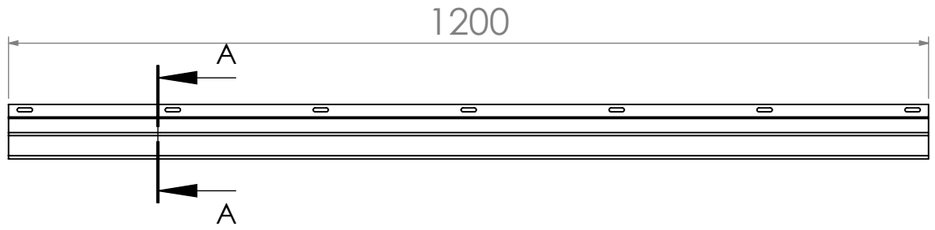
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

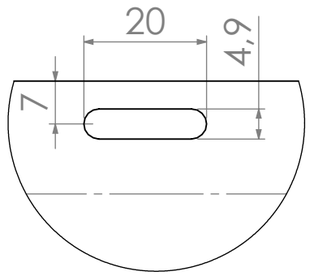
GLADSAXE KLIP & BUK

Folder name: X:\DBI\
Customer: DBI
TITLE: Underdel, 2 mm plade, Lg. 2400

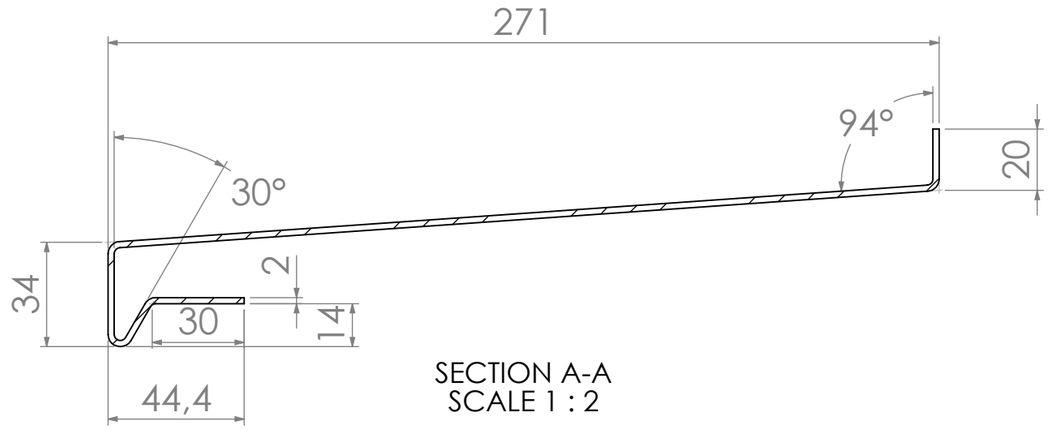
MATERIAL:
DWG NO. GKB-114938-20
REVISION

WEIGHT: 10.49
SCALE:1:8
A3
SHEET 1 OF 1

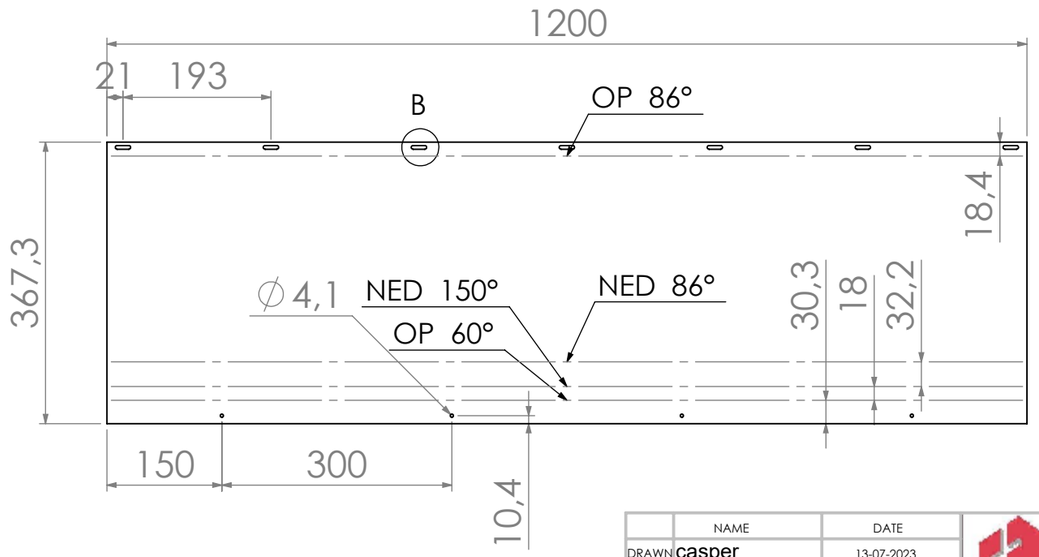




DETAIL B
SCALE 1 : 1



SECTION A-A
SCALE 1 : 2



OV: R1
UV: Spor 12-30°
BT: 0,5 mm

DBI
PGC10025A

Christian Basbøll

	NAME	DATE
DRAWN	casper	13-07-2023

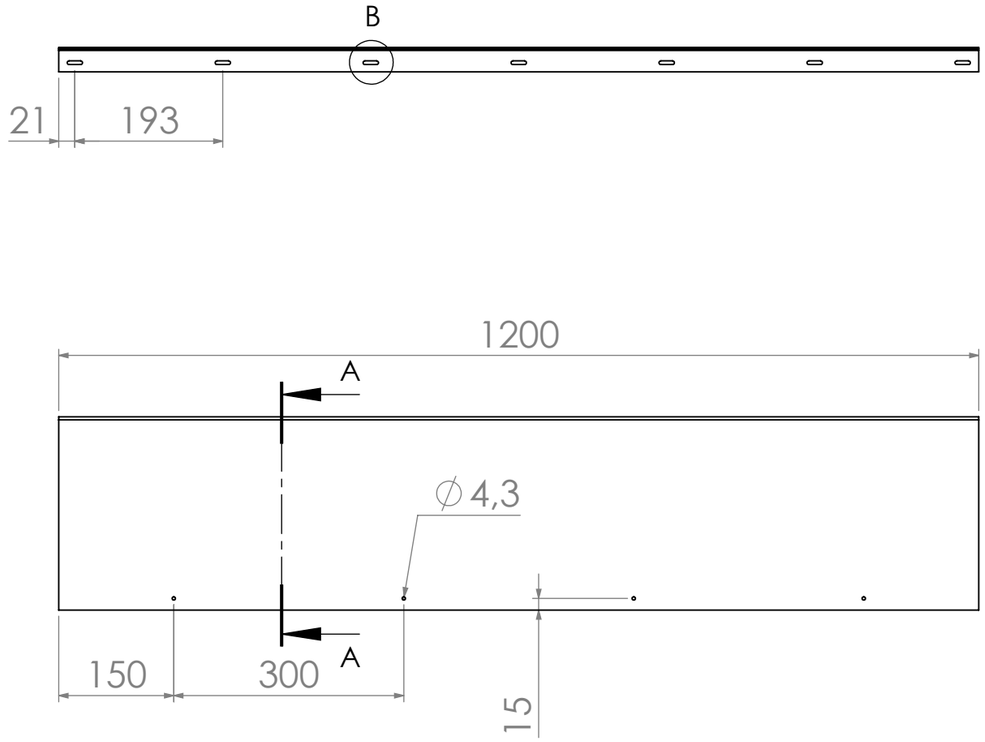
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

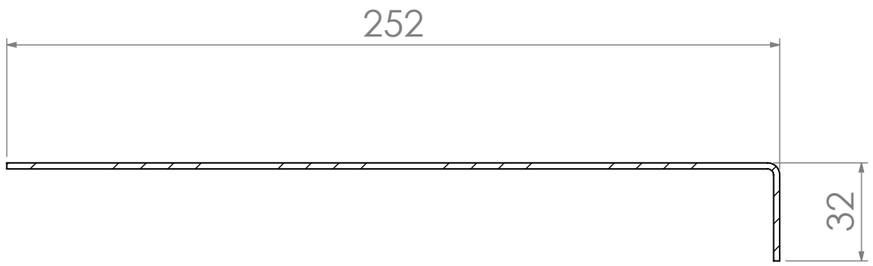
GLADSAXE KLIP & BUK

Folder name: X:\DBI\
Customer: DBI
TITLE: Overdel, 2 mm plade, Lg. 1200

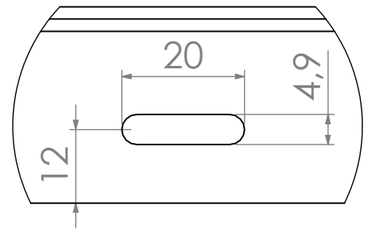
MATERIAL:
DWG NO. GKB-114938-30
REVISION

WEIGHT: 6.88
SCALE:1:8
A3
SHEET 1 OF 1





SECTION A-A
SCALE 1 : 2



DETAIL B
SCALE 1 : 1

DBI
PGC10025A

Christian Basbøll

OV: R1
UV: Spor 12-30°
BT: 0,5 mm

	NAME	DATE
DRAWN	casper	13-07-2023

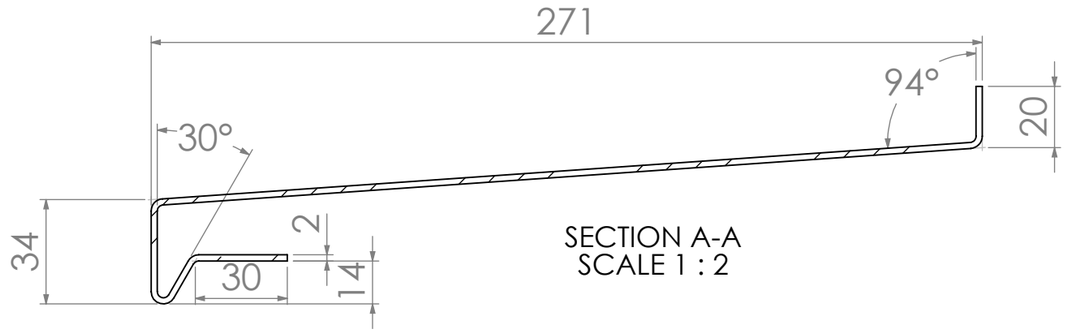
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

GLADSAXE KLIP & BUK

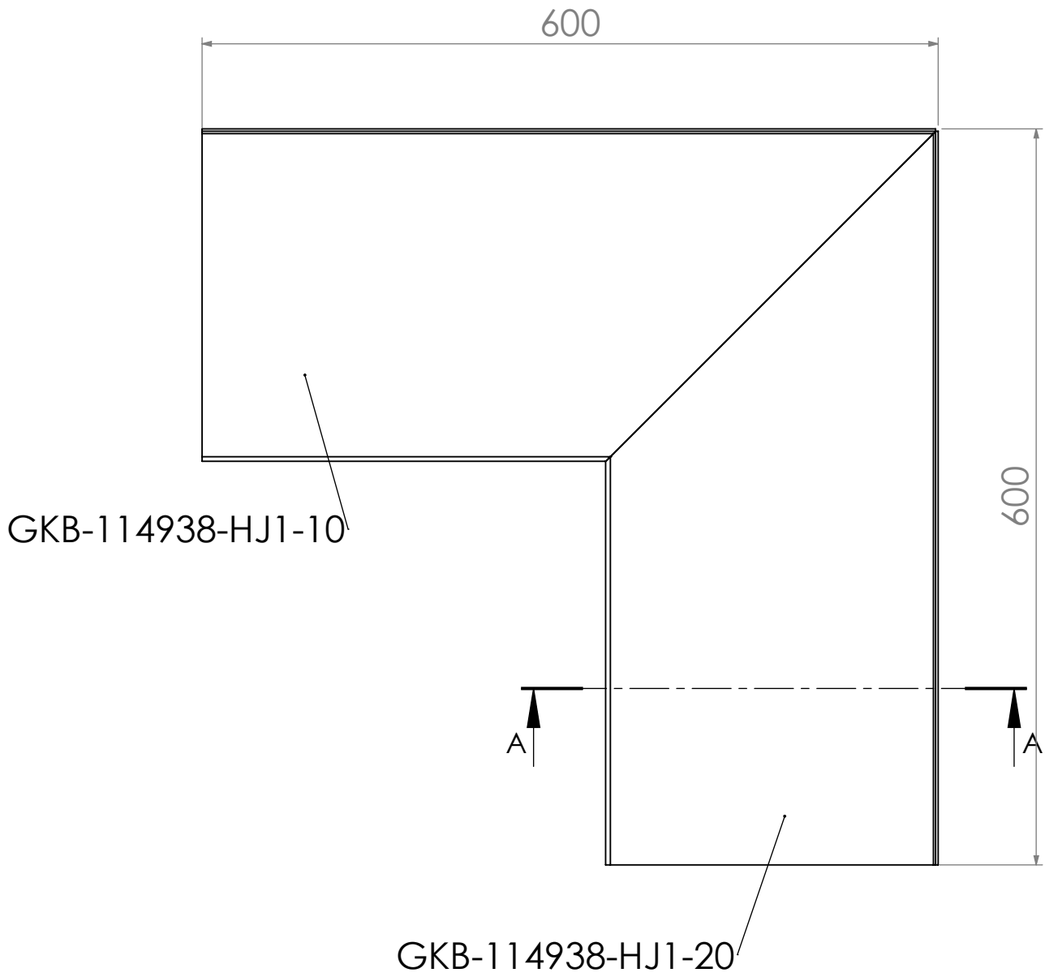
Folder name: X:\DBI\
Customer: DBI
TITLE: Underdel, 2 mm plade, Lg. 1200

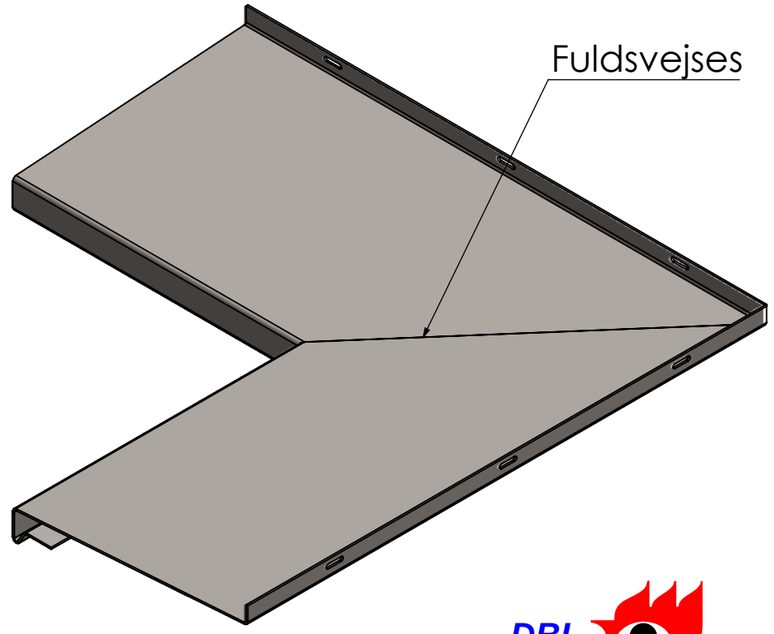
MATERIAL:
DWG NO. GKB-114938-40
REVISION

WEIGHT: 5.24
SCALE:1:8
A3
SHEET 1 OF 1



SECTION A-A
SCALE 1 : 2





DBI
PGC10025A

Christian Basbøll

	NAME	DATE
DRAWN	casper	13-07-2023

Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

GLADSAXE KLIP & BUK

Folder name: X:\DBI\
Customer: DBI
TITLE: Hjørne, overdel, samlet

MATERIAL:

DWG NO. GKB-114938-HJ1

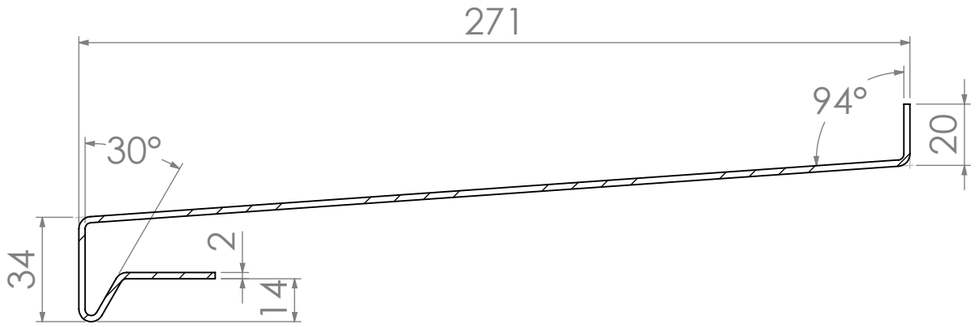
REVISION

WEIGHT: 5.09

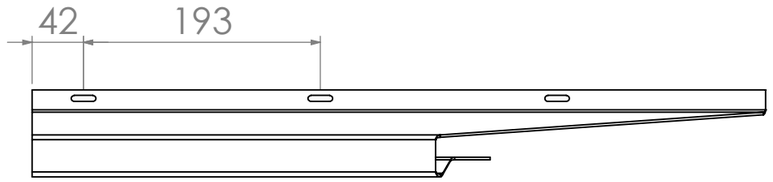
SCALE:1:5

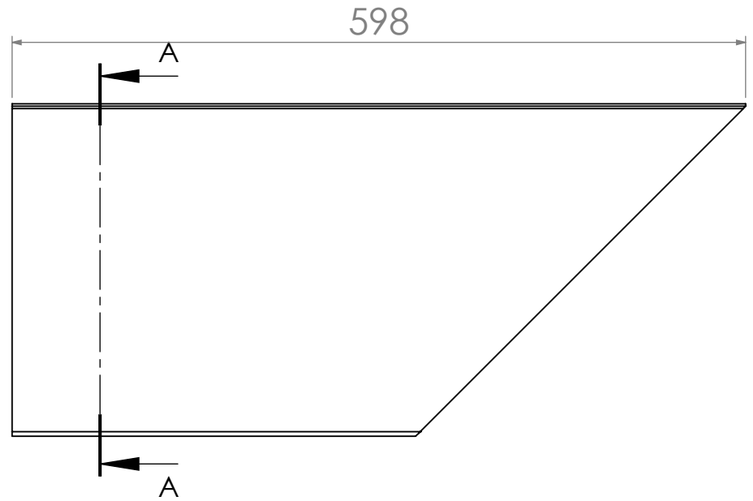
A3

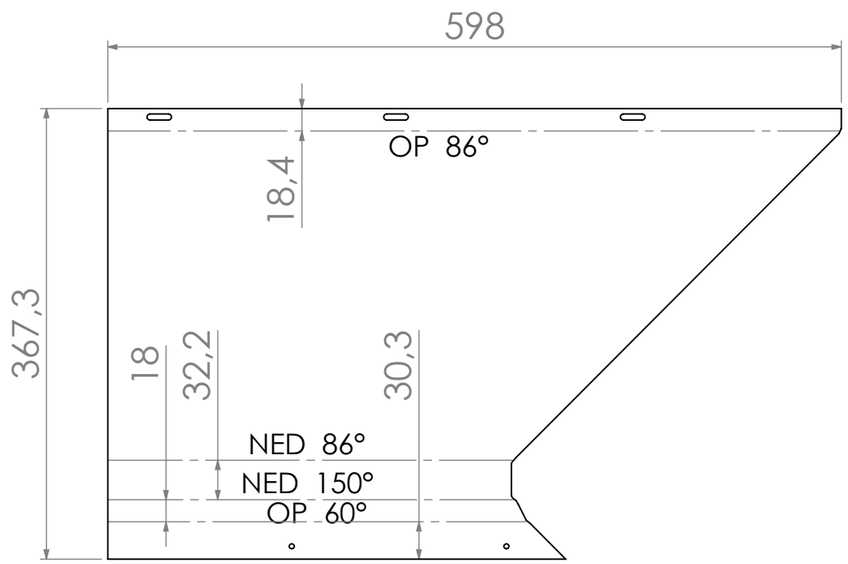
SHEET 1 OF 1



SECTION A-A
SCALE 1 : 2







OV: R1
UV: Spor 12-30°
BT: 0,5 mm

DBI
PGC10025A

Christian Basbøll

GKB-114398-HJ1-20 er spejlvendt af denne!

	NAME	DATE
DRAWN	casper	13-07-2023

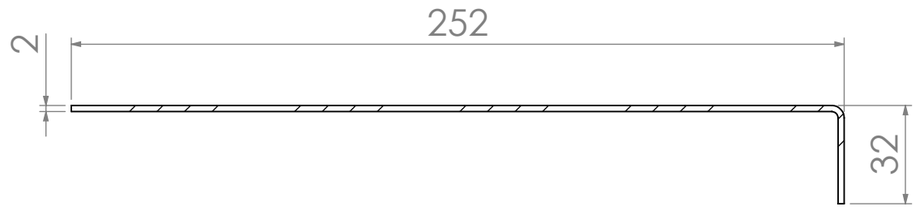
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

GLADSAXE KLIP & BUK

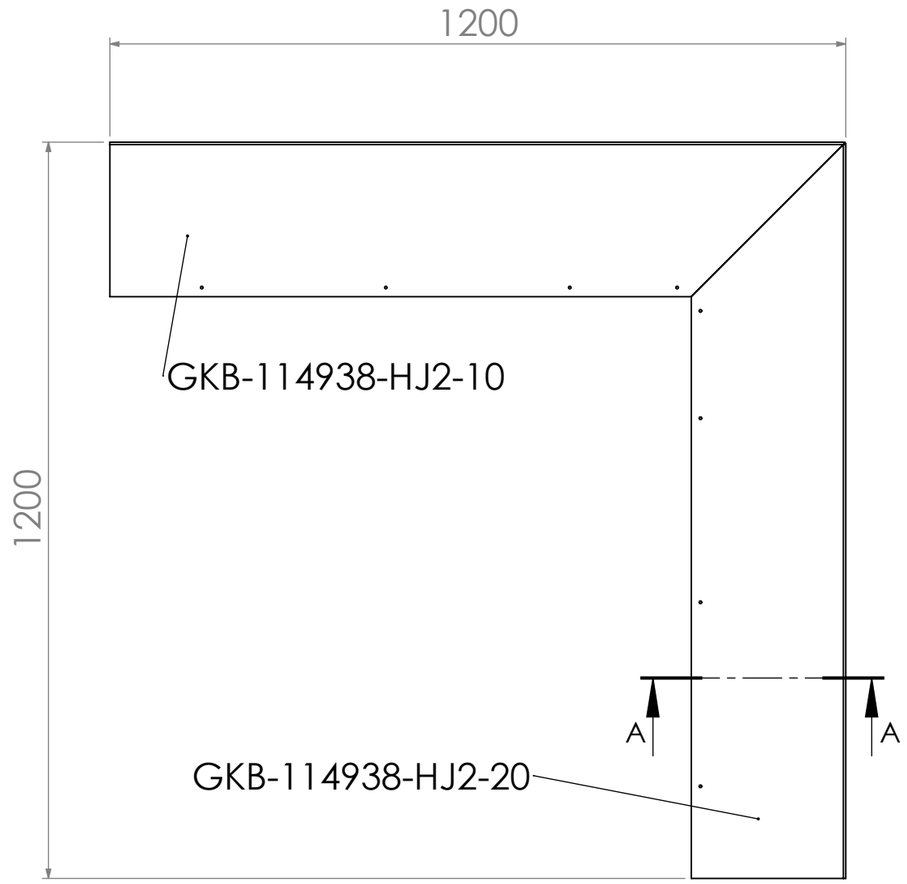
Folder name: X:\DBI\
Customer: DBI
TITLE: Overdel, 2 mm plade, Lg. 600

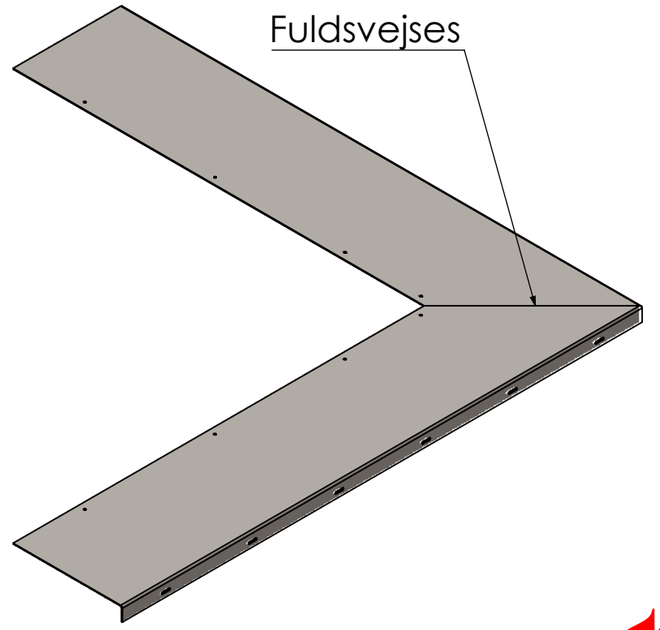
MATERIAL:
DWG NO. GKB-114938-HJ1-10
REVISION

WEIGHT: 2.55
SCALE:1:5
A3
SHEET 1 OF 1



SECTION A-A
SCALE 1 : 2





DBI
PGC10025A

Christian Basbøll

	NAME	DATE
DRAWN	casper	13-07-2023

Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

GLADSAXE KLIP & BUK

Folder name: X:\DBI\
Customer: DBI
TITLE: Hjørne, underdel, samlet

MATERIAL:

DWG NO. GKB-114938-HJ2

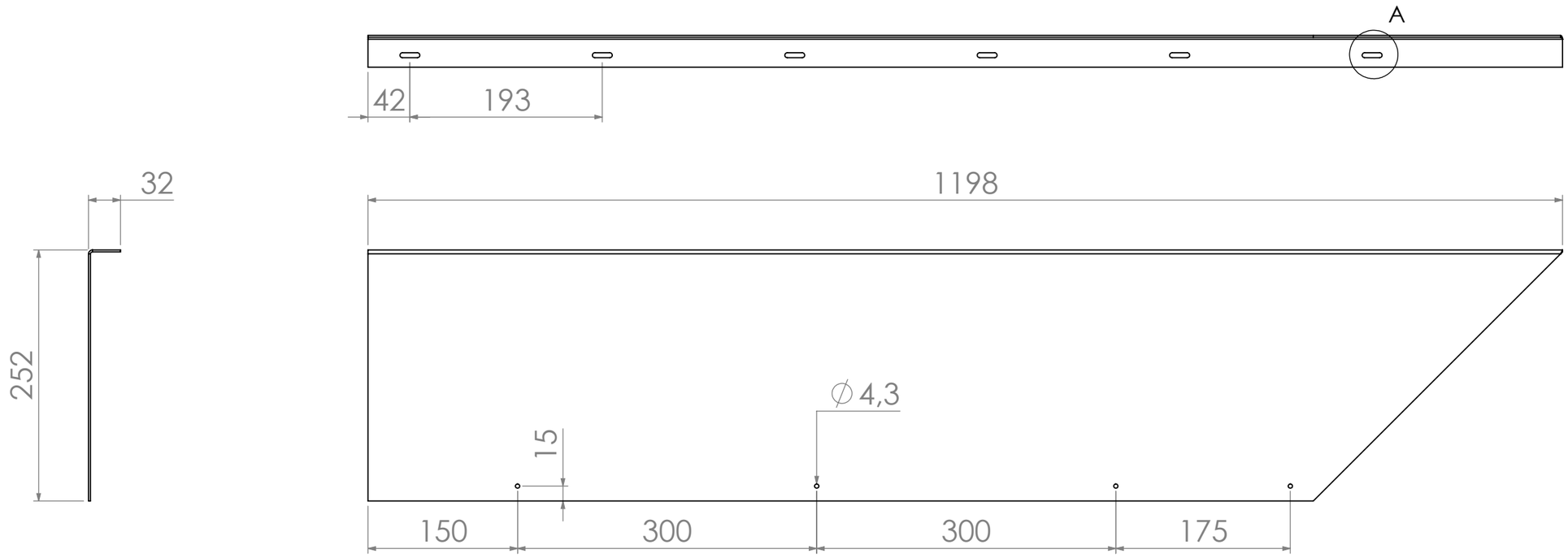
REVISION

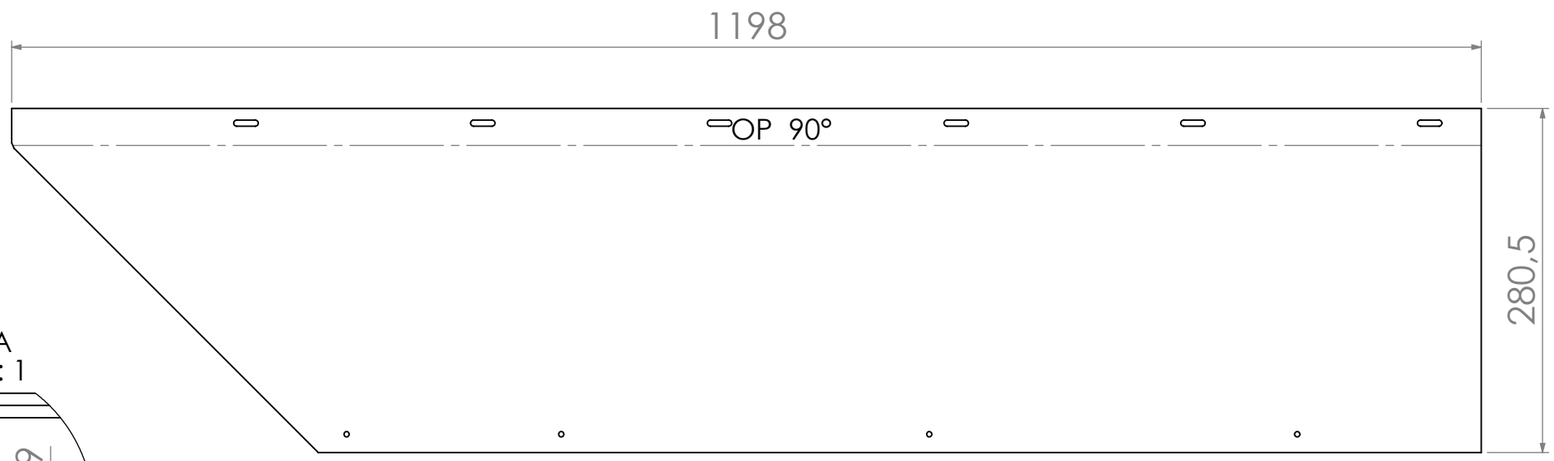
WEIGHT: 9.50

SCALE:1:10

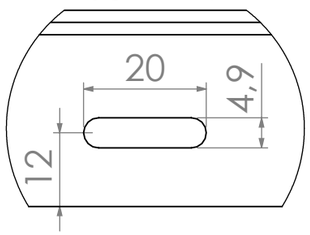
A3

SHEET 1 OF 1





DETAIL A
SCALE 1 : 1



DBI
PGC10025A

Christian Basbøll

GKB-114939-HJ2-20 er spejlvendt af denne!

OV: R1
UV: Spor 12-30°
BT: 0,5 mm

	NAME	DATE
DRAWN	casper	13-07-2023

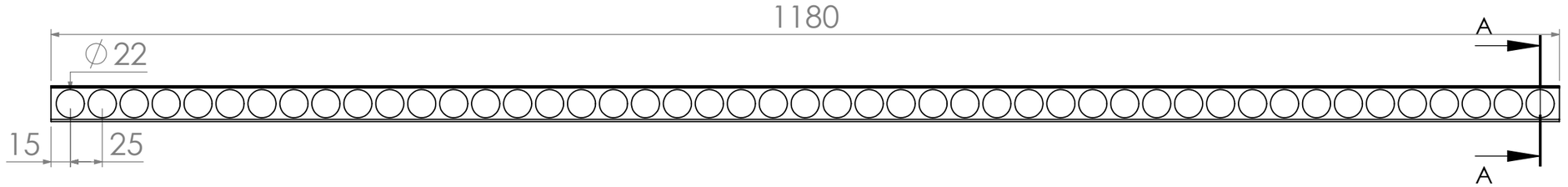
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

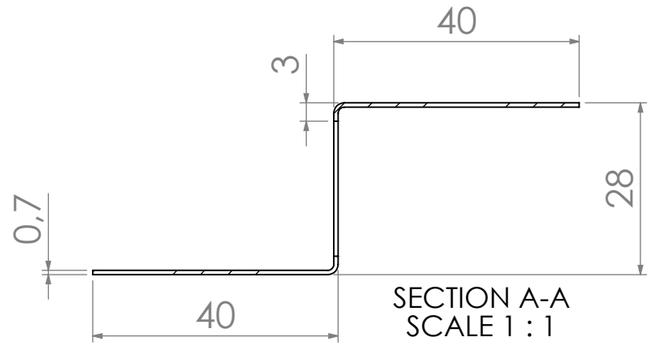
GLADSAXE KLIP & BUK

Folder name: X:\DBI\
Customer: DBI
TITLE: Underdel, 2 mm plade, Lg. 1200

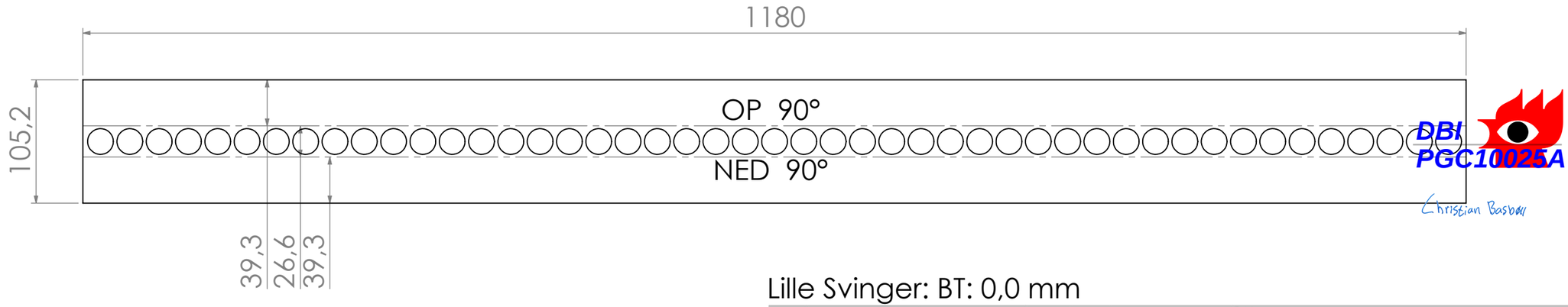
MATERIAL:
DWG NO. GKB-114938-HJ2-10
REVISION

WEIGHT: 4.75
SCALE:1:5
A3
SHEET 1 OF 1





SECTION A-A
SCALE 1 : 1



DBI
PGC10025A
Christian Basbøll

Lille Svinger: BT: 0,0 mm

	NAME	DATE
DRAWN	casper	10-07-2023

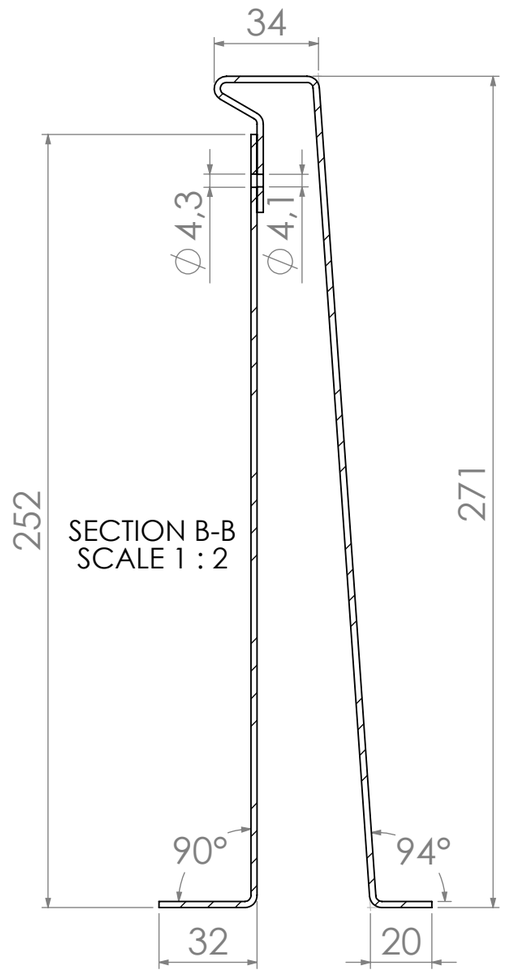
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

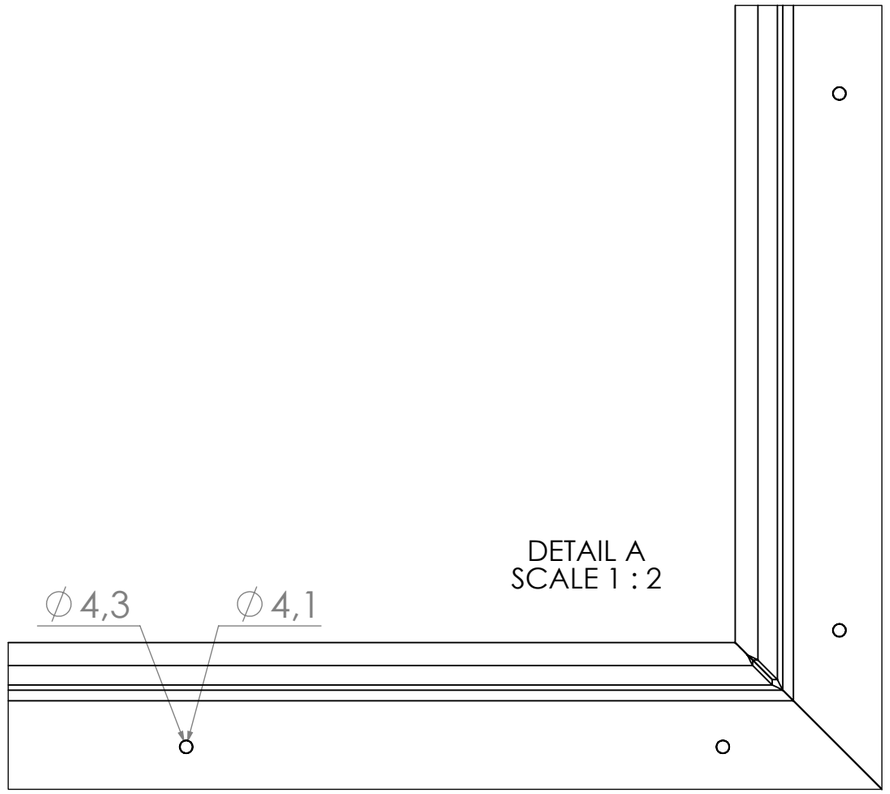
GLADSAXE KLIP & BUK

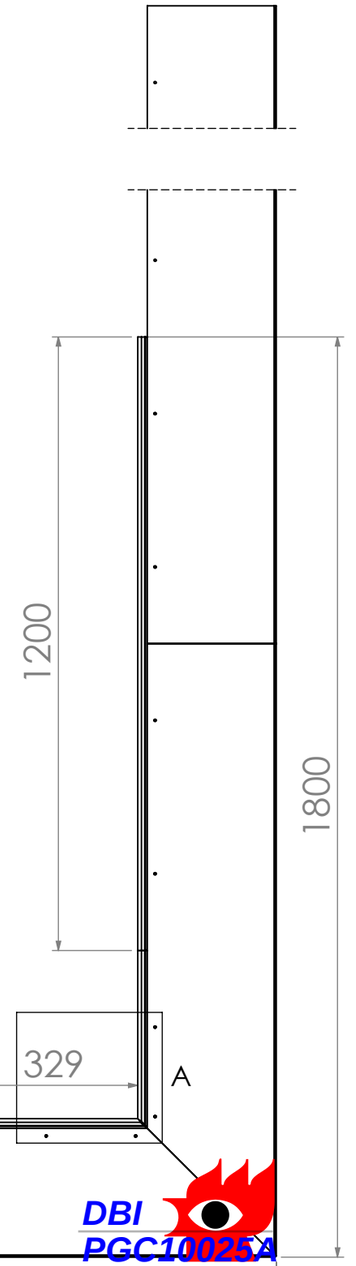
Folder name: X:\DBI\
Customer: DBI
TITLE: Z-profil, 0.7 mm plade

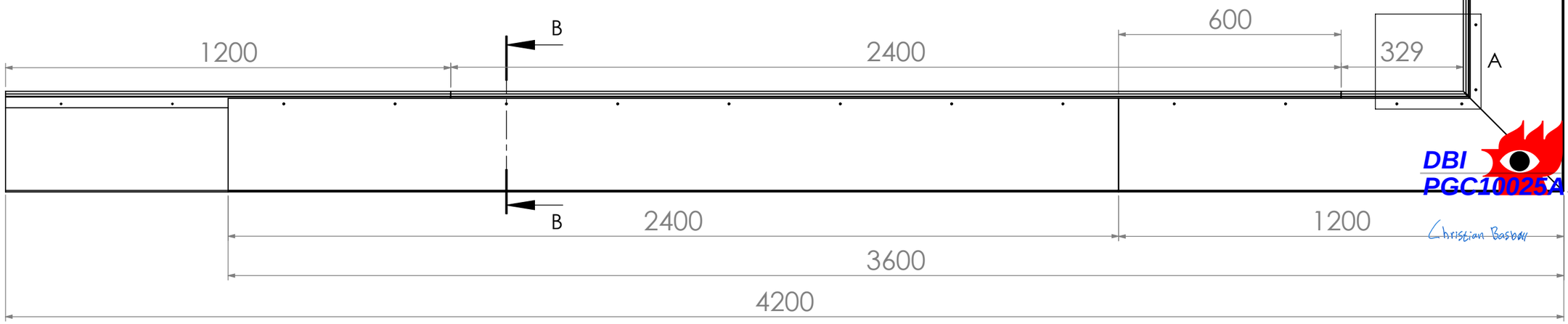
MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. GKB-114939-10
REVISION

WEIGHT: 0.58
SCALE:1:4
A3
SHEET 1 OF 1









	NAME	DATE
DRAWN	casper	13-07-2023

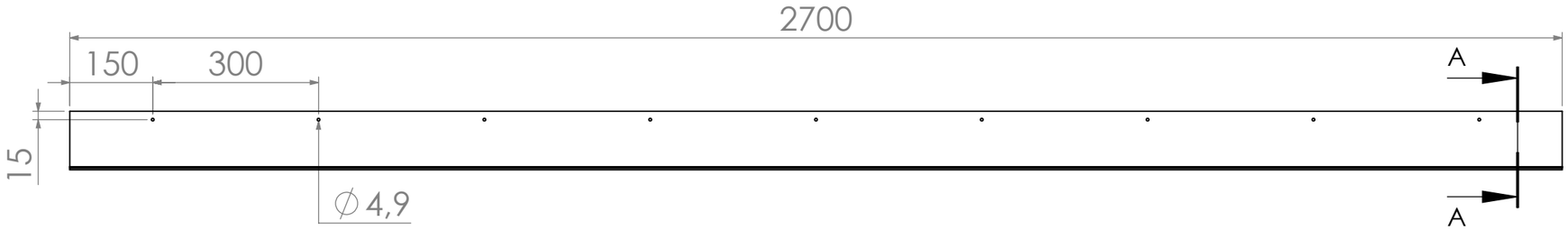
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

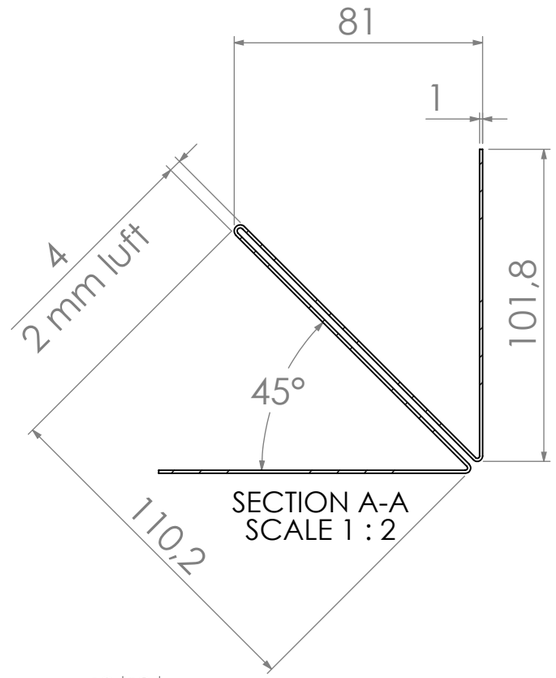
GLADSAXE KLIP & BUK

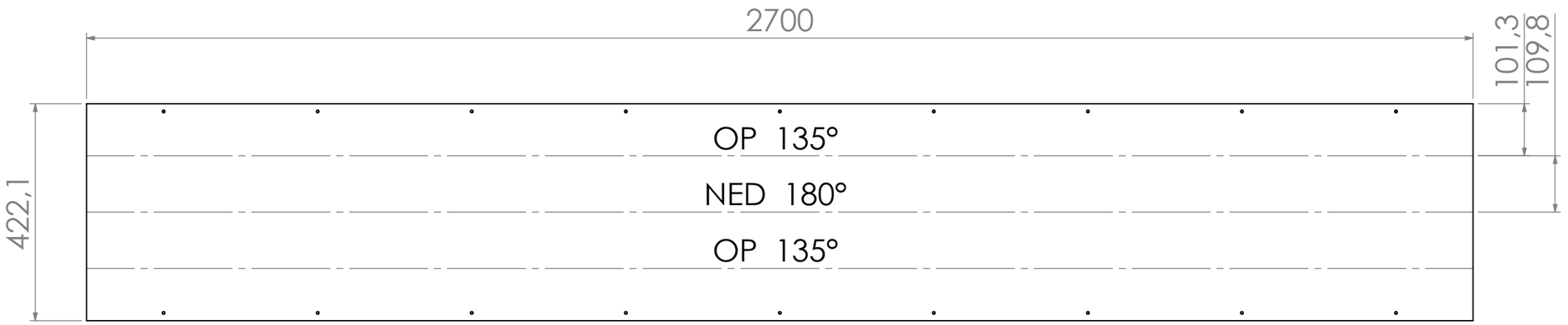
Folder name: X:\DBI\
Customer: DBI
TITLE: BFUH-1

MATERIAL:
DWG NO. Testsamling
REVISION

WEIGHT: 63.10
SCALE:1:12
A3
SHEET 1 OF 1







DBI
PGC10025A

Christian Basbøll

OV: R1
UV: spor 6
BT: 0,2 mm

	NAME	DATE
DRAWN	casper	14-06-2022

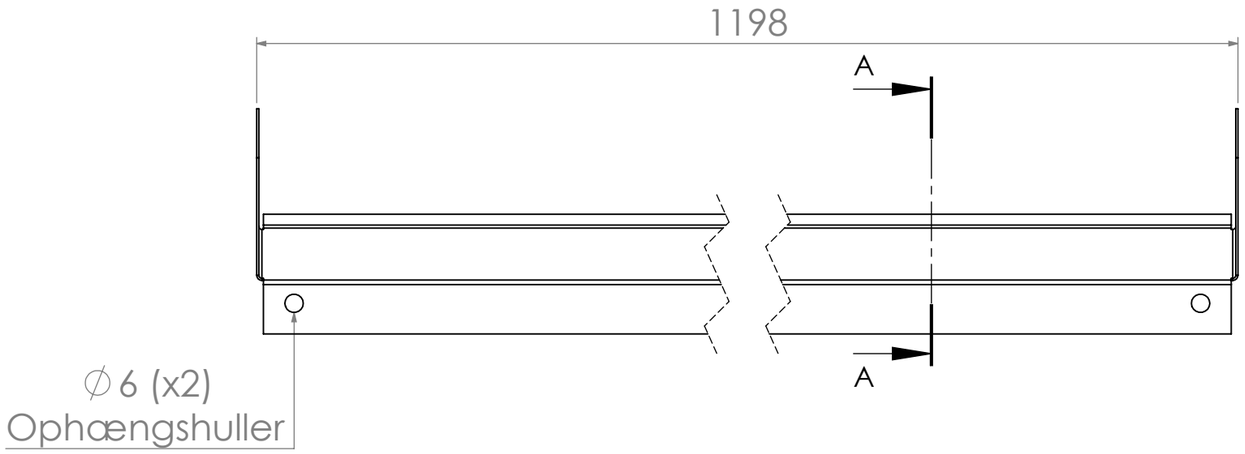
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

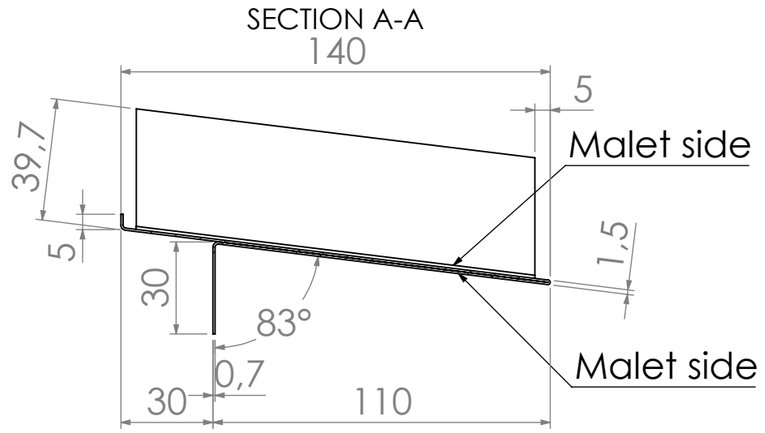
GLADSAXE KLIP & BUK

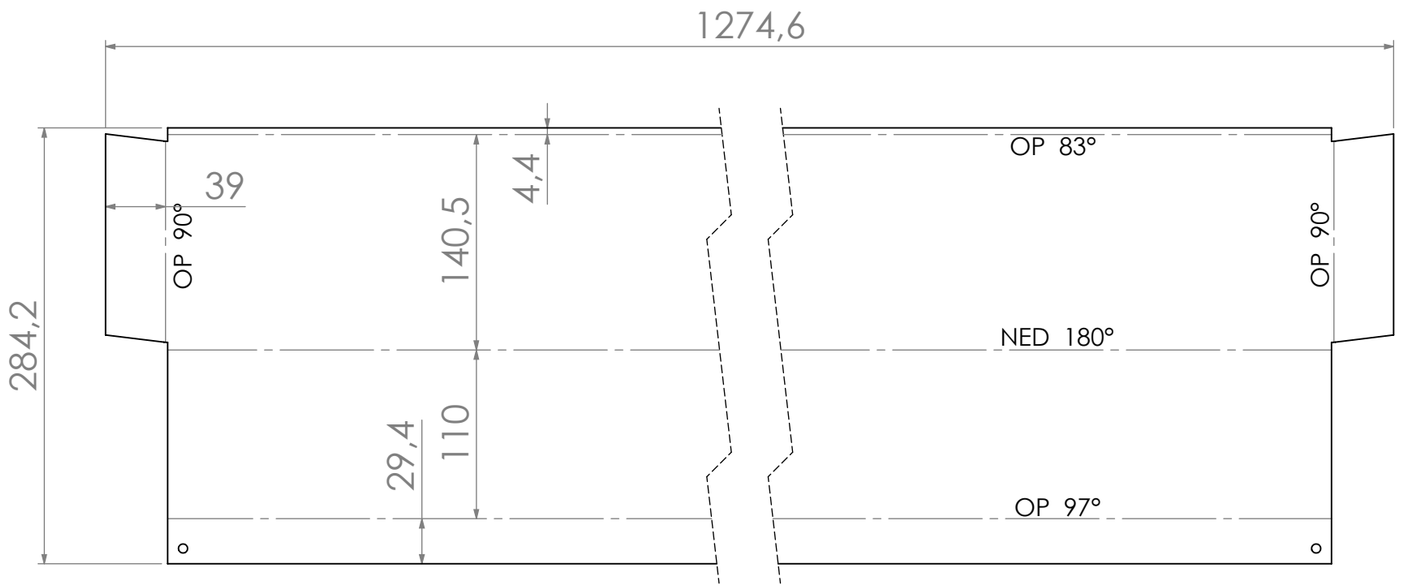
Folder name: X:\CG Jensen\04_STEP filer\
Customer: CG Jensen
TITLE: 1 mm plade

MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. I02-E-001 Inner corner
REVISION

WEIGHT: 8.92
SCALE:1:10
A3
SHEET 1 OF 1







DBI
PGC10025A

Christian Basbøll

OV: R1
UV: Spor 6
BT: 0,0 mm

	NAME	DATE
DRAWN	casper	11-07-2023

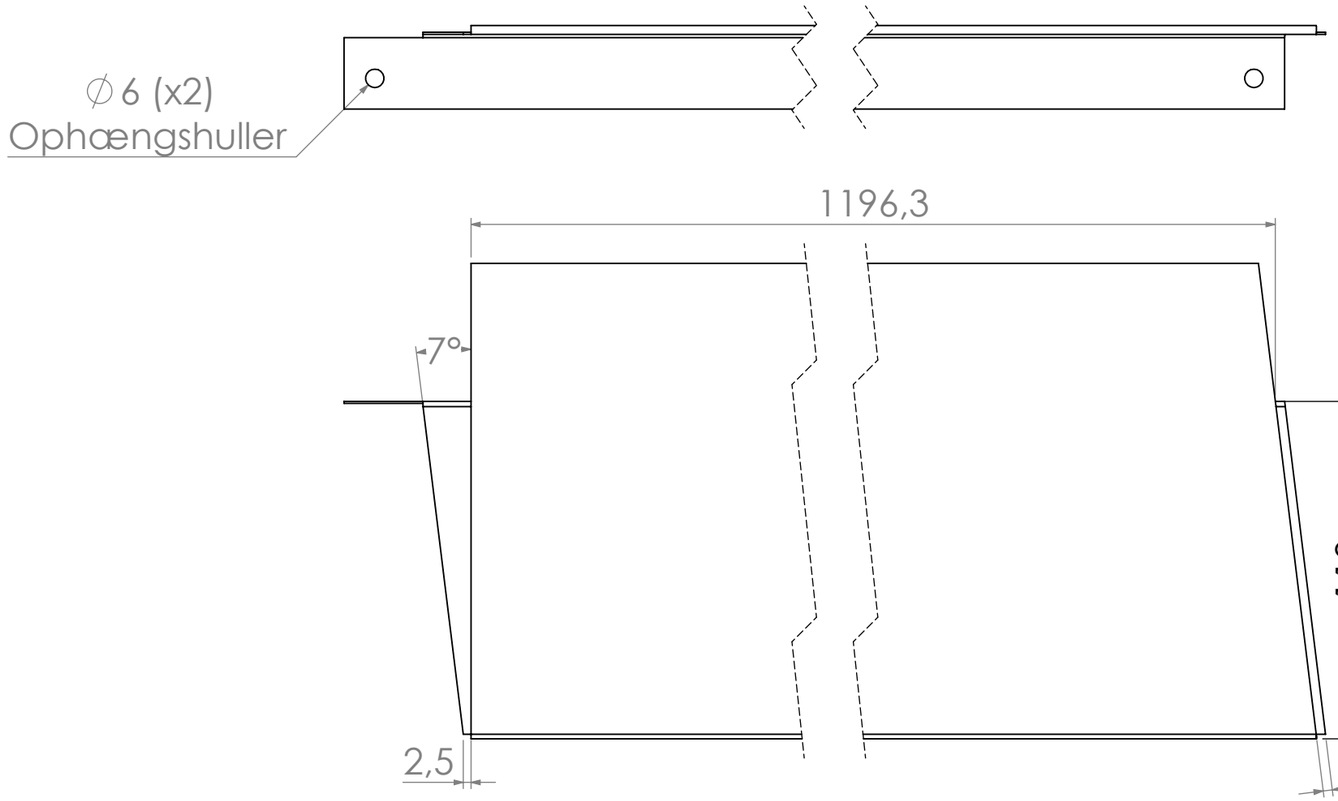
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

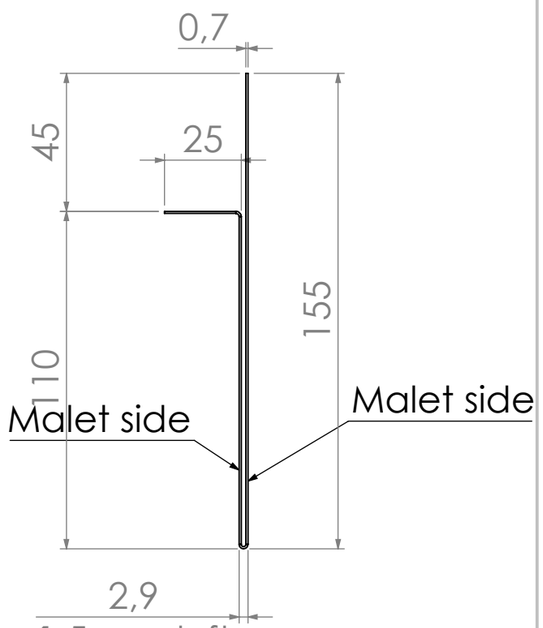
GLADSAXE KLIP & BUK

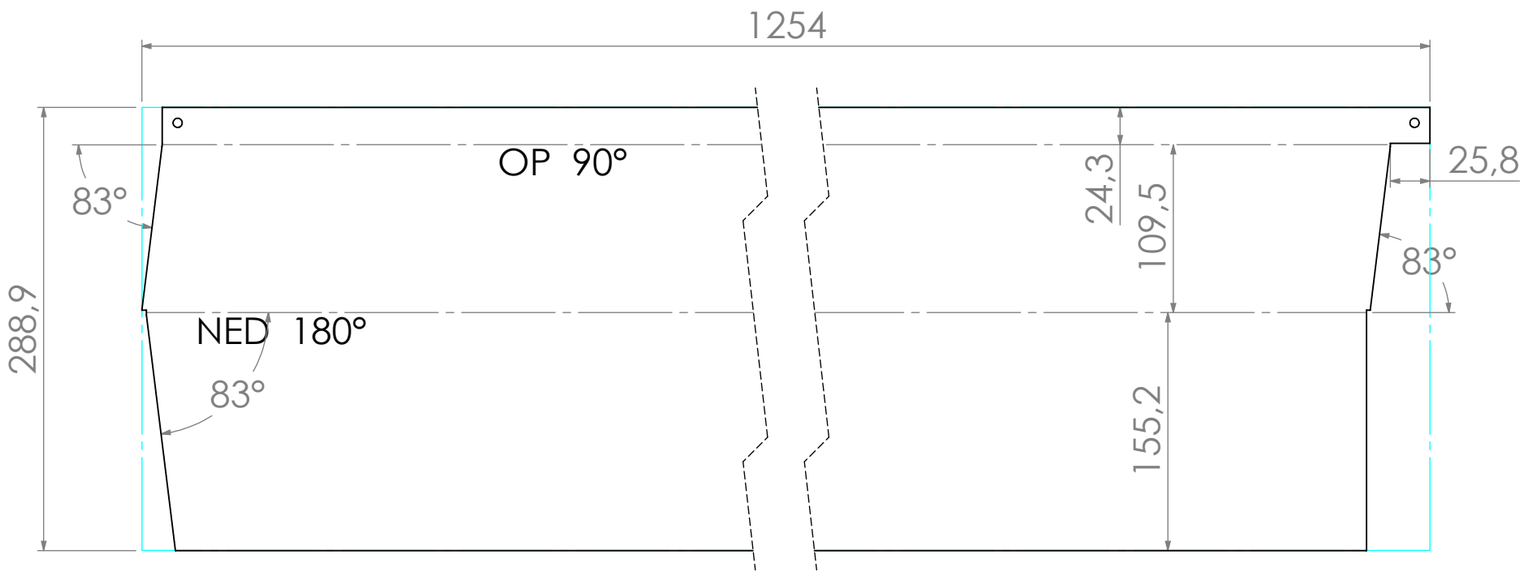
Folder name: X:\DBI\BFUH-1\
Customer: DBI
TITLE: BFUH-1, Bund, 0.7 mm plade

MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. IB.A_1198
REVISION

WEIGHT: 1.91
SCALE:1:2
A3
SHEET 1 OF 1







DBI
PGC10025A

Christian Basbøll

OV: R1
UV: Spor 6
BT: 0,0 mm

	NAME	DATE
DRAWN	casper	11-07-2023

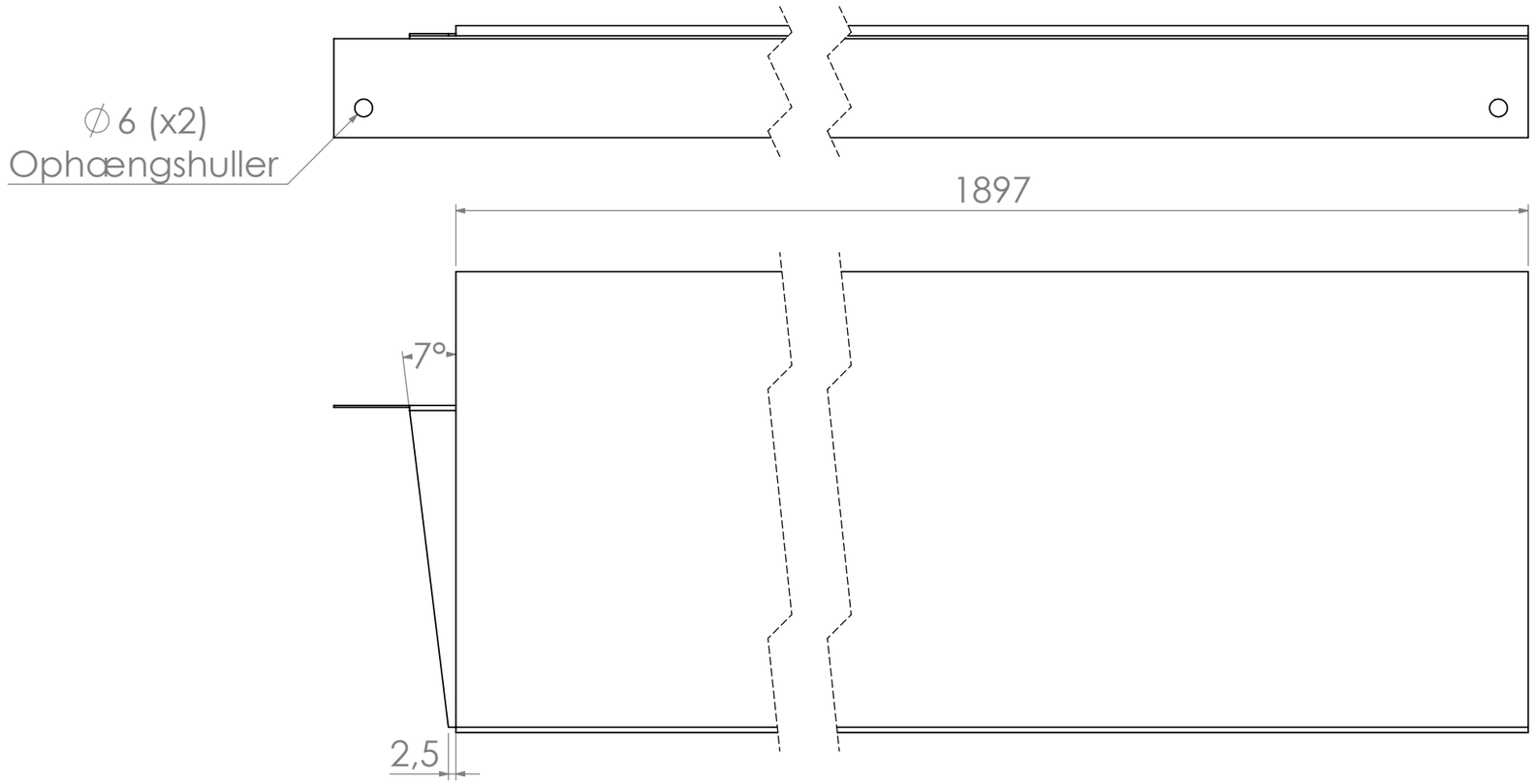
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

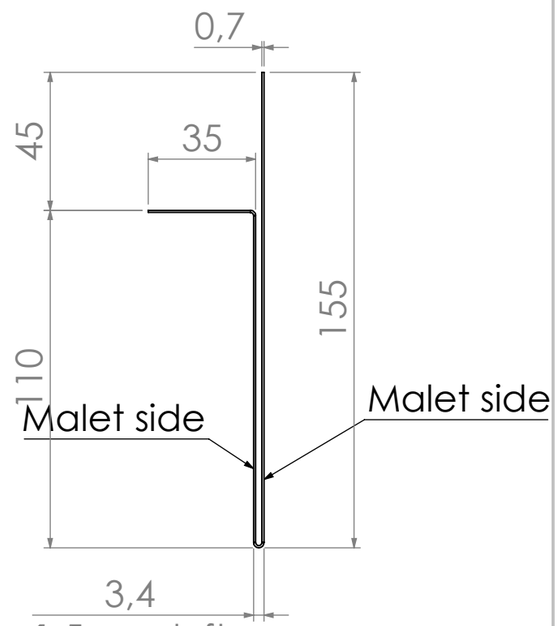
GLADSAXE KLIP & BUK

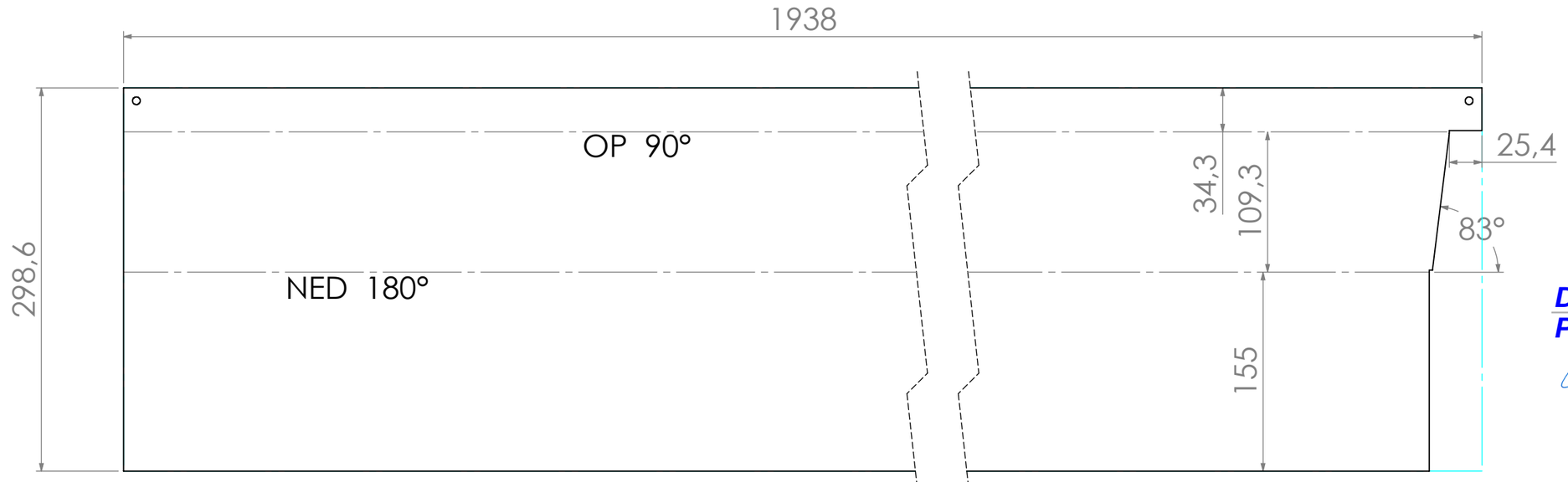
Folder name: X:\DBI\BFUH-1\
Customer: CG Jensen
TITLE: Side, Indd., Type-B, 0.7 mm plade

MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. IS.A.V_1198
REVISION

WEIGHT: 1.91
SCALE:1:2
A3
SHEET 1 OF 1







DBI
PGC10025A

Christian Basbøll

OV: R1
UV: Spor 6
BT: 0,0 mm

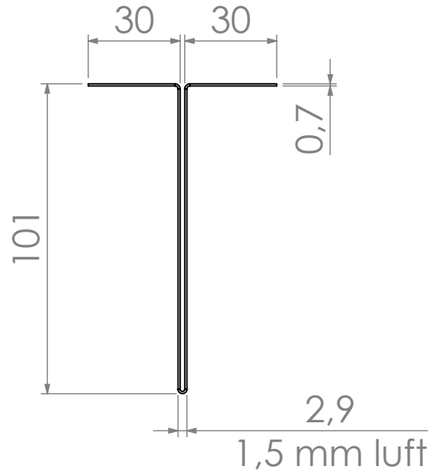
	NAME	DATE
DRAWN	casper	11-07-2023

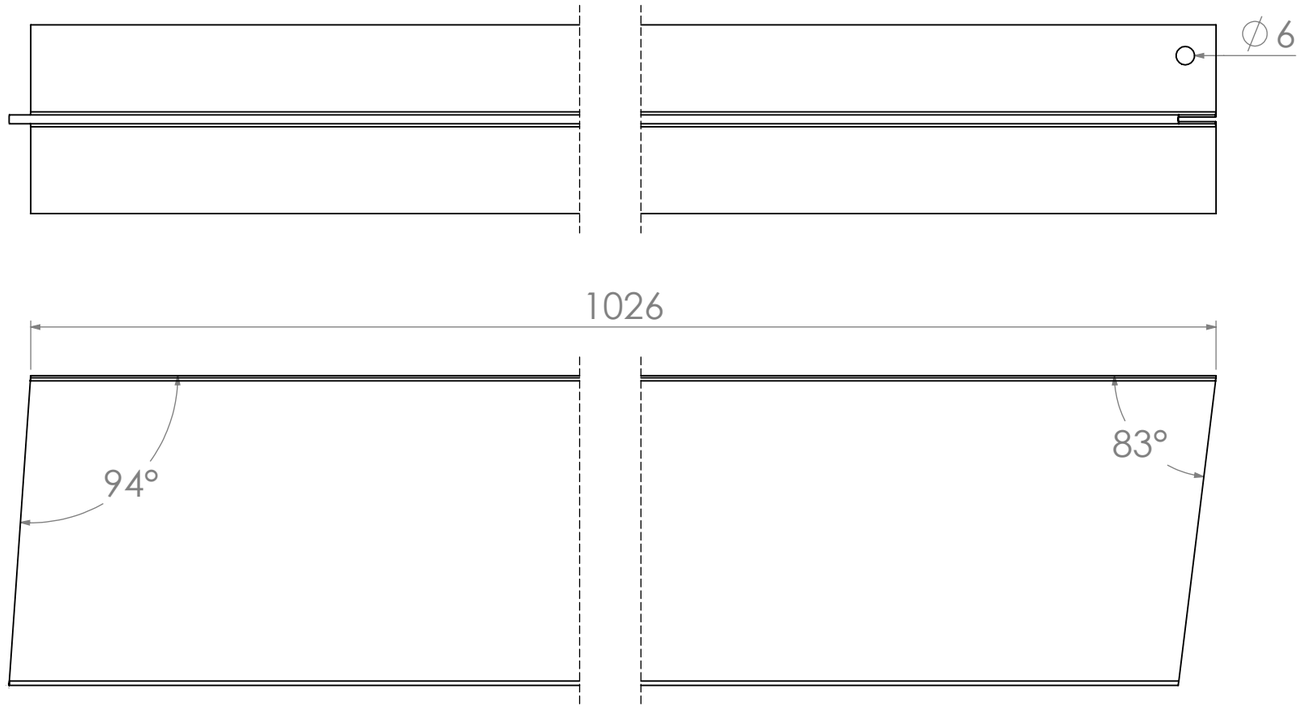
GLADSAXE KLIP & BUK

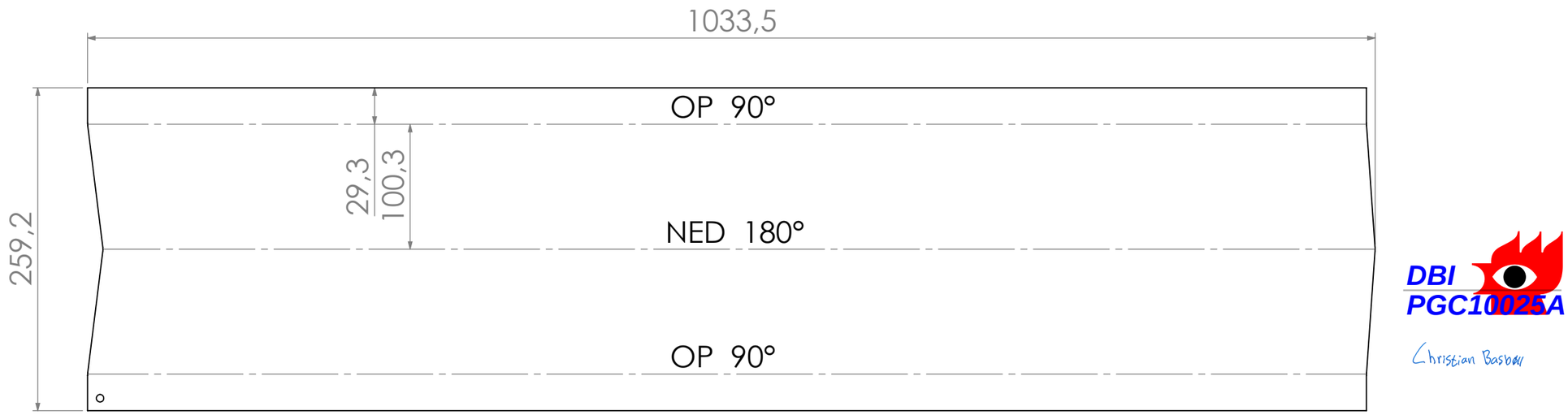
Folder name: X:\DBI\BFUH-1\
Customer: BPI
TITLE: BFUH-1, Side, 0.7 mm plade

Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. IS.A.V_1898
REVISION
WEIGHT: 3.12
SCALE:1:2
A3
SHEET 1 OF 1







DBI
PGC10025A

Christian Basbøll

OV: R1
UV: Spor 6
BT: 0,0 mm

	NAME	DATE
DRAWN	casper	13-07-2023

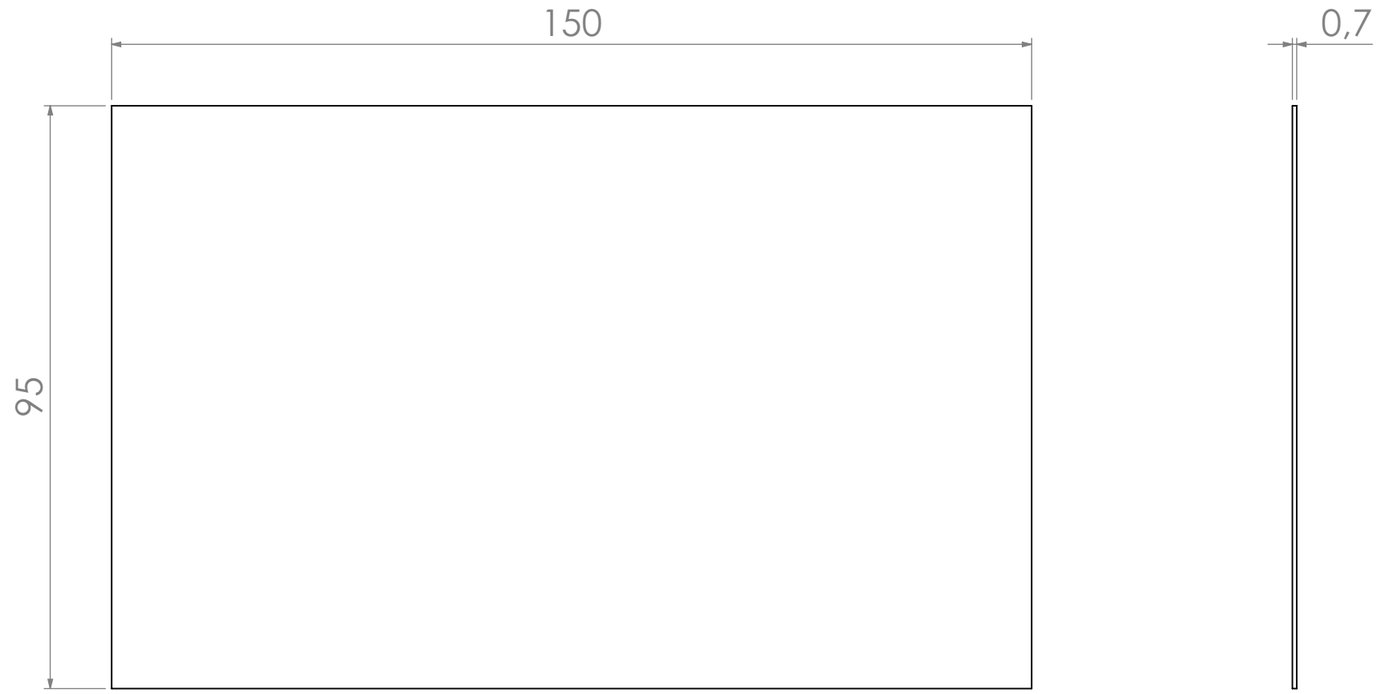
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

GLADSAXE KLIP & BUK

Folder name: X:\DBI\BFUH-1\
Customer: DBI
TITLE: BFUH-1, Side, 0.7 mm plade

MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. IS.B_1030
REVISION

WEIGHT: 1.45
SCALE:1:2
A3
SHEET 1 OF 1



DBI
PGC10025A

Christian Basbøll

	NAME	DATE
DRAWN	casper	12-07-2023

Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

GLADSAXE KLIP & BUK

Folder name: X:\DBI\BFUH-1\

Customer: DBI

TITLE: BFUH-1, Laske, 0.7 mm plade

MATERIAL: DX51D Z275 (Varm-Galv)

DWG NO. IS.B_Laske

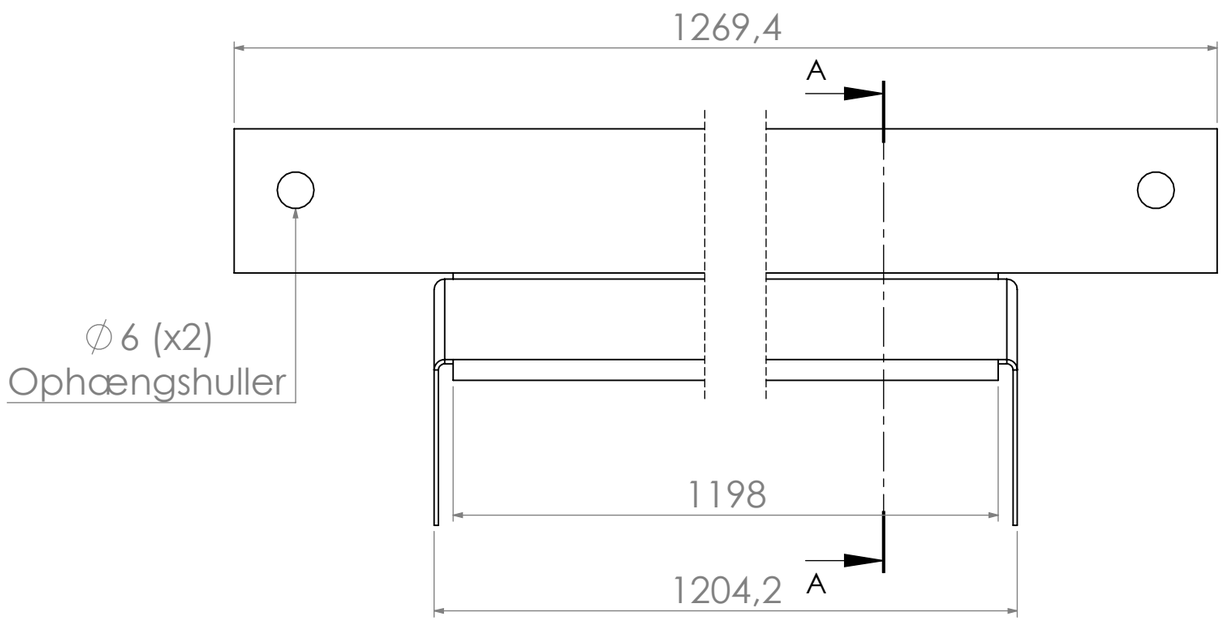
REVISION

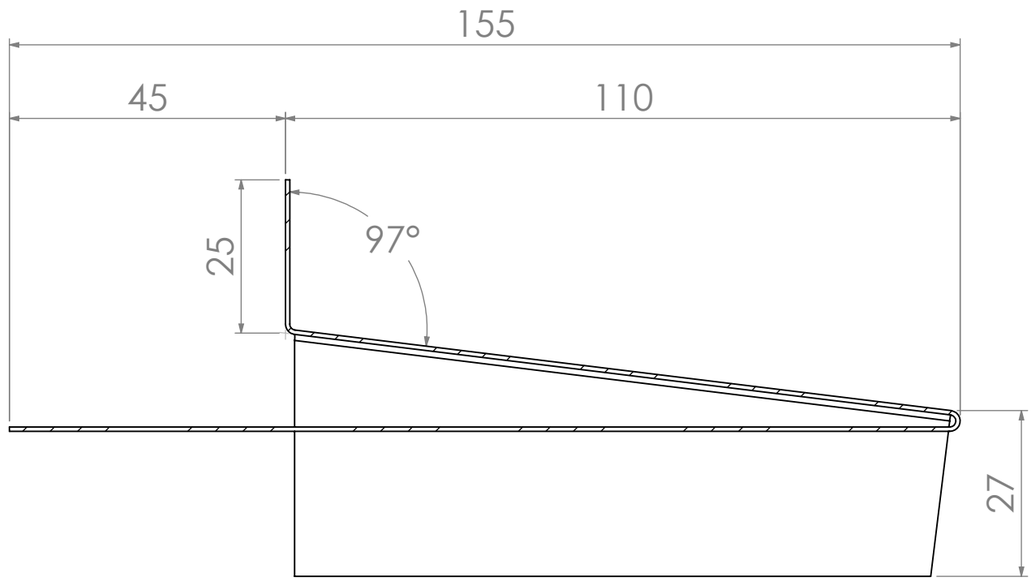
WEIGHT: 0.08

SCALE:1:1

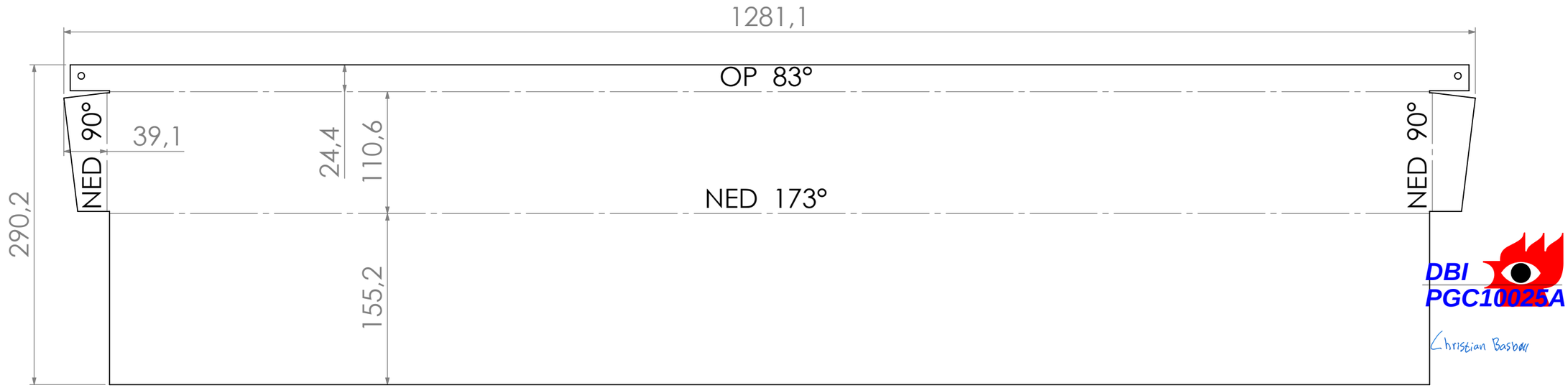
A3

SHEET 1 OF 1





SECTION A-A



DBI
PGC10025A
Christian Basbøll

OV: R1
UV: Spor 6
BT: 0,0 mm

	NAME	DATE
DRAWN	casper	11-07-2023

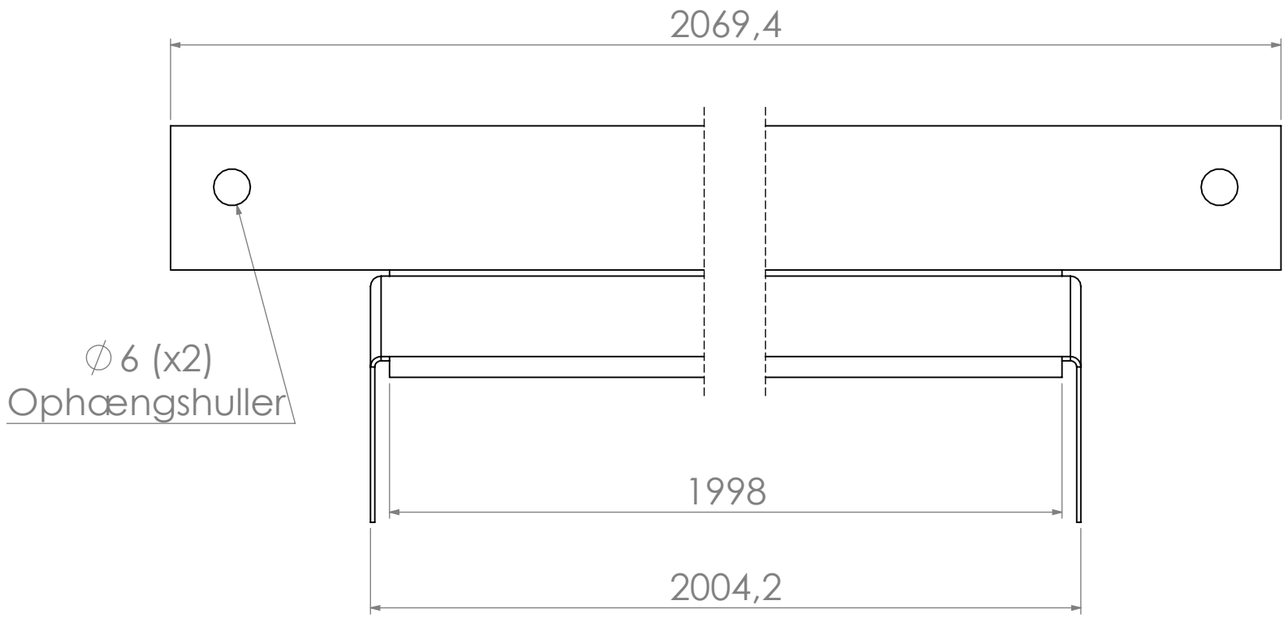
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

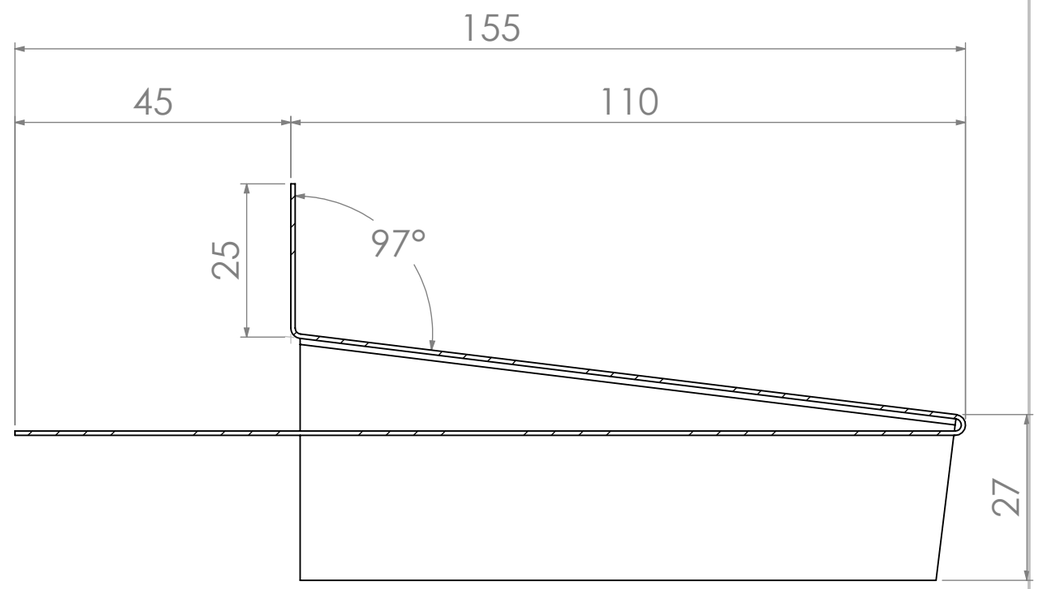
GLADSAXE KLIP & BUK

Folder name: X:\DBI\BFUH-1\
Customer: DBI
TITLE: BFUH-1, Top, 0.7 mm plade

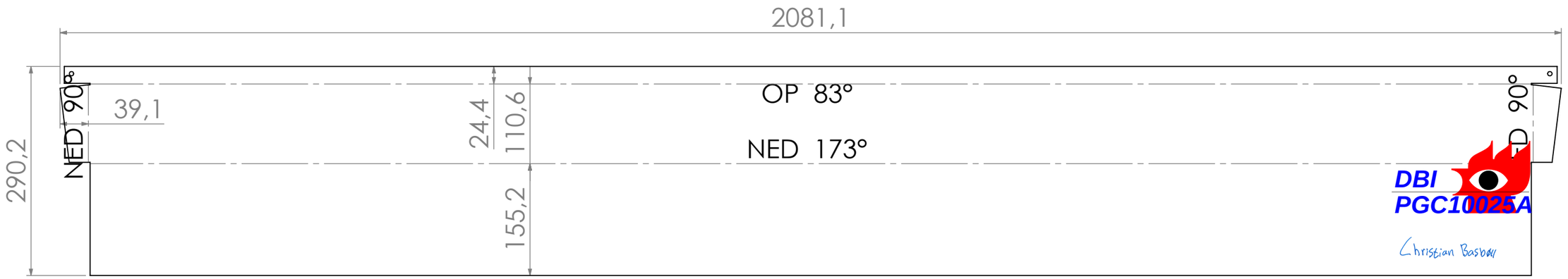
MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. IT.A_1198
REVISION

WEIGHT: 1.95
SCALE:1:1
A3
SHEET 1 OF 1





SECTION A-A



OV: R1
UV: Spor 6
BT: 0,0 mm

	NAME	DATE
DRAWN	casper	11-07-2023

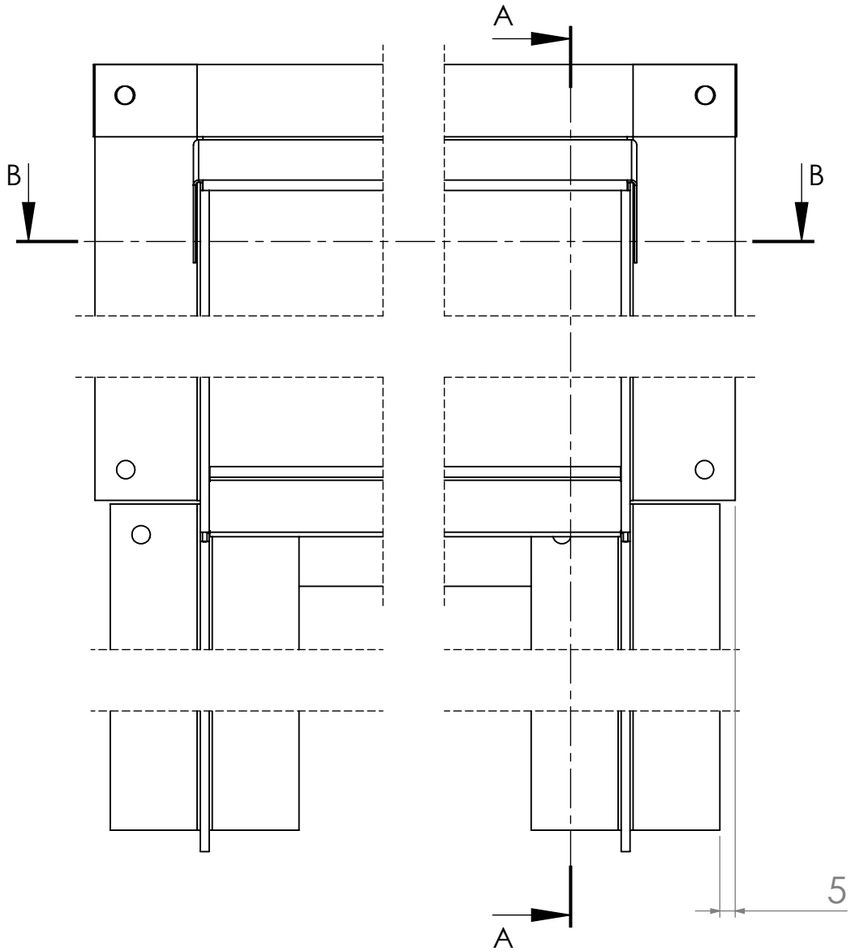
Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

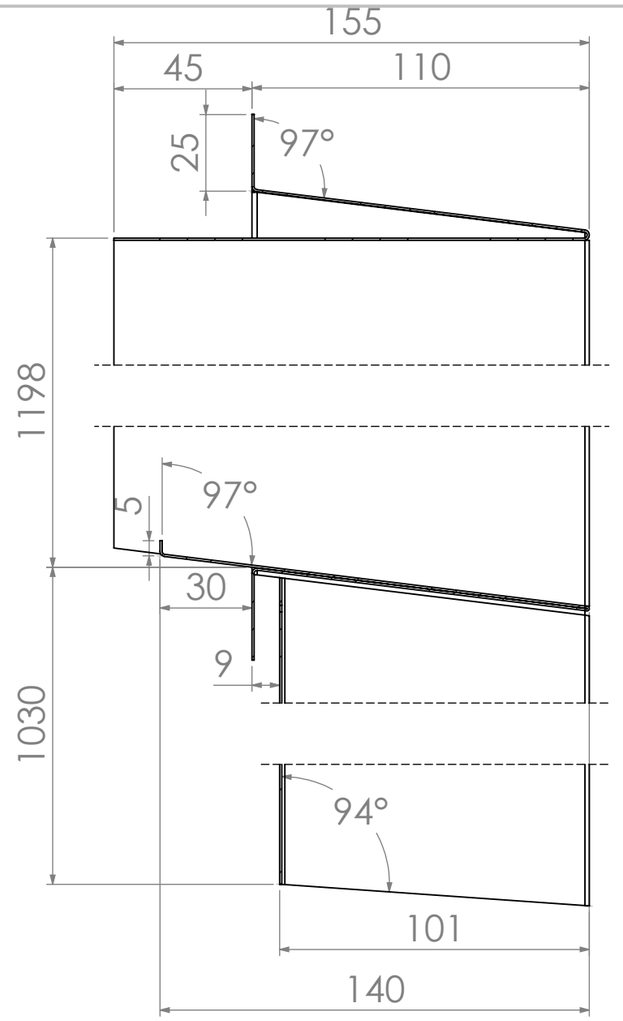
GLADSAXE KLIP & BUK

Folder name: X:\DBI\BFUH-1\
Customer: DBI
TITLE: BFUH-1, Top, 0.7 mm plade

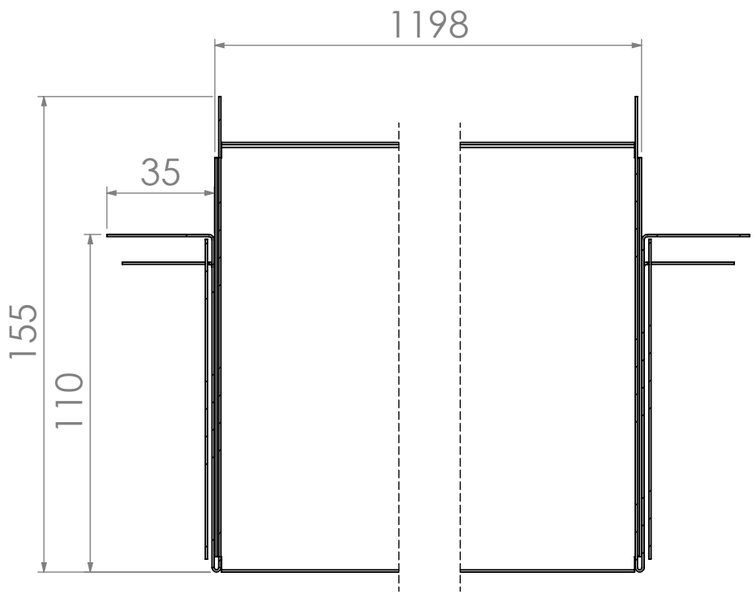
MATERIAL: DX51D Z275 (Varm-Galv)
DWG NO. IT.A_1998
REVISION

WEIGHT: 3.22 | SCALE:1:1 | A3 | SHEET 1 OF 1





SECTION A-A



SECTION B-B

DBI
PGC10025A

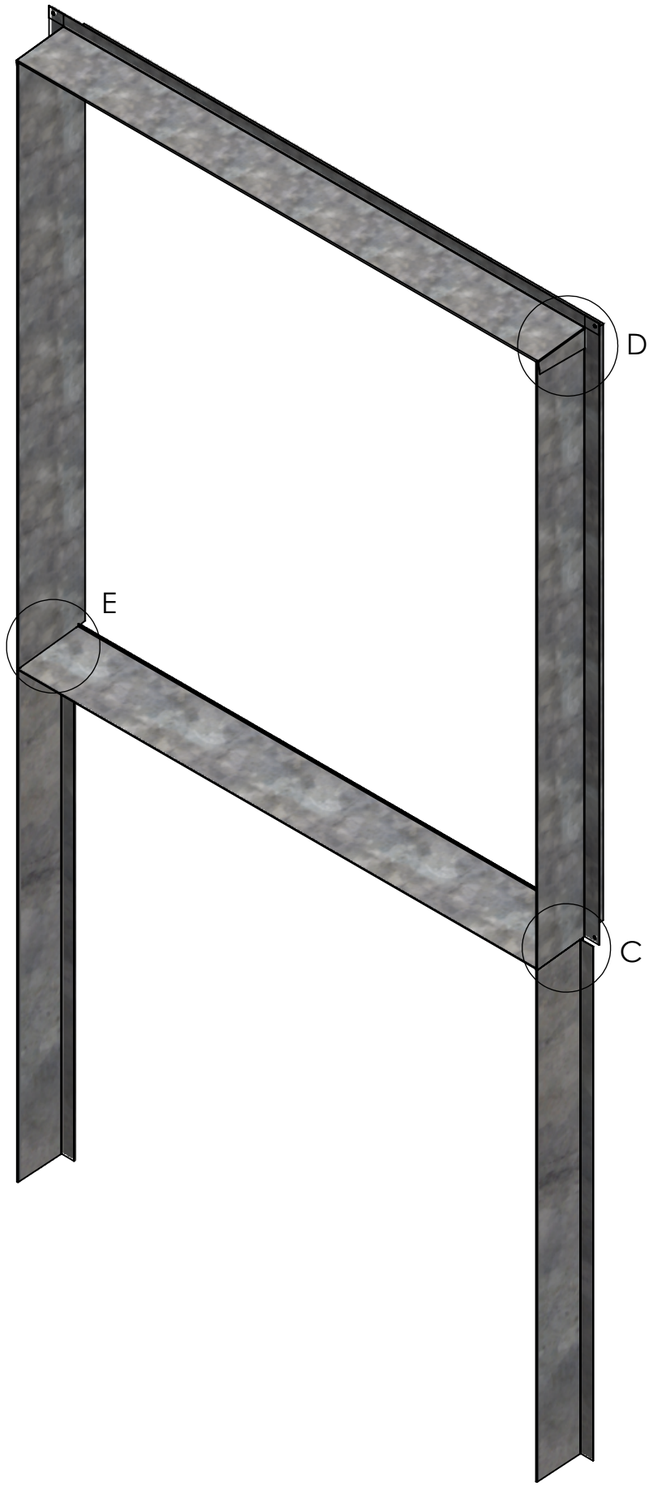
Christian Basbøll

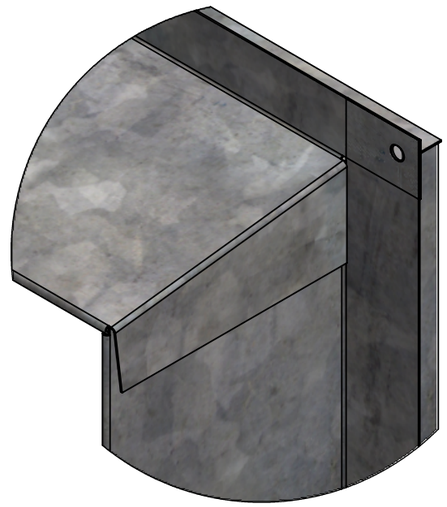
	NAME	DATE
DRAWN	casper	13-07-2023

Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

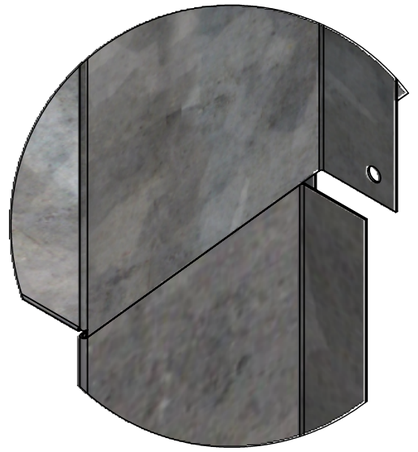
GLADSAXE KLIP & BUK

Folder name: X:\DBI\BFUH-1\
Customer: BPI
TITLE: BFUH-1, Vindue 1200x1200, samlet
MATERIAL:
DWG NO. Vindue-1200x1200
REVISION
WEIGHT: 10.72
SCALE:1:2
A3
SHEET 1 OF 2

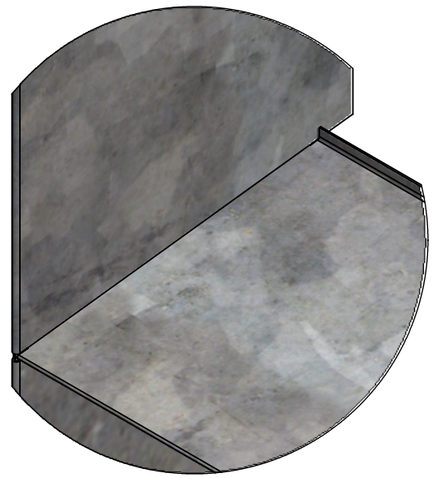




DETAIL D



DETAIL C



DETAIL E

DBI
PGC10025A

Christian Basbøll

	NAME	DATE
DRAWN	casper	11-07-2023

GLADSAXE KLIP & BUK

Folder name: X:\DBI\BFUH-1\

Customer: BPI

TITLE: BFUH-1, Vindue 1200x1200, samlet

Hvor intet andet er angivet, er tolerancer i henhold til DS/ISO 2768-1(m)
Alle mål er i millimeter, medmindre andet er angivet.
Tegningen må ikke skaleres.

MATERIAL:

DWG NO. Vindue-1200x1200

REVISION

WEIGHT: 10.72

SCALE:1:2

A3

SHEET 2 OF 2