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Wien, 14. März 2025  
Vienna, 14 March 2025  
Gesamtseiten/Pages: 2

## **Verlängerung der Gültigkeit des Prüfberichtes**

### **MA 39 – VFA 2017-0308.01**

#### ***Extending the validity of the test report***

### **MA 39 — VFA 2017-0308.01**

**Brandverhalten eines vorgehängten hinterlüfteten Fassadensystems mit einer Bekleidung aus Hochdrucklaminatplatten der Bezeichnung „m.look Exterior“ (Prüfung vom 8. März 2017)**

***Test report on the fire performance of a curtain-type, rear-ventilated facade system with panelling made of 'm.look Exterior' high-pressure laminate boards (test dated 8 March 2017)***

<b>Auftraggeber/Client:</b>	FunderMax GmbH
<b>Auftragsdatum/ Order date:</b>	18. März 2025 / 18 March 2025
<b>Datum des Prüfberichtes/ Date of test report:</b>	4. Mai 2017 / 4 May 2017
<b>Prüfprogramm/ Test range:</b>	Prüfung des Brandverhaltens der Fassadenkonstruktion beim Fensterausbrand im zweiten über dem Primärbrandherd liegenden Geschoß in einem Maßstabstest gemäß ÖNORM B 3800-5:2013  <i>Testing the fire performance of the facade construction in the event of a window burnout on the second floor above the floor of the primary fire in a scale test in accordance with ÖNORM B 3800-5:2013</i>



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Die Gültigkeit des Prüfberichtes endet am 4. Mai 2027. Diese Verlängerung gilt nur in Verbindung mit dem originalen Prüfbericht. Sollten sich grundlegende Prüf- oder Bewertungskriterien ändern, erlischt die Gültigkeit vor Ablauf dieser Frist. Weiters erlischt die Gültigkeit dann, wenn der Auftraggeber unzulässige technische Änderungen am Produkt vornimmt.

*The validity of the test report expires on 4 May 2027. This extension only applies in combination with the original test report. If fundamental test or evaluation criteria change, the validity expires before the end of this period. Furthermore, the validity expires if the client makes unauthorized technical changes to the product.*

Der Sachbearbeiter  
*The Case Manager*  
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Der Laborleiter  
*The Head of Laboratory*  
Dipl.-HTL-Ing. Kurt Danzinger, MSc  
Technischer Oberamtsrat

Der Leiter der Prüf-, Inspektions- und  
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*The Head of Research Centre,  
Laboratory and Certification Services*  
Dipl.-Ing. Dieter Werner, MSc  
Oberstadtbaurat

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Vienna, 2. November 2020  
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## Test Report

### Fire performance of a curtain-type, rear-ventilated facade system with panelling made of 'm.look' high-pressure laminate boards (test dated 8 March 2017)

Client	FunderMax GmbH
Order date	14 February 2017
Test material	Curtain-type, rear-ventilated facade system comprising the following components: <ul style="list-style-type: none"><li>• Panelling board: m.look high-pressure laminate board, 7 mm thick</li><li>• Insulation: "climowool FD2N" mineral wool, insulation thickness of 120 mm</li><li>• Substructure: aluminium substructure</li><li>• Ventilation gap: 40 mm</li><li>• Lintel and soffit design: m.look high-pressure laminate board, 7 mm, secured to metal brackets and panels (1.0 mm thick)</li></ul>
Test programme	Testing the fire performance of the facade construction in the event of a window burnout on the second floor above the floor of the primary fire in a scale test in accordance with ÖNORM B 3800-5:2013
Brief assessment	Under the test conditions selected, it was not possible to observe any optical spread of fire at or under the surface of the facade panelling during the test. No combustible parts or large parts (> 0.4 m <sup>2</sup> or > 5 kg) became detached. Accordingly, the curtain-type, rear-ventilated facade system with "m.look" panelling boards has complied with the requirements of ÖNORM B 3800-5:2013.

This is the English translation of document MA 39 – VFA 2017-0308.01. In any case of doubt, the German version is valid.



## 1 General information

MA 39 was commissioned on 14 February 2017 by the client to carry out a technical fire safety test on a facade construction (order number 4500142120).

## 2 Test procedure

The test procedure is indicated in accordance with ÖNORM B 3800-5:2013, according to which the test specimen is attached to a weather-proof test bench in line with the original installation status and exposed to thermal stress by a certain fire load under natural ventilation conditions.

The size of the fire load, its arrangement and ventilation as well as the geometrical arrangement interact with each other and simulate a scenario which could illustrate the effect on a facade of flames escaping from a window of a room fully engulfed in fire (drawing of structure, see annex, page 1).

Criteria for assessing the test specimen include the spread of fire and large parts of the construction becoming detached and falling.

Note: For facade areas listed as an underside or "sloping facade", a separate test was carried out on the basis of ÖNORM B 3800-5 and its results reported with MA 39 — VFA 2017-0308.02.

## 3 Test specimen

The facade construction was mounted directly on the test bench by experts supplied by the client on 7 March 2017. The test specimen is designed as a corner arrangement with an opening and is 4.5 metres wide; the rear wall measures 3.0 metres and the corner wall is 1.5 metres wide. The construction is 6.0 metres high. The construction is connected to the fire chamber opening using a conventional soffit.

### Description of the specimen:

Curtain-type, rear-ventilated facade system with "m.look" high-pressure laminate boards

### The following materials were used:

- • Panelling board: m.look high-pressure laminate board, 7 mm thick, density of 1.8 g/cm<sup>3</sup>, with highly-weatherproof, decorative surface, manufactured on the basis of EN 438
- Insulation: "climowool FD2N" rock wool, fire performance class A 1 in accordance with ÖNORM EN 13501-1, insulation thickness 120 mm
- Substructure: Aluminium, EN AW-6063 T66 quality, comprising 155/80-11 wall console

T-profiles 60/100/1.8 N S4882

L-profiles 60/40/1.8 N S3503

Thermostop/Isolator

(both from EuroFox/Hilti)



#### Other fastening elements

- Ventilation gap: 40 mm wide
- Lintel and soffit design:

The m.look panel was mounted all around the lintel and soffit area and is 7 mm thick; additional metal brackets and sheet metal with a thickness of 1.0 mm were used to secure and connect the panels in the lintel and soffit area to the fire chamber and facade.

- Fire barriers: No other fire barriers (e.g. partitioning by floor) were formed.

MA 39 avails of data sheets on all components used. They are to be stored as evidence in MA 39. The system design (especially the cladding panels) must comply with the data sheets stored there.

Details on the construction can be found on pages 6 and 7.

## 4 Test structure

The test specimen was conditioned under laboratory conditions during the period of 7 March 2017 to 8 March 2017.

Thermal elements were mounted in the lintel area, 250 mm above the lintel edge, 1000 mm and 2000 mm above the lintel edge and at the top edge of the test bench, 100 mm in front of the facade and in the centre of ventilation gap (see page 9 of the annex for the arrangement of thermal elements).

## 5 Test realisation

A wood crib made of planed spruce poles was used as a fire load (each 4 cm wide, 4 cm high and 50 cm long). 72 poles with a total weight of 25 +/-1 kg are used to build a wooden brand with the poles nailed together crosswise. This gives rise to a wood crib with a surface area of 0.5 m x 0.5 m and a height of 0.48 m (corresponding to approx. 350 — 400 kW). The wooden brand is positioned inside the fire chamber (0.25 m high) on a metal substructure which is open all around with a surface area of 0.5 m<sup>2</sup>. The space between the wood crib and the fire chamber walls is 0.25 metres. The front of the crib is flush with the front of the test bench when unpanelled.

Ignition of the wood crib is triggered using isopropanol. Immediately before the test start, two metal trays are inserted into the lowest layer of wooden poles (both in the second exterior cavity) and each filled with 200 ml of isopropanol. The isopropanol is ignited using a naked flame.

Two minutes after ignition, a ventilator positioned behind the wood crib is switched on and an additional air flow (volume flow 400 m<sup>3</sup>/h) generated through a round opening (0.3 metres in diameter).

The test was carried out on 8 March 2017. The temperature in the fire hall was 16 °C, relative air humidity was 46.3% and air pressure was 1001.3 mbar.

## 6 Result

### Observations during the test:

Test start:	Ignition of isopropanol
50 seconds:	Flames flare out of the fire chamber
2 minutes:	Connecting the ventilator
2 minutes:	Dark stain in the inner corner; detachment of non-burning parts of the lintel panel
4 minutes 30 seconds:	Curvature in the lintel area
14 minutes:	Flaking by the cover layer of the panel at the short end
20 minutes:	Wood crib (local fire) collapses
30 minutes:	End of test — no further changes to the system

The maximum evident flame height measured up to 2.2 metres.

The records of the thermal element measurements are indicated on page 4 of the annex. Photos are documented at pages 9 to 18.

## 7 Assessment

Under the test conditions selected, it was not possible to observe any optical spread of fire at or under the surface of the facade during the test. No burning parts or large parts (> 0.4 m<sup>2</sup> or > 5 kg) or any other essential parts became detached. Until such a time as the local fire collapsed, the temperatures behind the surface of the facade were never higher than those in front of the facade.

The curtain-type, rear-ventilated facade system comprising "m.look" facade panels (7 mm thick) which are mechanically fastened to an aluminium substructure, featuring mineral wool facade insulating panels as insulation and additional metal brackets and sheet steel (1.0 mm thick) in the lintel and soffit area, met the requirements of ÖNORM B 3800-5:2013.

The validity of the test report is limited to 2 years. A test can then be carried out to extend this validity.



*The Case Manager*  
Dipl.-HTL-Ing. Kurt Danzinger, MSc



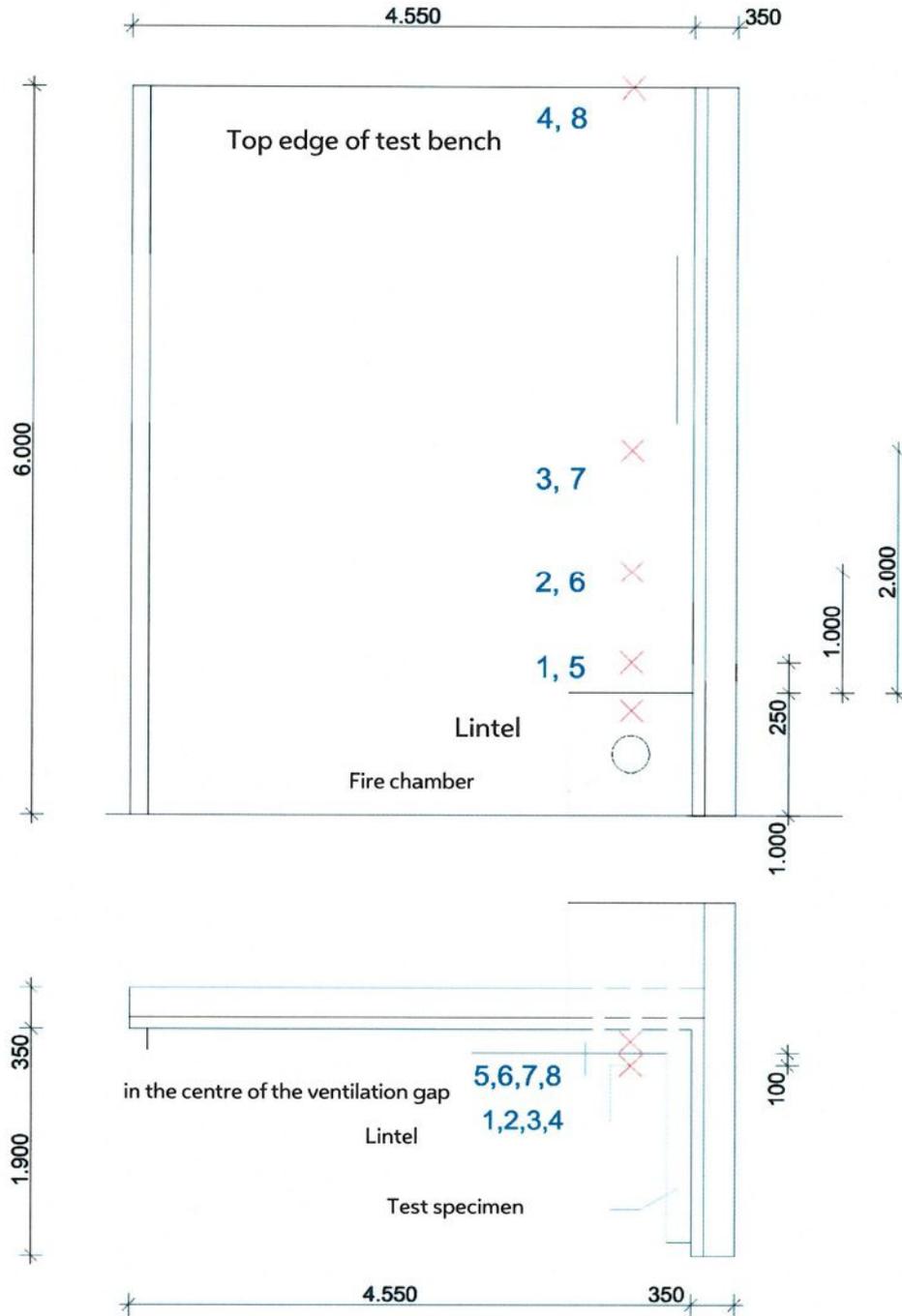
*The Head of Laboratory*  
Dipl.-Ing. Dieter Werner, MSc

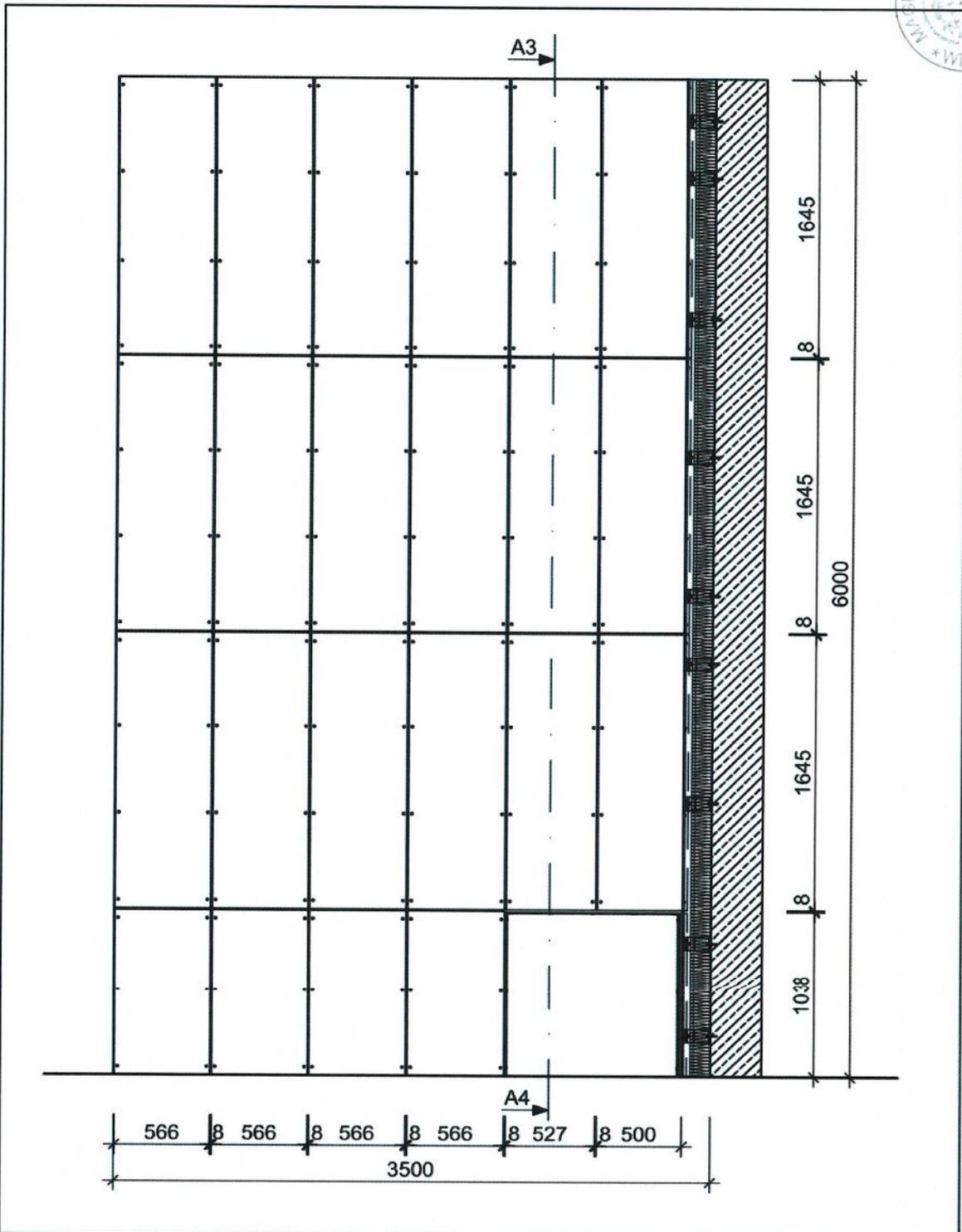
*The Head of Research Centre,  
Laboratory and Certification Services*  
Dipl.-Ing. Georg Pommer



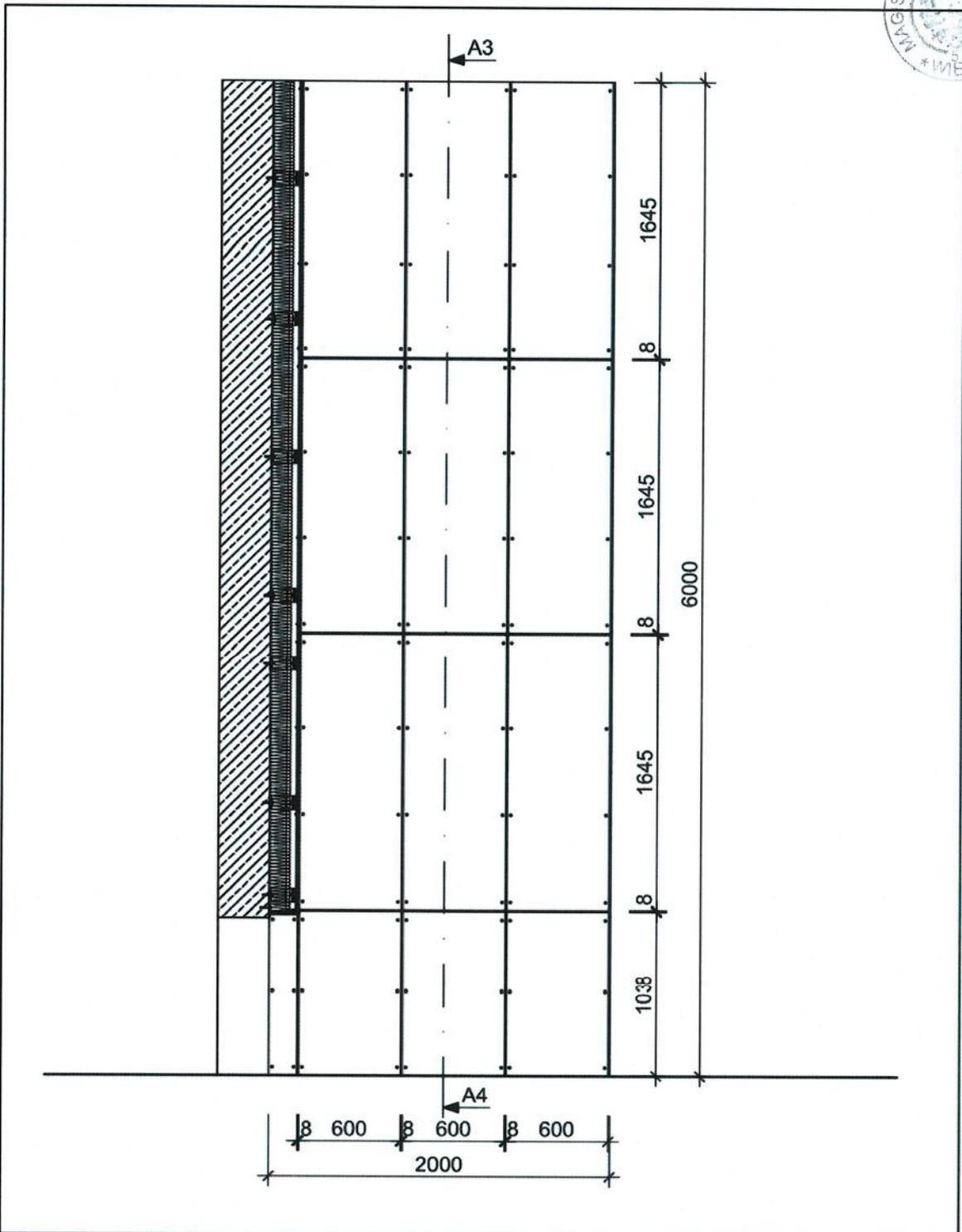


### Thermal element layers





 <p> <b>FUNDERMAX</b>                  Application Engineering Laminates                  Industriezentrum NÖ-Süd                  A - 2355 Wiener Neudorf             </p>	<b>Ansicht</b>	Datum	03.2017
	Titel: FunderMax m.look Projekt: Brandprüfung ÖNORM B 3800-5	gez. KMA Maßstab 1:30 Z. Nr.	
<small>                 Diese Zeichnung wurde dem Erwerbungsstand des Zeichnungsaktes gefertigt.                  Rechtmäßige aus der Benutzung entnommen können nicht abgelehnt werden.             </small>		<small>                 Diese Unterlagen sind unser geistiges Eigentum. Nach dem gesetzlichen Bestehenlassen dürfen sie ohne unsere schriftliche Zustimmung                  weder vervielfältigt noch Dritten Personen, insbesondere Wettbewerbern, erborgen oder zugänglich gemacht werden (Unabdingbar).             </small>	



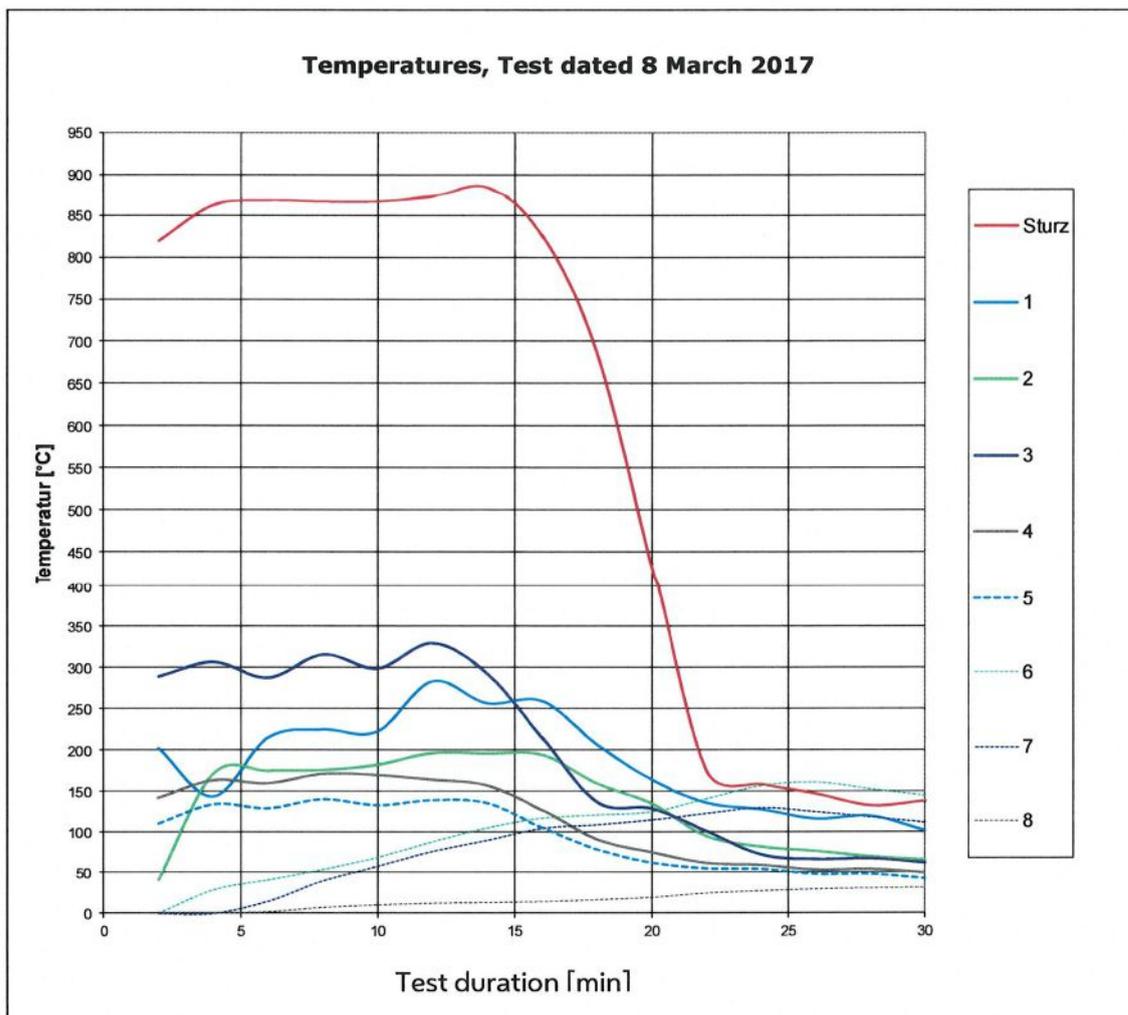
 Application Engineering Laminates Industriezentrum NÖ-Süd A - 2355 Wiener Neudorf	<b>Ansicht</b>		Datum	03.2017
	Titel: FunderMax m.look		gez.	KMA
	Projekt: Brandprüfung ÖNORM B 3800-5		Maßstab	1:30
			Z. Nr.	
<small>Diese Zeichnung wurde dem Erwerbungsgegenstand übergeben. Nach dem jeweiligen Beschaffenheitsplan sind die etwaigen schriftlichen Zusicherungen sowie vornehmlich nach dritten Personen, insbesondere Wettbewerbern, mitgeteilt oder zugänglich gemacht worden. (Urheberrecht)</small>		<small>Diese Unterlagen sind unser geistiges Eigentum. Nach dem jeweiligen Beschaffenheitsplan sind die etwaigen schriftlichen Zusicherungen sowie vornehmlich nach dritten Personen, insbesondere Wettbewerbern, mitgeteilt oder zugänglich gemacht worden. (Urheberrecht)</small>		



**Temperatures during the facade test  
as temperatures [°C]**

Temperature at start of test 16 °C

Versuchsdauer [min]	Thermoelement Nr.								
	Sturz	1	2	3	4	5	6	7	8
2	819	203	41	289	142	111	0	0	1
4	862	144	172	307	164	134	28	0	1
6	867	215	175	288	160	130	41	15	2
8	866	225	176	316	171	140	54	39	7
10	866	223	182	299	170	133	69	58	10
12	872	283	196	329	164	139	88	76	12
14	884	256	196	292	157	136	105	90	13
16	824	259	194	215	127	105	117	105	14
18	684	207	160	137	91	79	121	109	16
20	429	164	135	129	75	62	125	115	19
22	174	136	95	101	62	55	141	123	24
24	159	128	82	72	59	54	157	130	27
26	147	117	77	67	53	48	161	125	29
28	133	120	70	68	54	48	153	119	30
30	139	102	66	62	50	43	145	112	31



**Photo documentation**



Fig. 1 (P1110001): Mounting the substructure and insulation material



Fig. 2 (P1110007): Detail: Lintel and soffit metal facing





Fig. 3 (P1110010): Detail: Fire chamber



Fig. 4 (P1110012): Detail: Lintel and soffit metal facing





Fig. 5 (P1110014): Edge of the test specimen - Cross-section

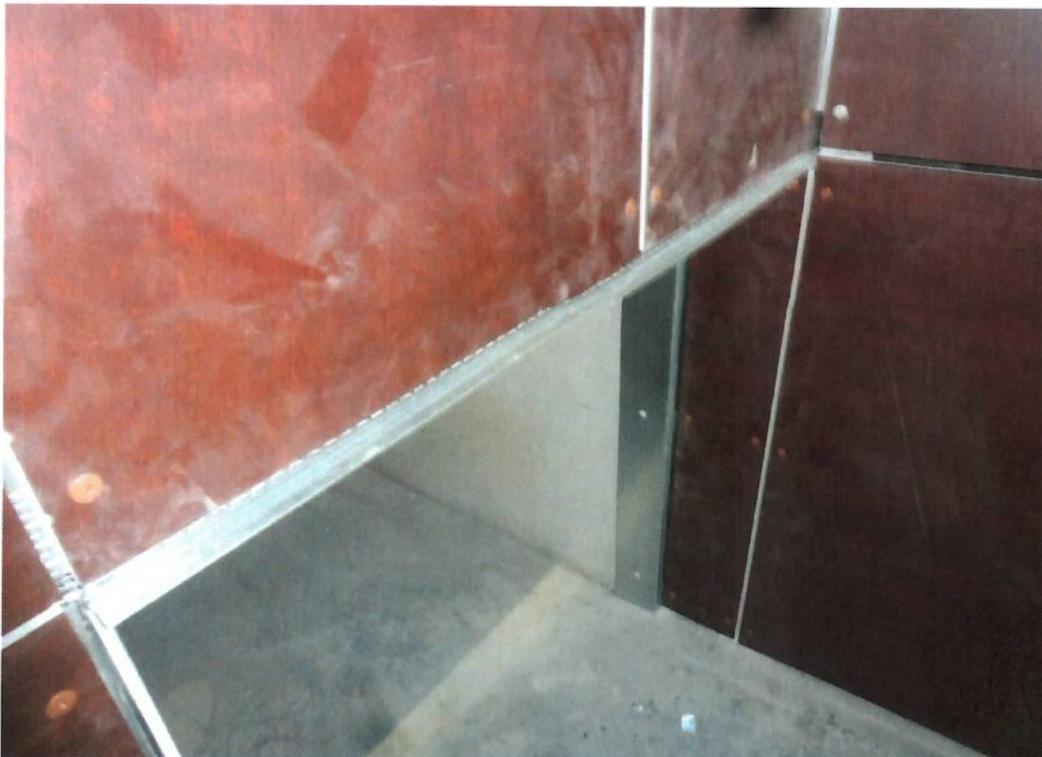


Fig. 6 (P1110018): Detail: Lintel area immediately before the test



Fig. 7 (P1110021): Test specimen immediately before the test



Fig. 8 (P1110022): Test specimen during the fire test — Test duration 2 minutes (connecting the fan)



Fig. 9 (P1110023): Test specimen during the fire test — Test duration 4 minutes



Fig. 10 (P1110025): Test specimen during the fire test — Test duration 6 minutes

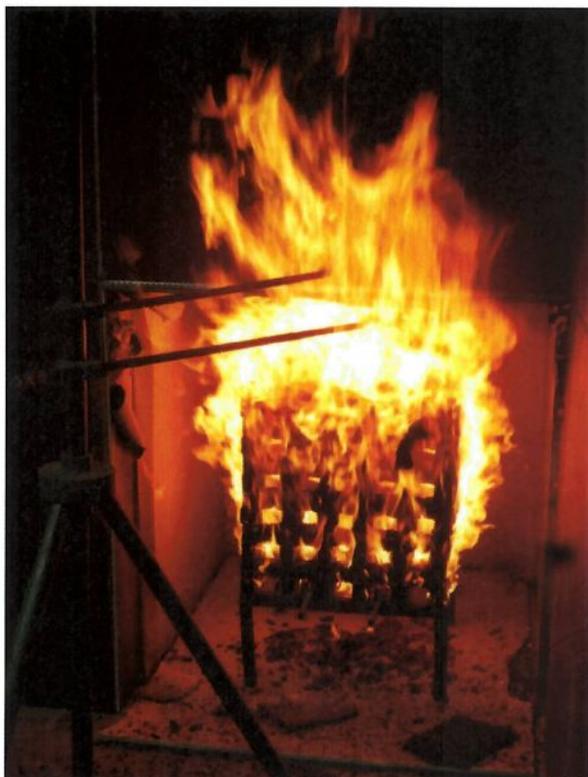


Fig. 11 (P1110032): Test specimen during the fire test — Test duration 10 minutes



Fig. 12 (P1110033): Test specimen during the fire test — Test duration 12 minutes



Fig. 13 (P1110036): Test specimen during the fire test — Test duration 14 minutes (curvature of the lintel panel cladding board; flaking)

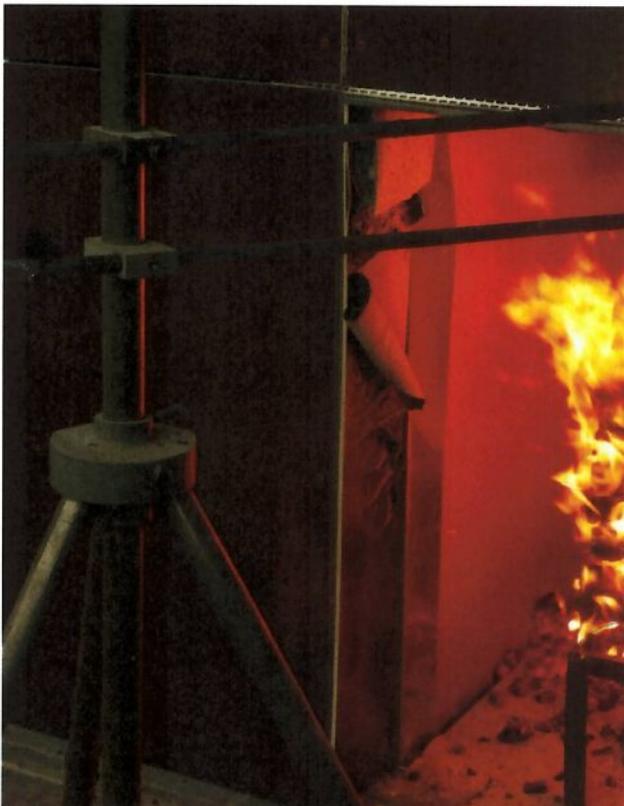


Fig. 14 (P1110038): Test specimen during the fire test — Test duration 16 minutes (flaking on the soffit panel cladding board)



Fig. 15 (P1110039): Test specimen during the fire test — Test duration 18 minutes

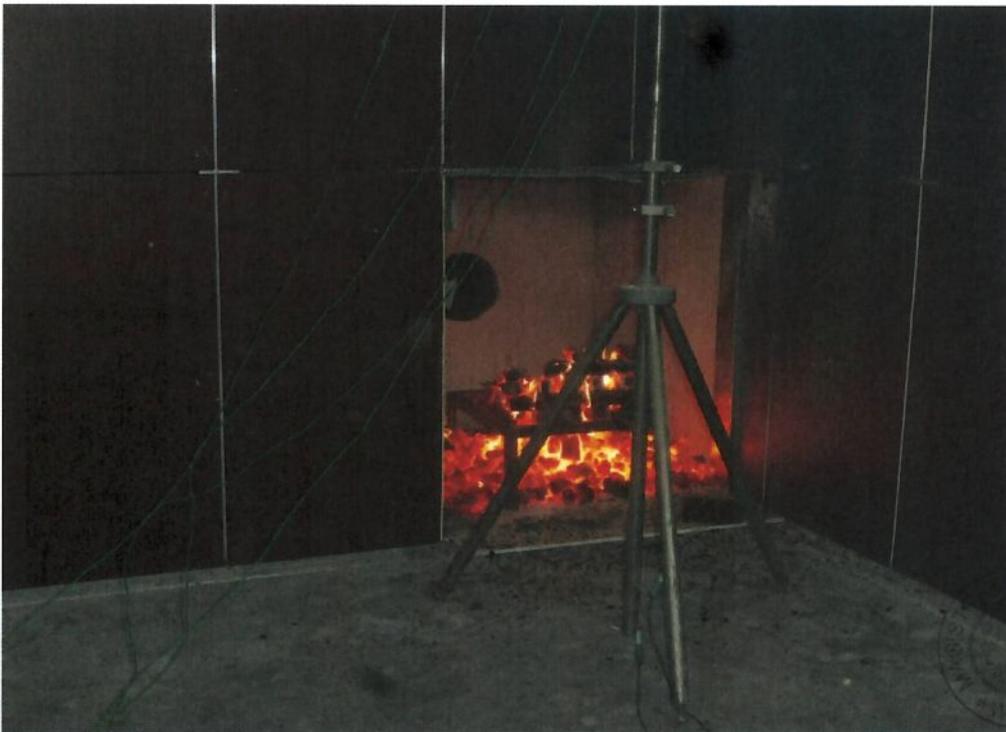


Fig. 16 (P1110042): Test specimen during the fire test — Test duration 22 minutes (collapse of the wooden brand)



Fig. 17 (P1110044): Test specimen at the end of the fire test — Test duration 30 minutes



Fig. 18 (P1110046): Facade after the fire test — Detail: Damage in the inside corner



Fig. 19 (P1110049): Facade after the fire test — Detail: Damage in the lintel area



Fig. 20 (P1110052): Facade after the fire test — Damage to the substructure and insulation in the fire chamber area