

TEST REPORT FIRES-FR-069-12-AUNE

Single leaf steel door





TEST REPORT

FIRES-FR-069-12-AUNE

eTested property: Fire resistance
Test method: EN 1634-1:2001
Date of issue: 10. 05. 2012

Name of the product: Single leaf steel door

Manufacturer: Bakırcılar Çelikkapı Alü. Mob. Mad. Mer. İnş. Tic. ve San. LTD. ŞTİ
Organize Sanayi Bölgesi Döşemealtı Odabaşı Köyü Antalya, Turkey
Sponsor: Standart BM Trada Belgelendirme A.Ş. / İçerenköy Mah. Çayır Yolu
Sok. Ay Plaza No:2 Kat:5 Kadıköy, 34752 İstanbul, Turkey

Task No.: PR-12-0081
Specimen received: 21. 03. 2012
Date of the test: 11. 04. 2012

Technician responsible for the technical side of this report: Bc. Dávid Šubert

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1. INTRODUCTION

This test report contains the results of test carried out by laboratory of FIRES, s.r.o. in Batizovce, accredited by SNAS for testing. Certificate of accreditation No.: S-159. The purpose of the test was to gain information for product classification.

Sponsor's representatives witnessing the test:

test directed by	Ing. Štefan Rástocký
test carried out by	Bc. Dávid Šubert
operator	Branislav Zachar

2. MEASURING EQUIPMENT

Identification number	Measuring equipment	Note
F 90 001	Vertical test furnace for fire resistance testing	-
F 69 010	PLC system for data acquisition and control TECOMAT TC 700	
F 40 019	Visual and calculating software to PLC TECOMAT TC 700	
F 40 017	Control and communication software to PLC TECOMAT TC 700	
F 40 018	SW Reliance	
F 40 020	Driver Tecomat - Reliance (SW)	
F 71 008, F 71 009	Transducer of differential pressure (-50 to + 150) Pa	pressure inside the test furnace
F 54 020	Digital calliper (0 to 200) mm	-
F 54 056	Racking meter	-
F 69 009	PLC system for data acquisition and climate control TECOMAT TC 604	-
F 60 001 - F 60 009	Sensors of temperature and relative air humidity	climatic conditions measuring
F 10 501 – F 10 508	Plate thermometers	temperature inside the test furnace, according to EN 1363-1
F 10 002 - F 10 019	Unsheathed thermocouples type K 2 x Ø 0,5 mm	temperatures on the unexposed surface of the specimen
F 10 701	Sheathed thermocouple type K Ø 3 mm	ambient temperature
F 10 001	Roving thermocouple	-
F 74 007 - F 74 012	Cable position transducers (0 to 1250) mm	measuring of deflection
F 54 024	Ruler for measuring of deflection (by laser)	measuring of deflection
F 90 005	Gap gauge for fire resistance testing Ø 25 mm	-
F 90 006	Gap gauge for fire resistance testing Ø 6 mm	-
F 90 007	Frame for supporting the cotton pad (100 x 100) mm for fire resistance tests	-
F 57 005	Digital stop-watch	-
F 72 002	Optical radiometer Schmidt – Boelter	measuring of radiation



3. PREPARATION OF THE SPECIMEN

Testing laboratory has not carried out specimen sampling at the request of sponsor. Specimen was delivered to the testing laboratory in complete state by test sponsor. Installation of the specimen to the supporting construction was carried out by workers of the testing laboratory in accordance with the sponsor's instructions.

4. PREPARATION OF THE TEST

4.1 DESCRIPTION OF THE SPECIMEN STRUCTURE

One specimen of the single leaf steel door was used for a fire resistance test.

Dimensions

Overall dimensions of the specimen	(1110 x 2075) mm (width x height)
Thickness of the door leaf	41,5 mm
Dimensions of the door leaf	(854 x 2000) mm (width x height)

Door frame

Two-part door frame is made of shaped steel sheet 1,5 mm thick for wall with thickness of 250 mm (manufacturer: EREĞLİ DEMİR ÇELİK CCR 6112). Individual parts of door frame were welded together. Dimension of rebate of door frame is (47 x 15) mm (depth x width).

Door leaf

The door leaf is made of steel sheet 0,5 mm thick. The steel sheets are jointed together around the perimeter by aluminum profiles (20 x 40 x 1,5) mm (width x length x thickness).

Core of the door leaf

Polyurethane foam type with classification of reaction to fire B2 with bulk density 45 kg.m⁻³ (manufacturer: TEKPOL, BAYER). (184-51 POLİÜRETAN) (00020 İZOSİYANAT MDI)

Intumescent tape:

Intumescent tape type 3M (manufacturer: Marvon) with dimensions (30 x 4) mm (width x thickness) is placed around the perimeter of the door frame (between the door leaf and door frame).

Hinges

3 pieces of hinges type 2008 ST (manufacturer: Güven İş) placed as follow:

- upper hinge – placed in distance 150 mm from the upper edge of door leaf
 - bottom hinge – placed in distance 159 mm from the bottom edge of door leaf
 - central hinge – placed in distance 556 mm from the upper edge of door leaf
- The stated values were measured from the bottom edges of hinges.



**Lock**

Lock type D510 – 45R – 3MB (manufacturer: DAF, Turkey). The steel latch is placed 970 mm from bottom door leaf edge.

**Automatic closing mechanism**

No automatic closing mechanism fixed.

More detailed information about construction of specimen is shown in the drawings which form an integral part of this test report. Drawings were delivered by sponsor.

All the information about technical specifications of used materials and semi-products, information about their type sign were delivered by sponsor. This information was not subject of the inspection of specimen. Parameters which were checked are quoted in paragraph 4.3.

4.2 DESCRIPTION OF THE SPECIMEN FIXATION

Specimen is fixed into the wall, 250 mm thick made of aerated concrete blocks with bulk density of 613 kg/m³. The cavity of door frame is filled by cement mortar.

Orientation of the specimen during the test

hinges on the exposed specimen face

Supporting construction, its thickness, orientation of specimens and type of specimens fixing to the test frame was chosen by the sponsor of tests.

More details about fixation of specimens are shown in drawings which form an integral part of this test report.

4.3 INSPECTION OF THE SPECIMEN

The conformity of the drawings and the test specimen was checked before and after the fire resistance test. The specimen corresponded to the drawings which are part of this test report. The visual review of the test specimen, the used materials as well as the size verification (basic dimensions) and also the way of specimen fixation to supporting construction were subject of this inspection.



Measurement of gaps around the perimeter of door leaf was carried out before the fire resistance test. Measured values:

Place of measurement	Measured values
hinged edge of door leaf	from 3,1 mm to 3,4 mm
lock edge of door leaf	from 3,8 mm to 4,0 mm
upper edge	from 3,1 mm to 3,4 mm

Manufacturer has declared the width of the gaps $3 \text{ mm} \pm 1 \text{ mm}$. The gaps were set in between the middle value and the maximum value within the range of gaps as specified by the manufacturer.

4.4 CLIMATIC CONDITIONING OF THE SPECIMEN

Test specimen was stored in the hall of testing laboratory and was conditioned according to EN 1363-1 under the following climatic conditions:

Ambient air temperature [°C]

mean	19,7
standard deviation	1,2

Relative air humidity [%]

mean	47,9
standard deviation	6,5

The humidity equilibrium state of test specimen was achieved.

4.5 MECHANICAL CONDITIONING

The test specimens were submitted to mechanical testing according to EN 14600 before fire resistance test without self-closing mechanism. Number of cycles: 25.

The retention force according to EN 1634-1 cl. 10.1.3 was not measured.

5. CARRYING OUT OF THE TEST

5.1 CONDITIONS OF THE TEST

Conditions in the test furnace (temperature – standard temperature/time curve, pressure, content of O_2) as well as in the testing room (ambient temperature) corresponded to EN 1363-1 during the test. Detailed information is part of this test report, or in quality records of the testing laboratory.

Values characterizing environment in the testing room directly before the test:

Date of the test	Relative air humidity [%]	Ambient air temperature [°C]
11. 04. 2012	48,1	19,8

5.2 RESULTS OF THE TEST

Measured values are stated in this test report. Description of the specimen behaviour during the test:

Time [min:s]	Face of specimen	Observation
01:13	NS	smoke release around the perimeter of door leaf;
05:00	NS	intensive smoke release from cylinder lock;
06:40	NS	smoke release from lock edge of door leaf;
08:40	NS	darkening of specimen surface – falling down of door leaf surface treatment;
27:36	NS	door leaf surface treatment is completely fallen down;



Time [min:s]	Face of specimen	Observation
60:00	NS	no further significant visible change;
90:00	NS	no further significant visible change;
120:00	NS	no further significant visible change;
121:35	Termination of the test.	

ES exposed face of specimen
 NS unexposed face of specimen

6. CLOSING

Evaluation of the test:

Performance criterion	Time till the performance criterion is achieved
integrity – sustained flaming	121 minutes no failure
integrity – gap gauges Ø 6 mm and Ø 25 mm	121 minutes no failure
integrity – cotton pad	121 minutes no failure
insulation – average temperature (140 K)	11 minutes
insulation – maximal temperature (180 K)	6 minutes
insulation – maximal temperature (supplementary procedure) (180 K)	6 minutes
radiation 15 kW.m ⁻²	121 minutes no failure
insulation – maximal temperature – door frame (180 K / 360 K)	15 minutes / 65 minutes

The fire test was discontinued in 122nd minute of the test at request of the sponsor.



Measured values inside the test furnace

Time	Temperature [°C]											Deviation	Pressure [Pa]	
t [min]	Td1	Td2	Td3	Td4	Td5	Td6	Td7	Td8	Tave	Tn	To	d _e [%]	p1	p2
0	53,4	47,7	47,7	50,6	50,9	51,1	50,7	49,4	50,2	20,0	21,0	0,0	17,3	-2,9
5	570,1	575,6	580,0	566,6	573,4	565,8	576,3	567,5	571,9	576,0	21,1	0,1	18,3	-2,1
10	622,2	642,1	662,7	651,2	619,9	652,8	740,5	673,5	658,1	678,0	21,1	0,0	17,5	-3,0
15	671,4	698,6	714,5	718,9	666,4	689,7	714,0	679,4	694,1	739,0	21,2	-2,3	19,8	0,9
20	727,5	762,3	784,7	799,5	745,2	777,2	800,9	801,2	774,8	781,0	21,2	-1,6	18,1	-2,9
25	762,2	785,5	798,3	822,5	772,1	810,0	832,8	848,1	803,9	815,0	21,3	-1,8	19,8	-0,9
30	810,2	829,2	835,7	853,8	792,0	831,8	860,1	877,1	836,2	842,0	21,3	-1,7	19,3	1,2
35	840,4	858,0	860,3	865,2	826,4	870,3	902,1	924,8	868,4	865,0	21,4	-1,4	19,8	0,7
40	859,8	879,0	876,7	880,3	848,6	891,3	921,2	938,6	886,9	885,0	21,4	-1,1	19,9	0,6
45	881,7	899,9	894,8	896,2	867,3	908,8	935,5	953,1	904,7	902,0	21,5	-1,0	19,3	0,0
50	899,7	915,9	910,7	908,4	885,1	927,5	946,5	956,5	918,8	918,0	21,5	-0,9	19,8	-2,3
55	910,9	926,9	924,5	925,5	898,9	938,8	961,8	968,6	932,0	932,0	21,6	-0,8	19,7	-1,7
60	924,3	937,2	934,2	934,5	912,0	951,4	968,9	976,9	942,4	945,0	21,6	-0,7	19,8	-1,7
65	937,4	952,2	949,4	953,6	927,6	966,8	986,2	993,4	958,3	957,0	21,7	-0,6	19,8	-2,8
70	949,0	962,5	960,0	964,2	938,2	977,1	996,7	1000,4	968,5	968,0	21,7	-0,6	19,8	0,5
75	958,0	970,4	969,7	974,6	949,9	988,3	1008,8	1015,5	979,4	979,0	21,8	-0,5	20,0	-2,2
80	965,5	978,3	975,4	982,1	954,8	994,7	1014,4	1028,1	986,7	988,0	21,9	-0,5	19,8	-1,8
85	979,3	991,7	987,6	993,7	967,6	1007,8	1027,0	1024,1	997,4	997,0	21,9	-0,5	19,8	-2,8
90	988,5	1001,3	998,3	1004,9	977,5	1015,6	1035,5	1043,8	1008,2	1006,0	22,0	-0,4	18,5	-2,8
95	996,6	1009,1	1003,9	1011,4	987,1	1025,4	1042,9	1051,8	1016,0	1014,0	22,0	-0,4	20,0	-1,2
100	1001,0	1013,3	1006,9	1010,8	990,5	1027,3	1044,7	1053,8	1018,5	1022,0	22,0	-0,4	18,9	-2,5
105	1011,6	1023,4	1017,6	1023,0	1000,1	1036,0	1051,8	1058,5	1027,8	1029,0	22,1	-0,4	20,0	-1,2
110	1022,8	1034,1	1027,8	1033,9	1011,2	1048,4	1063,2	1071,5	1039,1	1036,0	22,2	-0,3	18,8	-1,8
115	1029,0	1040,7	1032,8	1036,1	1017,1	1052,6	1066,3	1072,4	1043,4	1043,0	22,2	-0,3	19,6	-1,4
120	1039,9	1053,2	1045,2	1048,4	1025,9	1060,4	1075,5	1075,0	1052,9	1049,0	22,3	-0,3	19,4	-1,9
121	1042,9	1055,3	1047,1	1048,5	1028,7	1063,1	1075,2	1083,4	1055,5	1050,0	22,2	-0,3	19,2	-2,2

Tave Average temperature in the test furnace calculated from individual thermometers

Tn Standard temperature in the test furnace laid down according to test guideline

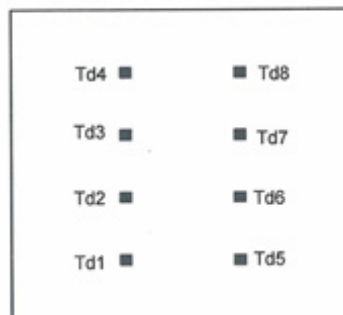
d_e Deviation of the average temperature from the standard temperature calc. acc. to test guideline

To Ambient temperature

p1 Pressure inside the test furnace measured under the ceiling of test furnace

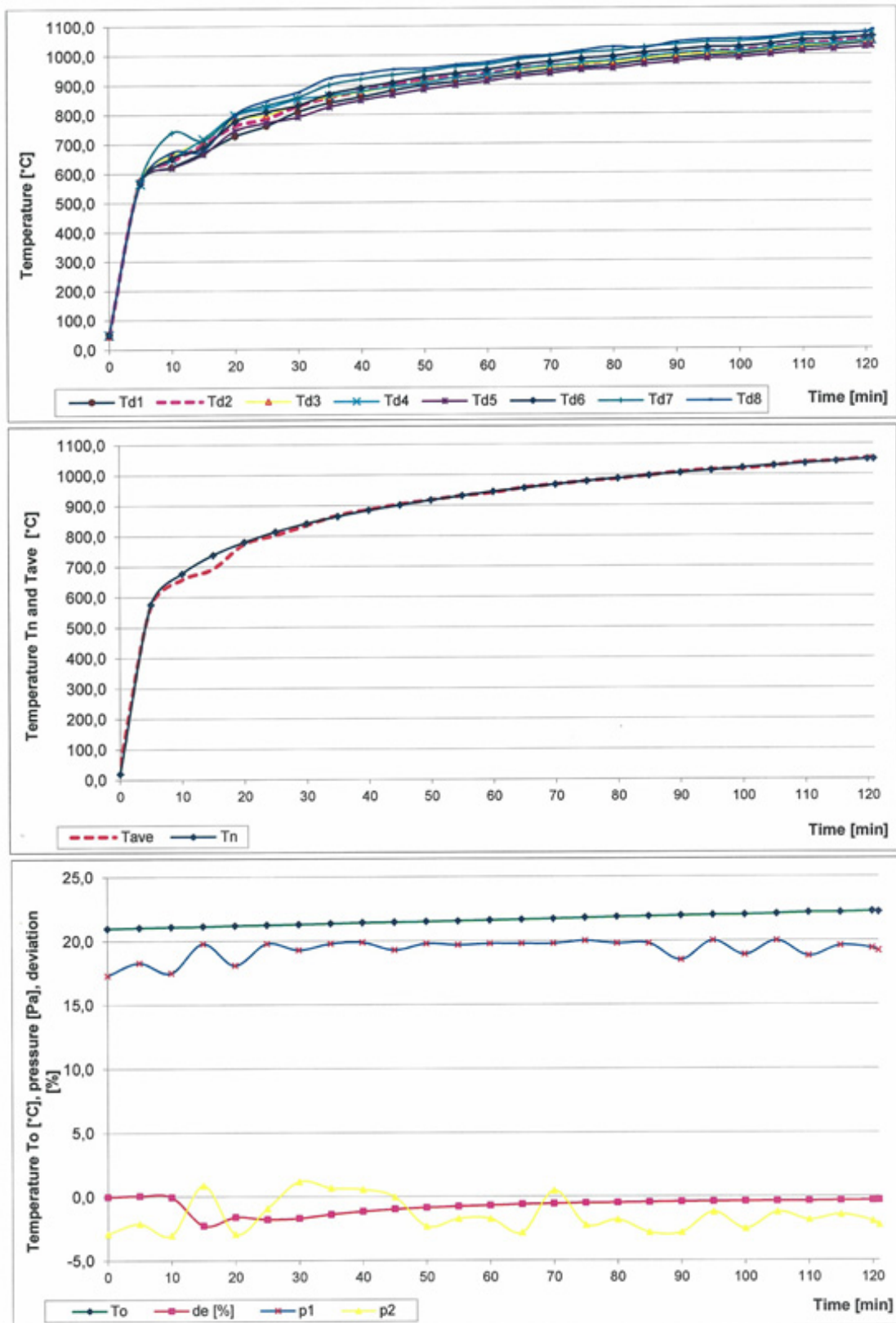
p2 Pressure inside the test furnace at the height of neutral pressure level 500 mm above test furnace floor

Layout of measuring points in the test furnace:





Measured values inside the test furnace /graph





Measured values on the unexposed surface of the test specimen

The initial average temperature of the unexposed specimen surface:

18,1 °C

Time t [min]	Temperature rise [K]																
	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	T17
0	-2,0	-1,0	-1,7	0,0	1,1	1,5	1,8	3,6	-1,9	-1,4	-1,7	-1,4	-1,5	-0,4	0,0	0,1	-3,8
1	-2,0	-1,0	-1,6	-0,1	1,1	1,5	1,9	3,7	-1,9	0,1	4,8	11,2	8,0	0,3	13,4	10,6	-3,2
2	-2,0	-1,0	-1,6	0,3	1,2	1,9	4,1	5,4	-1,8	6,6	21,8	35,9	28,9	4,2	37,8	33,1	0,2
3	-1,9	-0,3	-0,4	0,5	1,9	2,9	6,7	10,0	4,3	18,5	38,5	54,9	46,7	12,9	49,8	43,8	15,1
4	-1,5	0,0	0,3	2,3	5,2	5,3	10,7	16,4	35,9	30,2	51,9	67,1	59,5	23,2	60,4	55,1	41,7
5	1,1	3,1	5,6	11,3	16,6	11,2	17,8	26,6	78,0	42,2	63,0	76,1	69,6	33,5	72,0	66,9	68,6
6	9,6	14,1	24,6	35,8	48,0	28,3	31,2	44,4	120,0	56,5	75,5	87,4	81,5	43,6	86,9	78,4	85,7
7	28,2	37,9	76,5	94,7	93,9	72,8	73,4	87,3	180,6	80,1	97,9	98,8	98,4	56,9	99,4	91,0	96,2
8	64,0	83,3	102,6	103,9	99,7	139,0	109,8	98,0	235,8	93,5	120,6	114,3	117,5	70,4	107,0	100,5	108,6
9	88,8	127,8	99,0	125,2	101,8	177,3	114,8	123,1	267,1	125,7	152,0	140,9	146,5	83,8	114,5	112,7	120,8
10	120,3	173,3	98,3	141,9	104,0	183,6	120,0	151,7	289,2	153,2	174,8	168,8	171,8	95,3	129,6	125,2	131,8
11	136,7	199,3	98,5	149,4	109,5	183,4	122,8	172,0	303,9	168,0	185,6	184,7	185,2	105,9	123,0	136,2	140,7
12	131,6	205,2	97,5	160,9	109,6	166,9	121,8	188,3	310,1	169,5	196,5	195,7	196,1	117,2	125,1	145,6	149,9
13	122,9	216,1	96,2	149,2	117,3	*	136,4	174,3	321,7	168,7	211,9	200,8	206,4	128,9	93,3	151,9	158,2
14	*	224,6	*	*	*		*	*	*	*	*	*	*	140,0	108,3	157,8	166,9
15		*												149,3	125,0	166,0	175,0
16														157,7	110,9	175,0	187,3
17														166,9	125,1	184,9	199,9
18														176,3	126,3	194,6	212,2
19														184,5	129,1	205,6	223,0
20														191,4	199,8	215,6	232,2
25														216,7	250,4	239,2	*
30														232,7	278,7	253,1	
35														255,6	293,0	282,8	
40														285,5	307,4	301,4	
45														304,3	314,6	322,6	
50														318,9	320,9	334,8	
55														332,7	302,4	342,8	
60														346,3	329,7	351,7	
65														359,0	340,0	359,6	
70														370,2	329,8	367,6	
71														*	*	*	

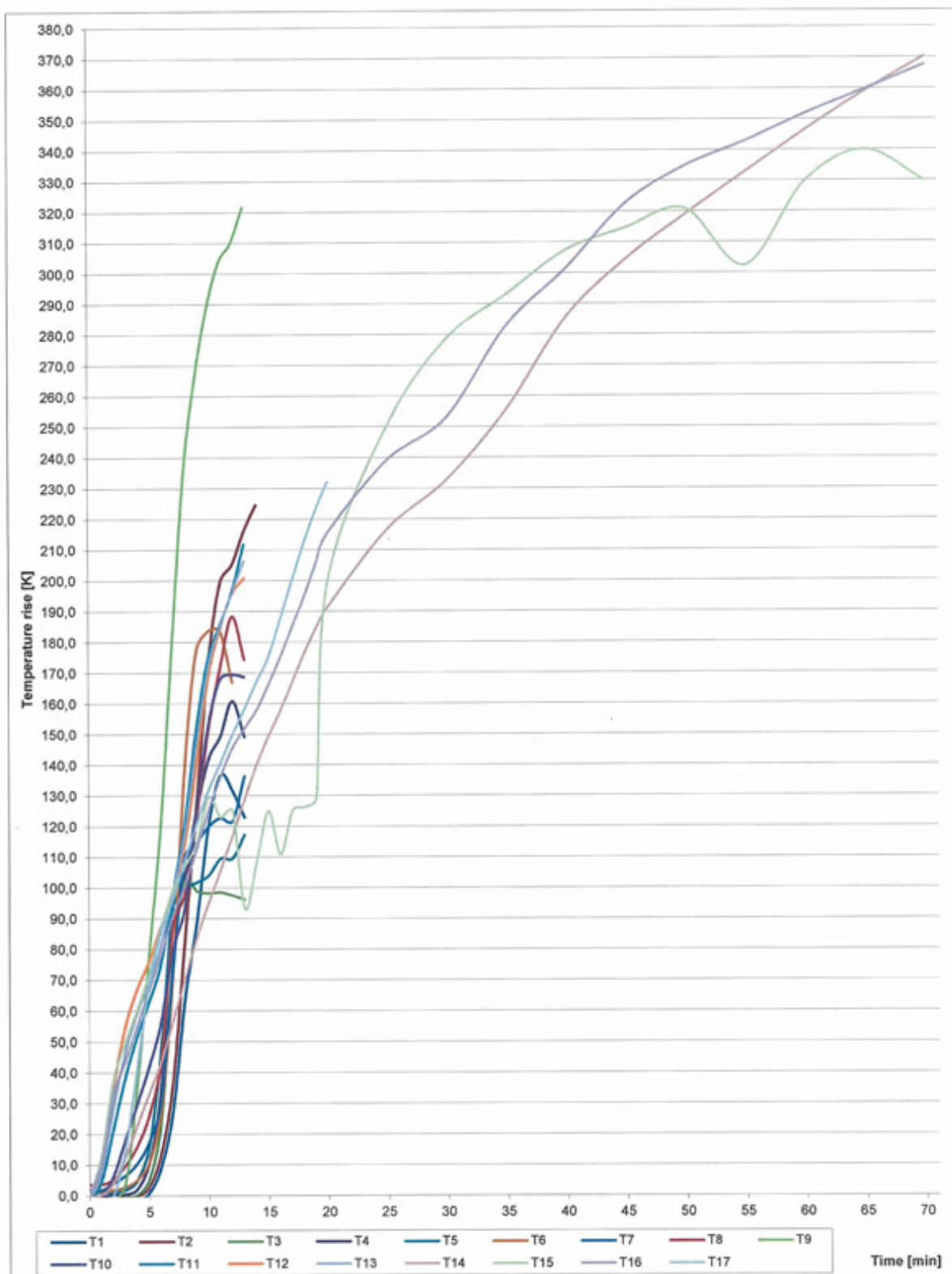
* from 71st minute of the test all thermocouples fell down from specimen surface because

Negative values are quoted because temperature rises are calculated from the initial average temperature of the specimen surface.

Please see figure showing the layout of measuring points on the specimen surface which is a part of this test report



Measured values on the unexposed surface of the test specimen /graph





Calculated values from measured values on the specimen surface, deflection and radiation

The initial average temperature of the unexposed specimen surface:

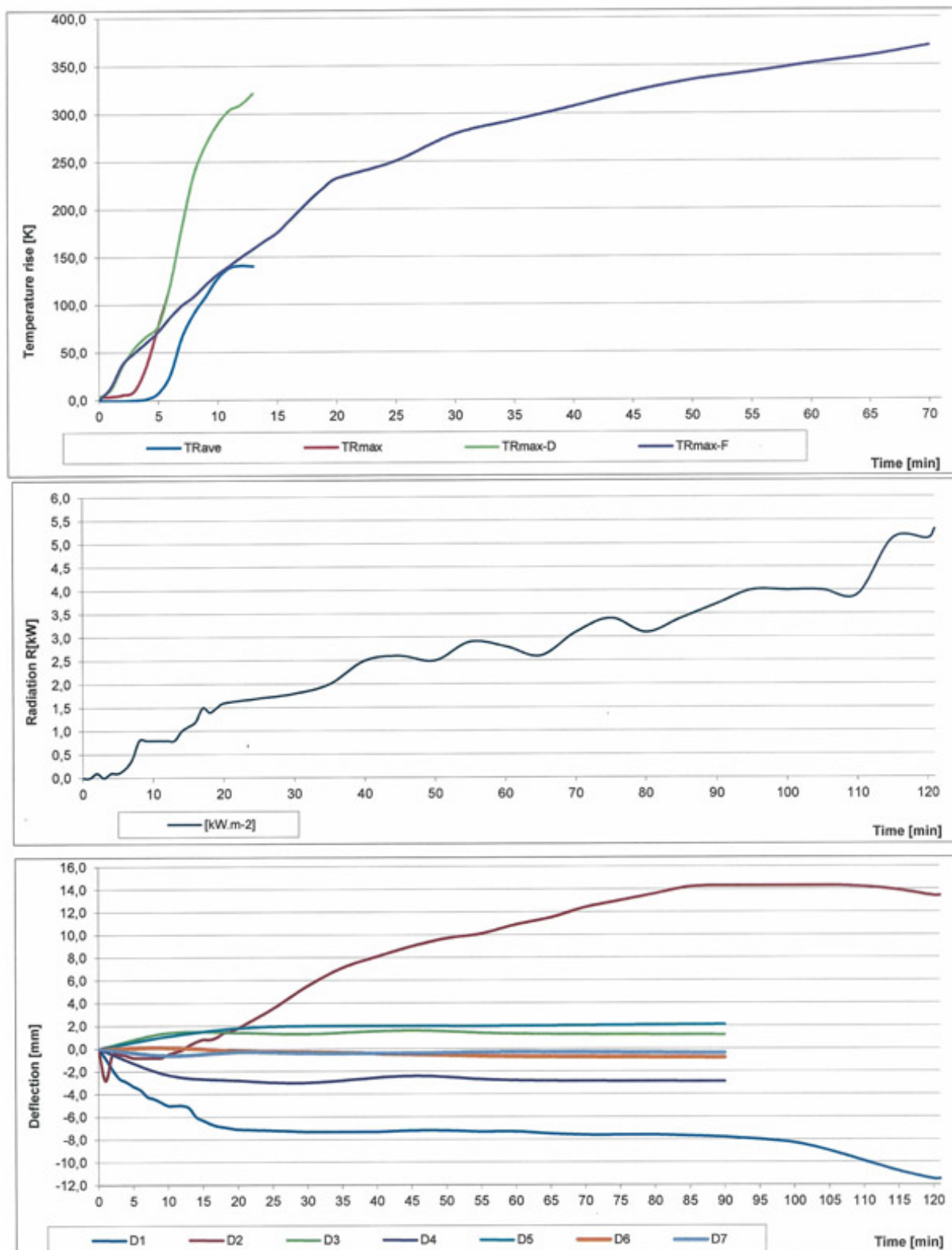
18,1 °C

Time t [min]	Temperature rise [K]			
	TRave	TRmax	TRmax-D	TRmax-F
0	-0,7	3,6	3,6	0,1
1	-0,7	3,7	11,2	13,4
2	-0,6	5,4	35,9	37,8
3	0,0	10,0	54,9	49,8
4	1,3	35,9	67,1	60,4
5	7,6	78,0	78,0	72,0
6	26,4	120,0	120,0	86,9
7	66,3	180,6	180,6	99,4
8	90,7	235,8	235,8	108,6
9	108,5	267,1	267,1	120,8
10	127,6	289,2	289,2	131,8
11	138,7	303,9	303,9	140,7
12	141,0	310,1	310,1	149,9
13	140,4	321,7	321,7	158,2
14	*	*	*	166,9
15				175,0
16				187,3
17				199,9
18				212,2
19				223,0
20				232,2
25				250,4
30				278,7
35				293,0
40				307,4
45				322,6
50				334,8
55				342,8
60				351,7
65				359,6
70				370,2
71				*

Time t [min]	Radiation [kW.m ⁻²]	Deflection [mm]						
		D1	D2	D3	D4	D5	D6	D7
0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
1	0,0	-0,8	-2,8	-	-	-	-	-
2	0,1	-1,8	-0,5	-	-	-	-	-
3	0,0	-2,6	-0,5	-	-	-	-	-
4	0,1	-2,9	-0,6	-	-	-	-	-
5	0,1	-3,3	-0,8	-	-	-	-	-
6	0,2	-3,6	-0,8	-	-	-	-	-
7	0,4	-4,2	-0,8	-	-	-	-	-
8	0,8	-4,4	-0,8	-	-	-	-	-
9	0,8	-4,7	-0,8	-	-	-	-	-
10	0,8	-5,0	-0,5	1,4	-2,3	1,1	0,1	-0,6
11	0,8	-5,0	-0,3	-	-	-	-	-
12	0,8	-5,0	-0,1	-	-	-	-	-
13	0,8	-5,2	0,3	-	-	-	-	-
14	1,0	-6,0	0,6	-	-	-	-	-
15	1,1	-6,3	0,8	-	-	-	-	-
16	1,2	-6,6	0,8	-	-	-	-	-
17	1,5	-6,8	1,0	-	-	-	-	-
18	1,4	-6,9	1,4	-	-	-	-	-
19	1,5	-7,0	1,5	-	-	-	-	-
20	1,6	-7,1	1,8	1,4	-2,8	1,8	-0,2	-0,3
25	1,7	-7,2	3,5	-	-	-	-	-
30	1,8	-7,3	5,5	1,3	-3,0	2,0	-0,3	-0,4
35	2,0	-7,3	7,1	-	-	-	-	-
40	2,5	-7,3	8,1	-	-	-	-	-
45	2,6	-7,2	9,0	1,6	-2,4	2,0	-0,5	-0,4
50	2,5	-7,2	9,7	-	-	-	-	-
55	2,9	-7,3	10,1	-	-	-	-	-
60	2,8	-7,3	10,9	1,3	-2,8	2,0	-0,7	-0,3
65	2,6	-7,5	11,5	-	-	-	-	-
70	3,1	-7,6	12,4	-	-	-	-	-
75	3,4	-7,6	13,0	-	-	-	-	-
80	3,1	-7,6	13,6	-	-	-	-	-
85	3,4	-7,7	14,2	-	-	-	-	-
90	3,7	-7,8	14,3	1,2	-2,9	2,1	-0,8	-0,4
95	4,0	-8,0	14,3	-	-	-	-	-
100	4,0	-8,3	14,3	-	-	-	-	-
105	4,0	-9,0	14,3	-	-	-	-	-
110	3,9	-9,9	14,2	-	-	-	-	-
115	5,1	-10,8	13,9	-	-	-	-	-
120	5,1	-11,5	13,4	-	-	-	-	-
121	5,3	-11,5	13,4	-	-	-	-	-

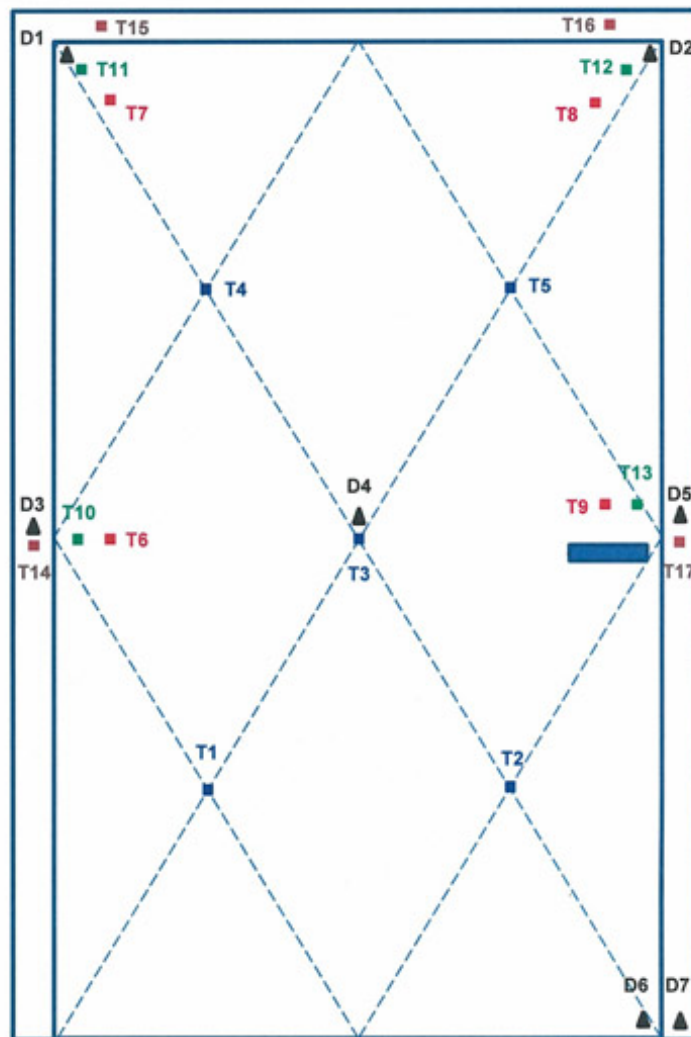


Calculated values from measured values on the specimen surface, deflection and radiation /graph





Layout of measuring points on the unexposed specimen surface



Deflection [mm] deflection of the specimen surface
D1-D2 measured with cable extension positioning transducer
D3-D7 measured with laser and ruler
Positive values of deflection represent deflection to the heat stress.
Negative values of deflection represent deflection from the heat stress.

- Thermocouples attached for the average and maximum temperature rise evaluation
- Thermocouples attached 100 mm from edges of door leaf for the maximum temperature rise evaluation
- Thermocouples attached 25 mm from edges for the maximum temperature rise evaluation - supplementary procedure
- Thermocouples attached for the maximum temperature rise evaluation on the doorframe
- ▲ Points of deflection measuring



PHOTOS TAKEN DURING THE TEST



Unexposed specimen face
before the test commencement



1st minute of the test



PHOTOS TAKEN DURING THE TEST



3rd minute of the test
Smoke release around the
perimeter of door leaf.



9th minute of the test
Falling down of door leaf surface
treatment.
Darkening of specimen surface.



PHOTOS TAKEN DURING THE TEST



32nd minute of the test
Door leaf surface treatment is
completely fallen down.



46th minute of the test



PHOTOS TAKEN DURING THE TEST



61st minute of the test



91st minute of the test



PHOTOS TAKEN DURING THE TEST



121st minute of the test



Unexposed specimen face after
the test termination.



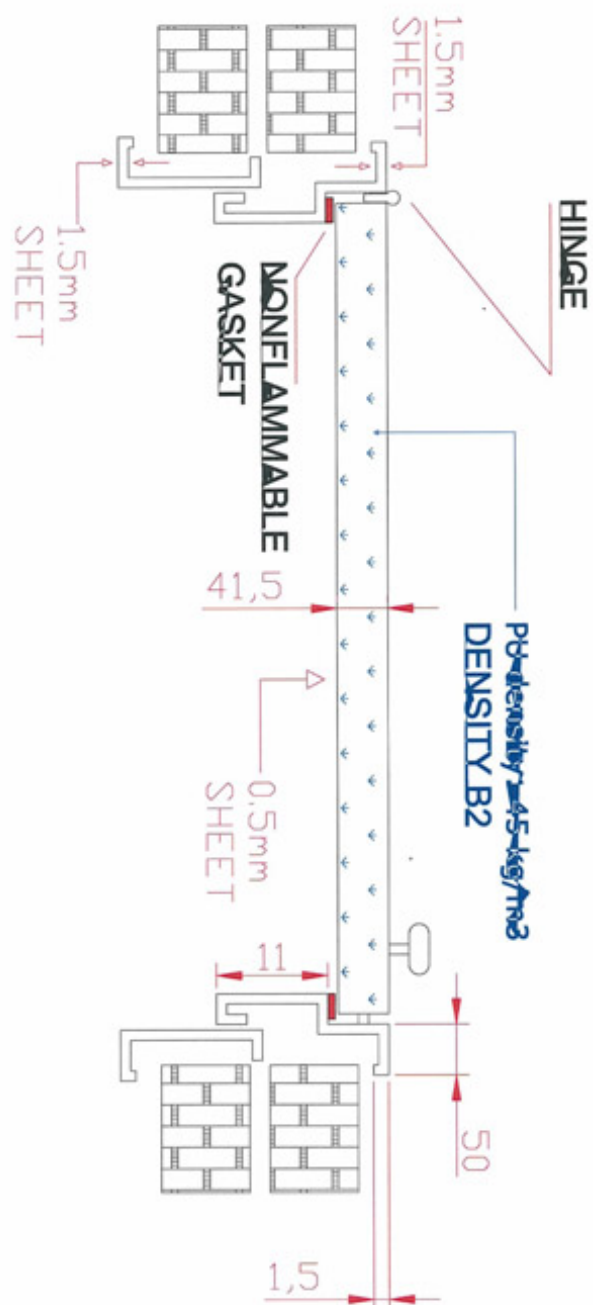
PHOTOS TAKEN DURING THE TEST

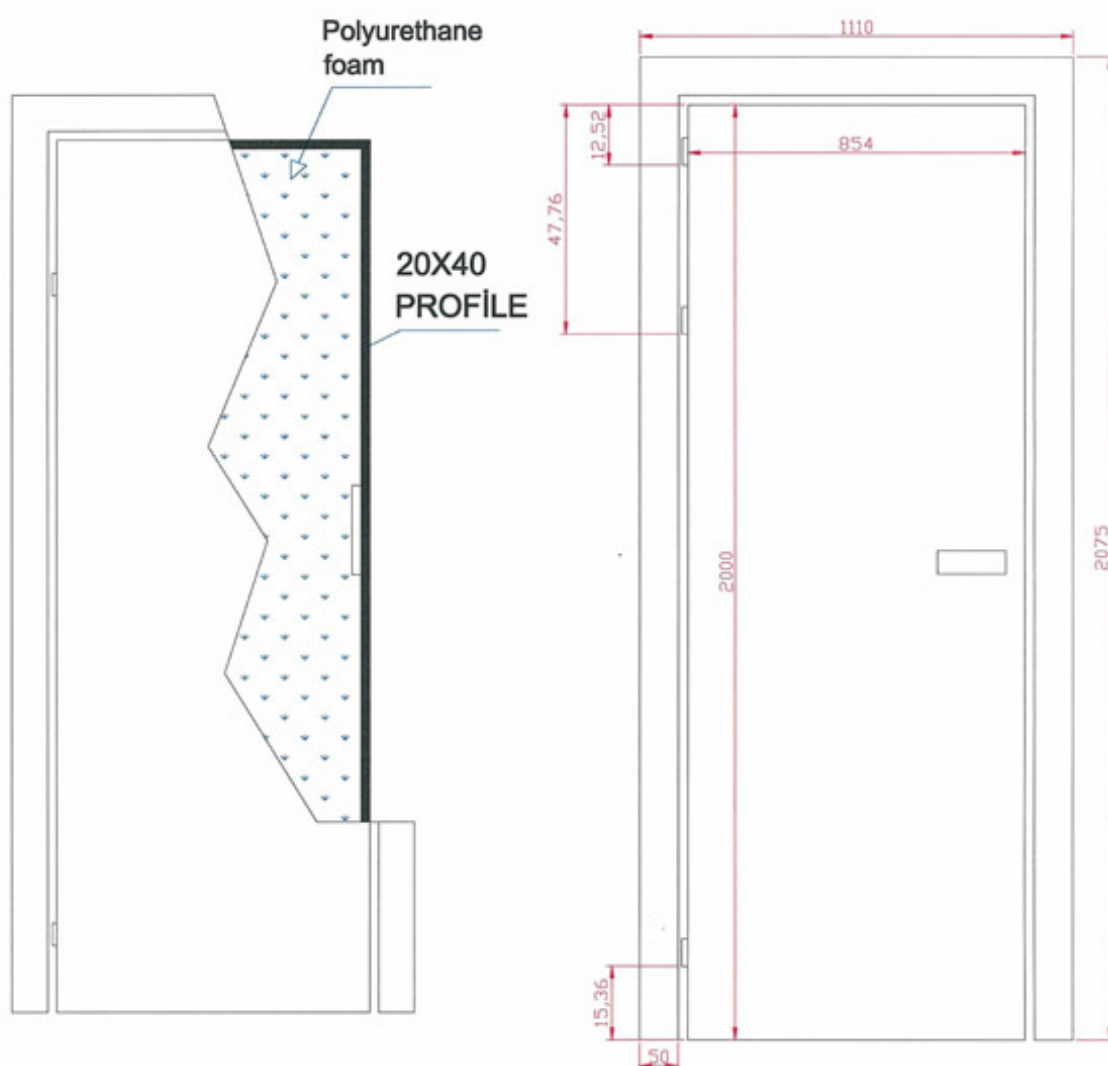


Photo of the exposed specimen face taken after test termination.



DRAWINGS







7. FINAL PROVISION

- This report details the method of construction, the test conditions and results obtained when the specific element of construction described herein was following the procedure outlined in EN 1363-1, and where appropriate EN 1363-2. Any significant deviation with respect to size, constructional details, loads, stresses, edge or end conditions other than those allowed under the field of direct application in the relevant test method is not covered by this report.
- Because of the nature of the fire resistance testing and 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.
- The test results refer only to the tested subjects. This test report is not an approval of the tested product by the test laboratory or the accreditation body overseeing the laboratory's activities. The test was carried out on testing equipment that is the property of FIRES, s.r.o., Batizovce. Without the written permission of the test laboratory this test report may be copied and/or distributed only as the whole. Any modifications of the test report can be made only by the fire resistance test laboratory FIRES, s.r.o., Batizovce.

Approved by:

Prepared by:

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Bc. Dávid Šubert
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8. NORMATIVE REFERENCES

STN EN 1634-1: 2009	Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware. Part 1: Fire resistance tests for doors, shutters and openable windows
STN EN 1363-1: 2001	Fire resistance tests. Part 1: General requirements
STN EN 1363-2: 2001	Fire resistance tests. Part 2: Alternative and additional procedures
STN EN 14600: 2006	Doorsets and openable windows with fire resisting and/or smoke control characteristics. Requirements and classification

THE END OF THE TEST REPORT