

Test Report

No. 2009-B-1254

1st Issue

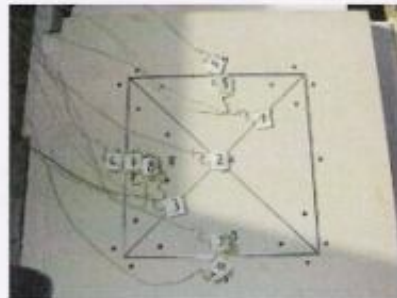
Client: FF Systembau GmbH
Lehmhäuserstraße 20
D-94424 Arnstorf

Order of: 2009-03-30

Content of order: Execution of a fire test in the small test bench according to DIN 4102 part 8: 2003 with flaming from one side about minimum 90 minutes after the standard curve (ETK) according to DIN EN 1363 part 1: 1999 and DIN 4102 part 2: 1977 and measuring the increases of temperatures on the surface of the test sample



flaming from the underside



flaming from the upside

Test sample: Cut out of a revision opening system F6 with size width × height = 600 mm × 600 mm with three different mounted locks

Delivery date: 2009-04-01

Sampling: MPA Dresden GmbH wasn't involved in any selection or sampling procedure.



This test report contains 3 pages of text and 12 pages of enclosure.

This test report is for application of a general technical approval by "Deutsches Institut für Bautechnik (DIBt)".

The test report is translated from German in English. In case of doubt the German wording is valid.

Publications of test reports, also in the form of extracts and references to tests for advertising need in every case the written agreement of the test institute. Every page of these test report is stamped with the official seal of the test institute.

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1 Preface

Execution of a fire test in the small test bench according to DIN 4102 part 8: 2003 with flaming from one side about minimum 90 minutes after the standard curve (ETK) according to DIN EN 1363 part 1: 1999 and DIN 4102 part 2: 1977 and measuring the increases of temperatures on the surface of the test sample

2 Description of test sample

The client delivered on the 1st April 2009 two test samples for a fire test on the small test bench according to DIN 4102 part 8: 2003 into the MPA Dresden GmbH. The test samples were a cut out of a revision opening system F6 with size width × height = 600 mm × 600 mm with three different mounted locks.

The test sample revision opening system F6 is detailed described in the clause 2 of the test reports No. 2009-B-0641/01 and 2009-B-1018/01 from the MPA Dresden GmbH.

In the above named cut out of the revision opening system F6 were tested three different mounted locks. There were mounted a round cylinder lock, a profile cylinder (PZ) lock and a square rubber.

The test sample is described in the drawings on the enclosures 1 to 4 of that test report.

3 Preparation of the test

Each of the test samples was mounted in front of the horizontal opening of the small test bench according to DIN 4102 part 8: 2003 for the fire test.

On the fire turned away surface of the test sample during the flaming from the underside were attached 8 measuring points for temperature (NiCr-Ni-thermocouples). The arrangement of the measuring points is described in the enclosure 6 of that test report.

On the fire turned away surface of the test sample during the flaming from the upside were attached 10 measuring points for temperature (NiCr-Ni-thermocouples). The arrangement of the measuring points is described in the enclosure 9 of that test report.

4 Execution of the test

The fire test "flaming from the underside" was carried out on the 7th April 2009. The fire test "flaming from the upside" was carried out on the 12th May 2009. The flaming was according to the standard curve (ETK) according to DIN EN 1363 part 1: 1999 and DIN 4102 part 2: 1977.

The middle increase of the temperature inside of the fire chamber is confronted of the standard curve (ETK) in the enclosures 5 (flaming from the underside) and 8 (flaming from the upside) of that test report. The adherence of the test regulations is shown.

5 Evaluation of the test

The execution of a fire tests on the small test bench according to DIN 4102 part 8: 2003 on a cut out of the revision opening system F6 with three different mounted locks according to DIN EN 1363 part 1: 1999 and DIN 4102 part 2: 1977 for determination of fire resistance is confirmed.

The increase of temperatures on the surface of test sample is described tabular in the enclosure 7 (flaming from the underside) of this test report.



The limit value of the maximally permissible increase of temperature of 180 K according to DIN EN 1363 part 1: 1999 and DIN 4102 part 2: 1977 on the surface of the test sample wasn't reached during 92 minutes fire test.

The fire test was finished after 92 minutes.

The increase of temperatures on the surface of test sample is described tabular in the enclosure 10 (flaming from the upside) of this test report.

The limit value of the maximally permissible increase of temperature of 180 K according to DIN EN 1363 part 1: 1999 and DIN 4102 part 2: 1977 on the surface of the test sample wasn't reached during 96 minutes fire test.

The fire test was finished after 96 minutes.

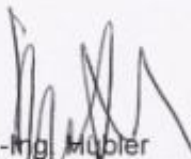
The test sample with the round cylinder lock, the profile cylinder (PZ) lock and the square rubber fulfils the requirements on a fire resistance of 90 minutes.

6 Special hints

This test report is only valid for the described test samples in clause 2. Exact manufacturer data of the test sample are represented in the test institute.

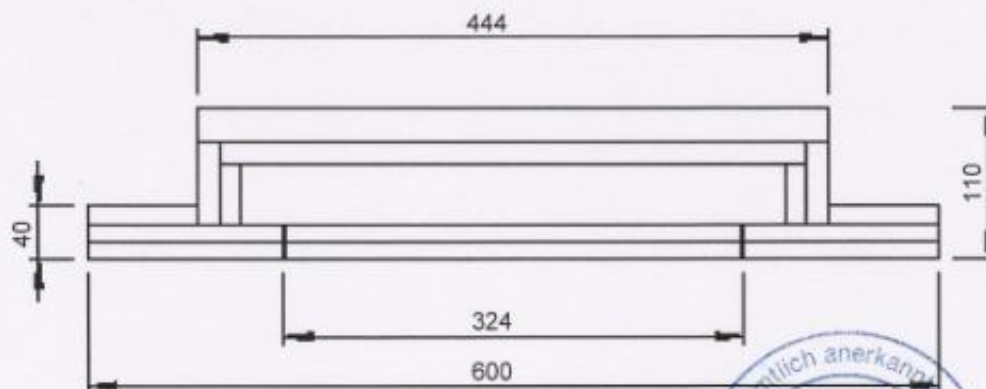
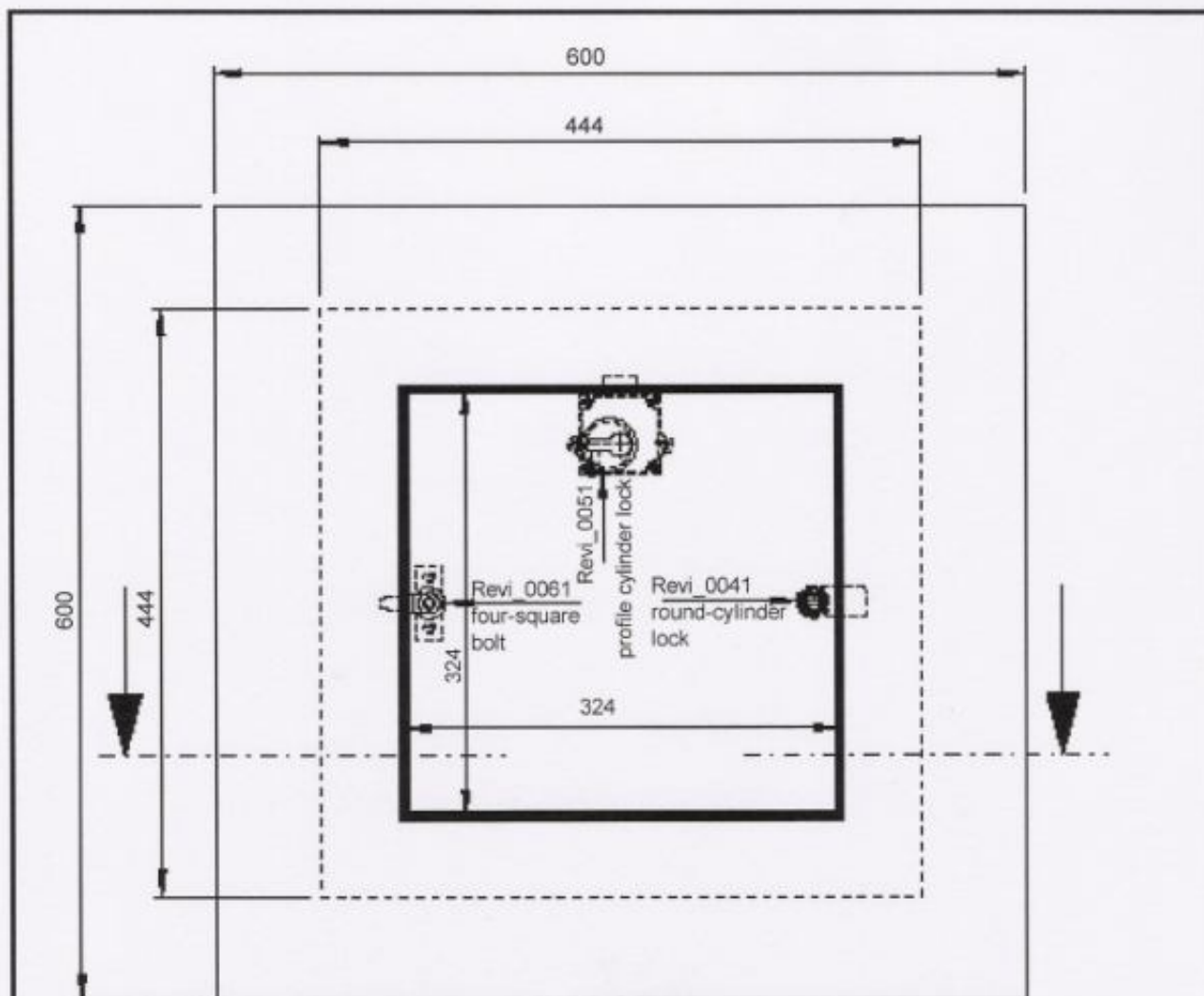
The test report is valid unlimited, unless the building element isn't changed in its essential components and the basis of the test isn't changed.

Freiberg, 3rd June 2009


Dipl.-Ing. Müblier
Manager of Test Laboratory

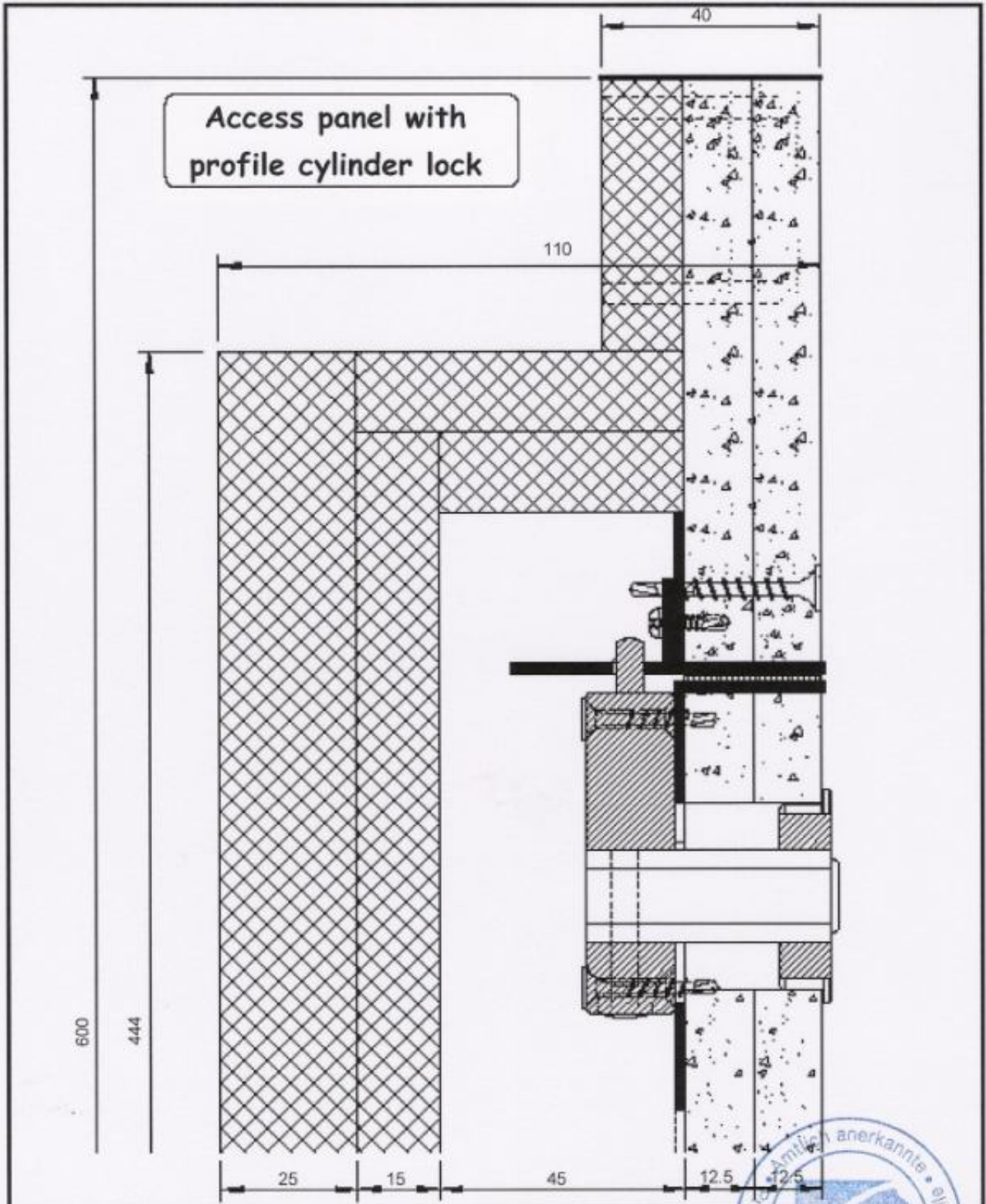



Dipl.-Ing. (FH) Aguirre Cano
Test Engineer



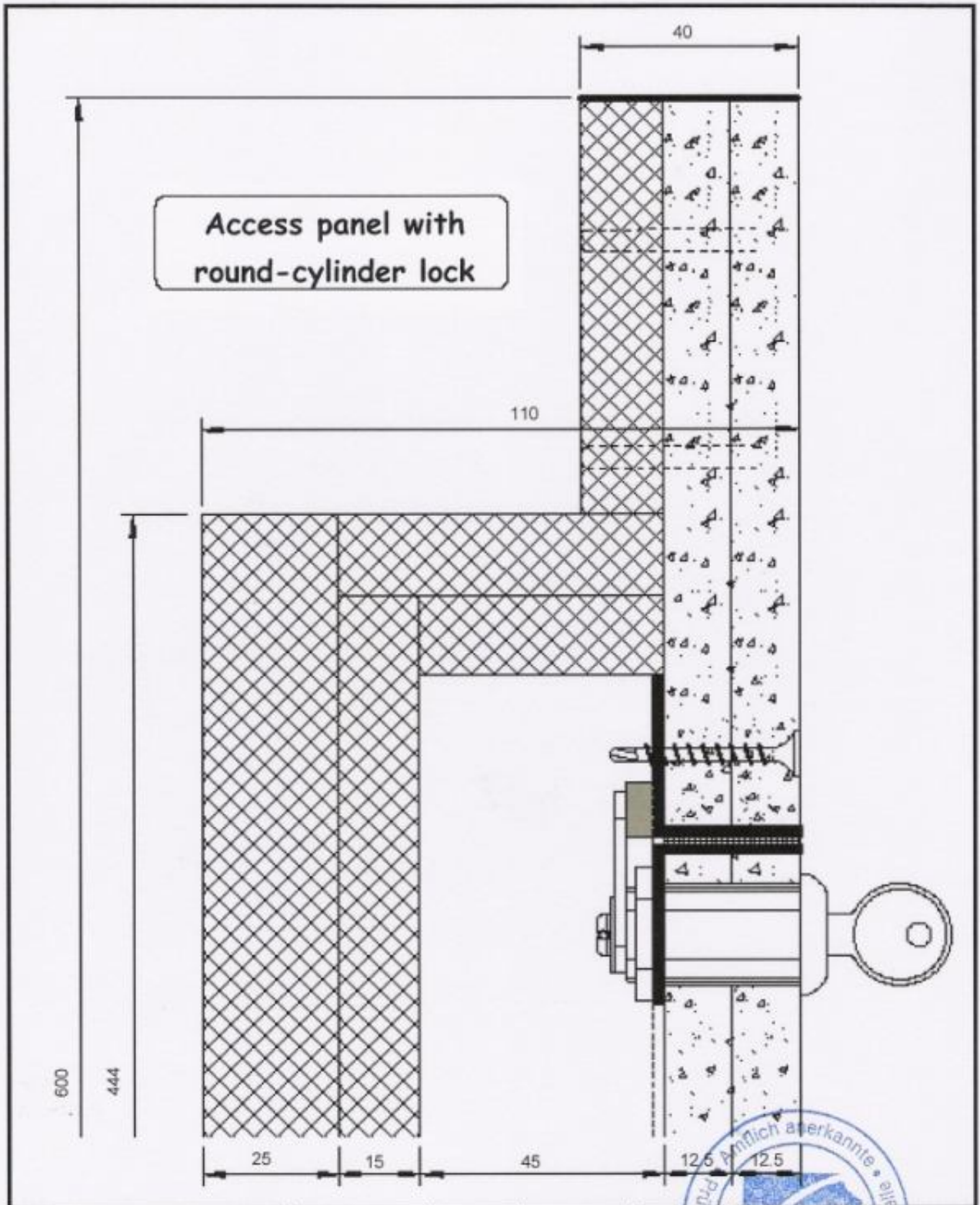
System F6		Scale: 1:5		Paper size: A4	Drawing number: Revi_0052
		EI90 Access panel aluminium System F6 with locks, for EI90 plasterboard ceiling			
Made by: louk		Date: 11.03.2009		FF Systembau GmbH - access panels -	
General tolerances according to DIN ISO 2768-1 Tolerance class: ISO 2768-m		Lehrhäuserstrasse 20 94424 Arnstorf Tel.: +49 (0)8723/9784-250 Fax.: +49 (0)8723/9784-270			
Index	Modification	Date	Name	E-Mail: info@ffsystembau.de www.ffsystembau.de	




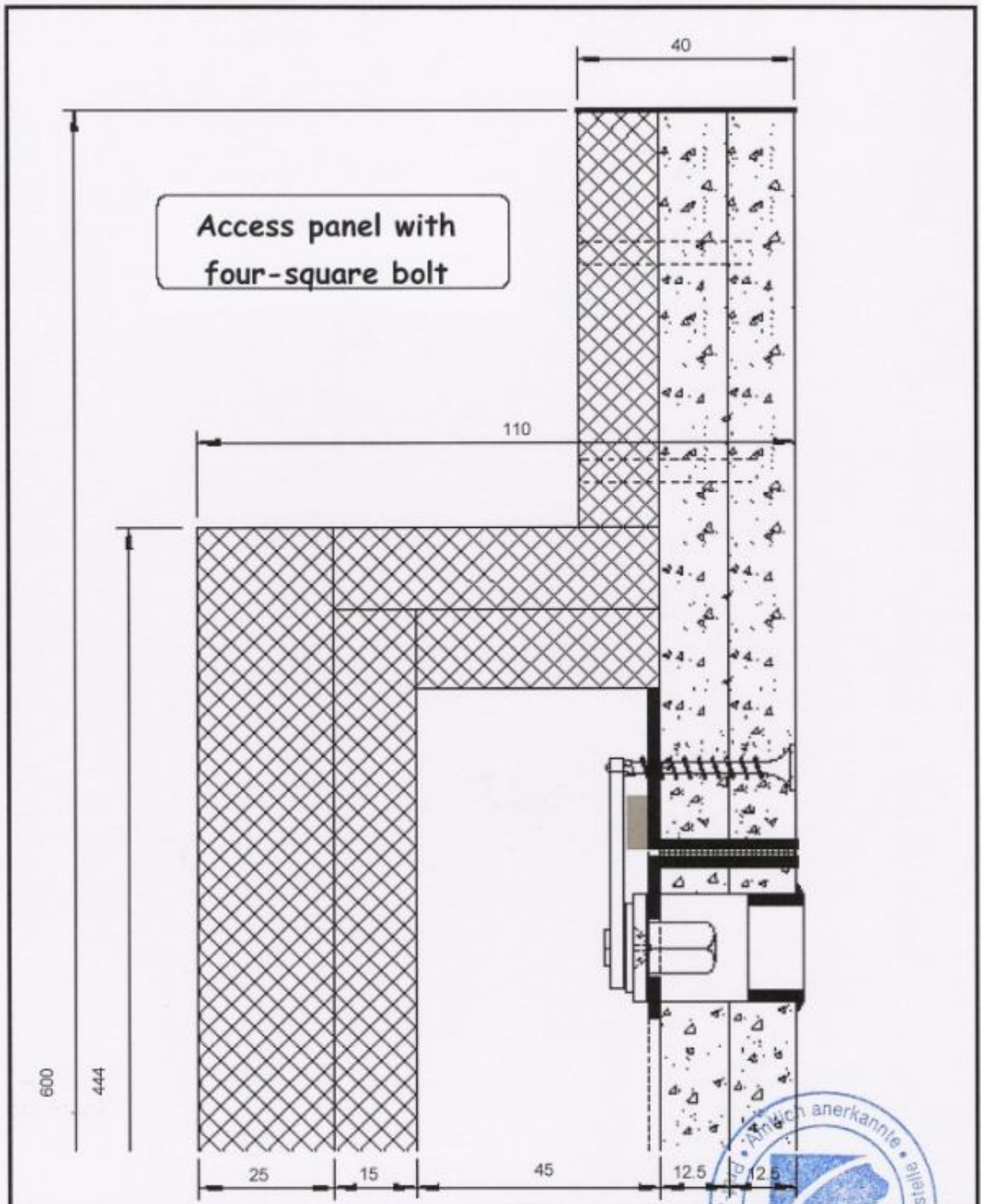


System F6		Scale: 1:1		Paper size: A4	Drawing number: Revi_0051
		EI90 Access panel aluminium System F6 with profile cylinder lock, for EI90 plasterboard ceiling			
	Made by:	louk	Date:	11.03.2009	FF Systembau GmbH - access panels - Lehnhäuserstrasse 20 94424 Arnstorf Tel.: +49 (0)8723/9784-260 Fax.: +49 (0)8723/9784-270 E-Mail: info@ffsystembau.de www.ffsystembau.de
	General tolerances according to DIN ISO 2768-1 Tolerance class: ISO 2768-m				
Index	Modification	Date	Name		





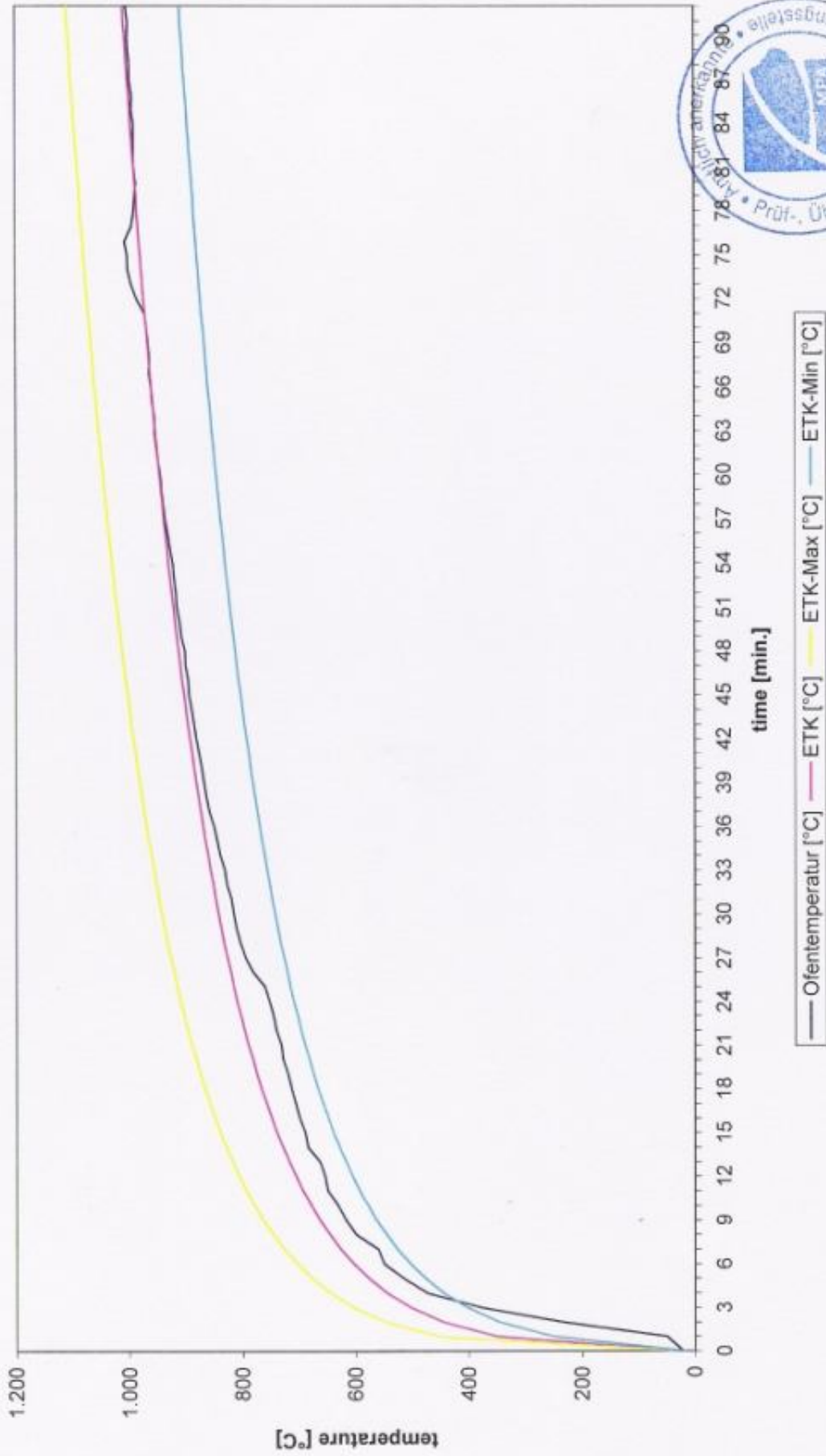
System F6			Scale: 1:1		Paper size: A4	Drawing number: R6vi_0041		
			E190 Access panel aluminium System F6 with round-cylinder lock, for E190 plasterboard ceiling					
Made by: louk			Date: 11.03.2009		 FF Systembau GmbH - access panels - Lehmbäuserstrasse 20 94424 Arnstorf Tel.: +49 (0)8723/9784-250 Fax.: +49 (0)8723/9784-270 E-Mail: info@ffsystembau.de www.ffsystembau.de			
General tolerances according to DIN ISO 2768-1			Tolerance class: ISO 2768-m					
index			Modification				Date	Name

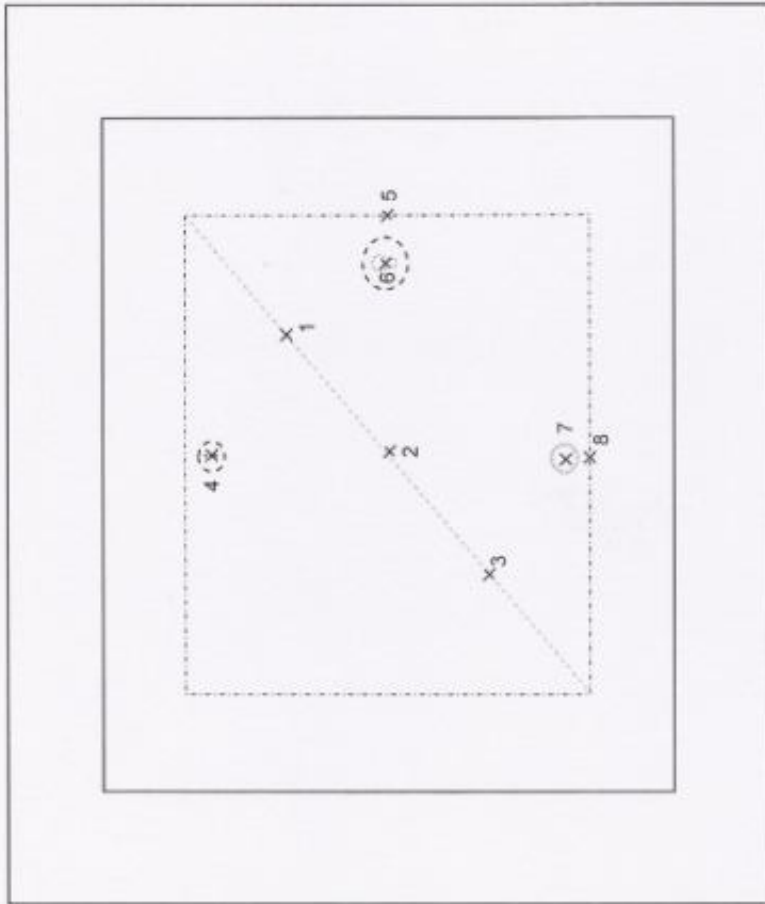


System F6				Scale: 1:1	Paper size: A4	Drawing number: MPA	Revi: 0061
				Ei90 Access panel aluminium System F6 with four-square bolt, for Ei90-plasterboard ceiling			
Made by: louk				Date: 11.03.2009			
General tolerances according to DIN ISO 2768-1 Tolerance class: ISO 2768-m				Lehrhäuserstrasse 20 94424 Arnstorf Tel.: +49 (0)8723/9784-250 Fax.: +49 (0)8723/9784-270			
E-Mail: info@ffsystembau.de www.ffsystembau.de							
Index	Modification	Date	Name				



Temperature in the testing furnace (flaming from the underside)



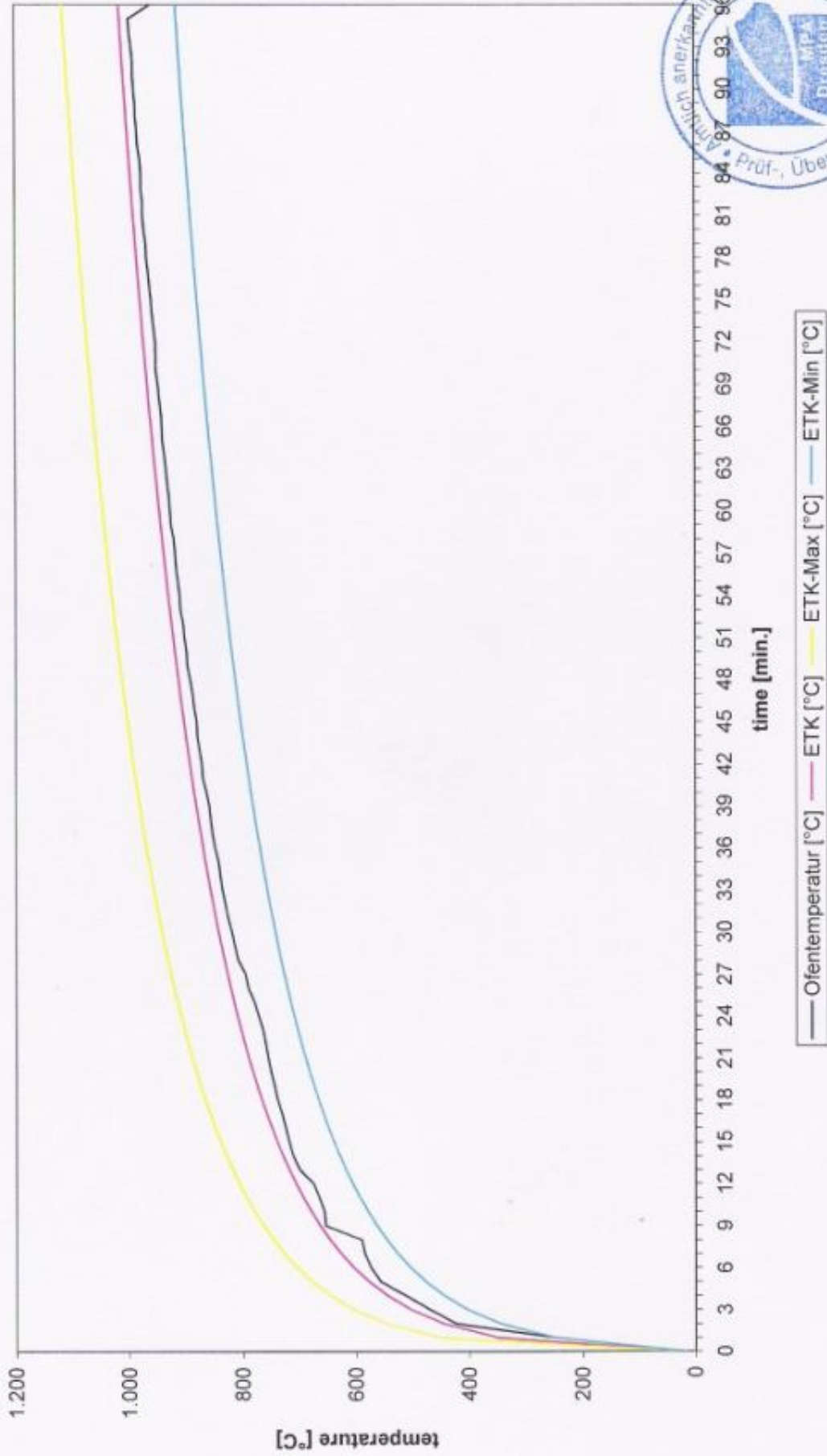


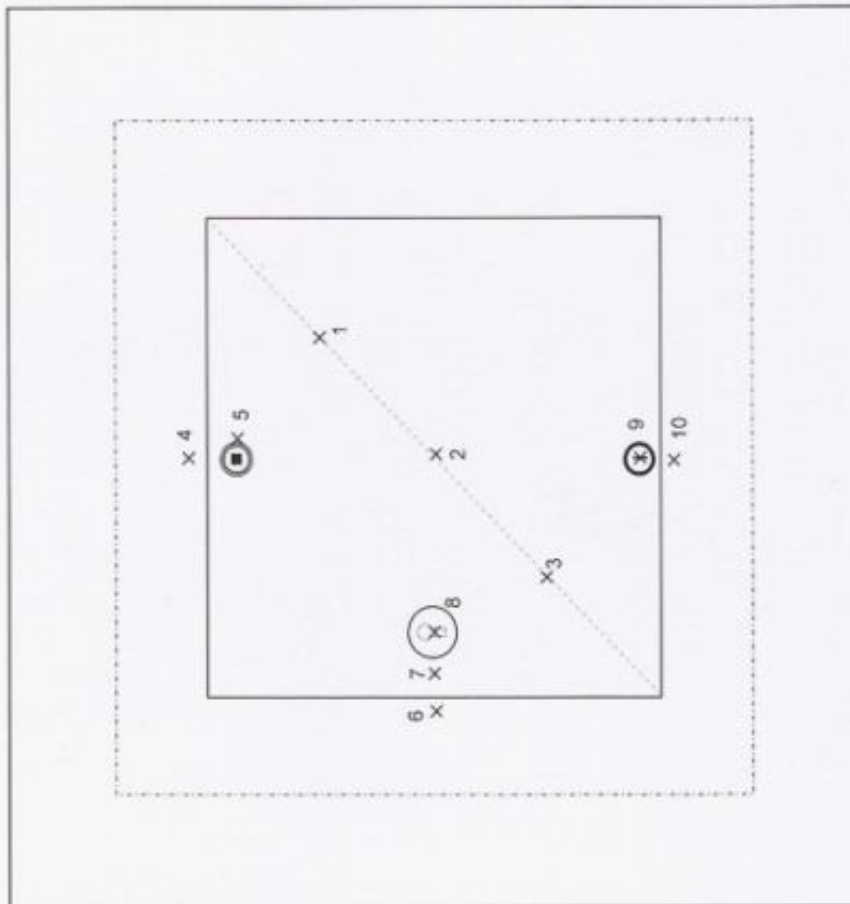
Increase of temperatures - flaming from the underside

time [min.]	MS_01 [K]	MS_02 [K]	MS_03 [K]	MS_04 [K]	MS_05 [K]	MS_06 [K]	MS_07 [K]	MS_08 [K]
0	0	0	0	0	0	0	0	0
5	1	1	1	1	0	0	0	1
10	1	1	1	1	1	0	0	1
15	1	1	1	1	1	1	0	1
20	3	3	3	5	3	3	3	3
25	8	8	8	10	8	8	7	7
30	14	14	14	17	15	16	13	13
35	23	24	21	25	25	25	21	20
40	32	33	30	32	35	33	29	28
45	39	40	37	38	42	41	36	36
50	43	45	42	43	47	46	41	42
55	48	48	47	47	51	51	46	46
60	51	51	50	50	54	55	49	50
65	52	54	52	51	56	57	51	52
70	53	55	53	52	57	58	52	53
75	52	54	52	51	55	55	51	52
80	55	52	53	55	56	55	54	54
85	59	56	58	59	59	58	58	58
90	62	59	61	61	61	61	61	60
91	62	60	62	62	61	61	62	61
92	63	60	62	62	62	62	62	62



Temperature in the testing furnace (flaming from the upside)





Increase of temperatures - flaming from the underside

time [min.]	MS 01 [K]	MS 02 [K]	MS 03 [K]	MS 04 [K]	MS 05 [K]	MS 06 [K]	MS 07 [K]	MS 08 [K]	MS 09 [K]	MS 10 [K]
0	0	0	0	0	0	0	0	0	0	0
5	0	1	0	0	0	0	0	0	0	0
10	0	0	0	0	0	1	1	0	0	0
15	0	0	0	0	0	3	1	2	2	1
20	0	2	2	5	1	9	6	10	12	8
25	5	7	6	14	8	18	15	21	25	15
30	11	14	12	23	17	29	26	33	37	24
35	19	20	19	31	26	38	35	44	49	32
40	28	26	27	37	30	43	42	52	56	38
45	34	32	33	41	34	46	47	56	59	42
50	38	36	37	43	36	48	50	59	61	44
55	41	38	40	45	38	50	53	62	63	45
60	43	41	43	47	40	51	55	64	64	46
65	45	43	45	48	41	52	57	65	65	47
70	46	44	47	49	42	52	58	65	66	48
75	47	45	47	49	43	53	58	65	66	48
80	47	45	47	50	43	53	59	66	66	49
85	47	45	48	50	43	53	59	66	66	49
90	47	45	48	51	43	54	59	65	66	49
95	48	46	48	52	45	56	58	64	65	50
96	48	46	48	53	45	57	58	63	65	50



Photo 1: flaming from the underside – test sample from the fire turned away side before the fire test

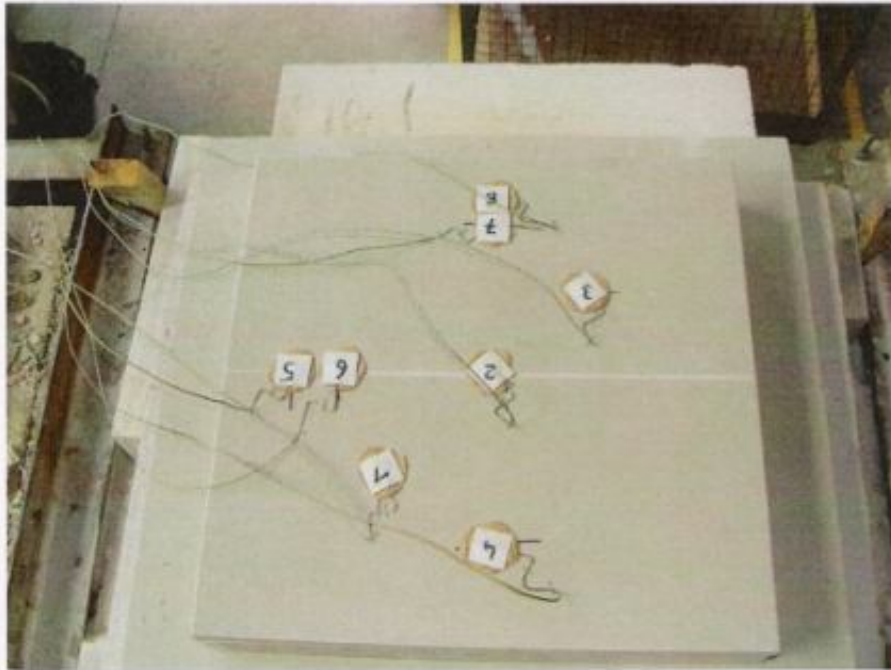


Photo 2: flaming from the underside – test sample from the fire side before the fire test



Photo 3: flaming from the upside – test sample from the fire turned away side before the fire test

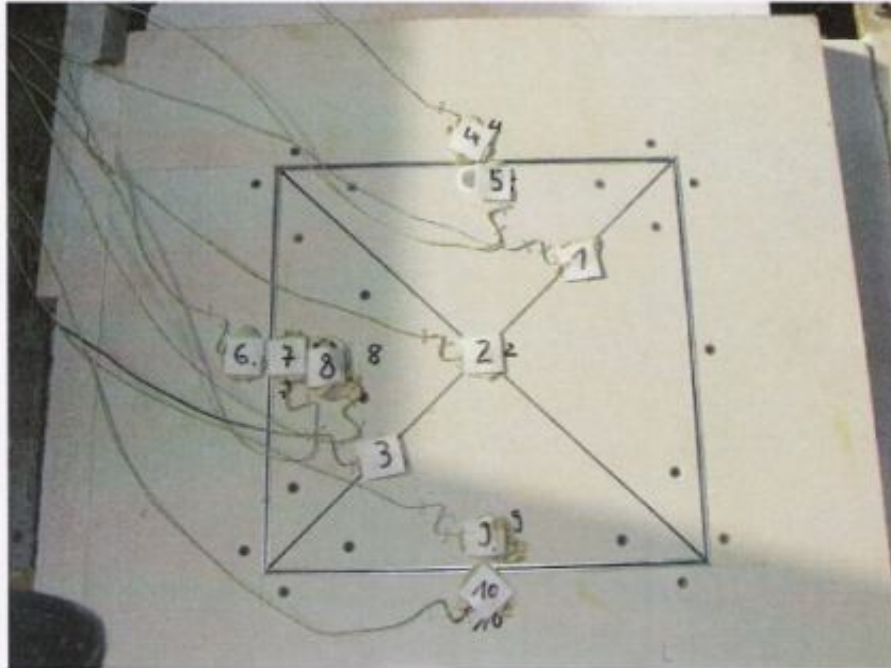


Photo 4: flaming from the upside – test sample from the fire side before the fire test

