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Title:

The Fire Resistance Performance Of A Combination Of Letter Plates, When Tested In Accordance With BS EN 1634-2: 2008, Method c) Method For Testing Non-Edge Mounted Items Of Building Hardware.

Date Of Test:

02 September 2024

Issue 4

05 February 2026

WF Report No:

546844/R

Prepared for:

Hoppe UK Limited

Gailey Park
Standeford
Wolverhampton
WV10 7GW

0249

This report supersedes the Issue 3 dated 20 May 2025

Test Specimens

Summary of Tested Specimens

The Letter Plates referenced AR708HS were fitted on both leaves referenced Marksman 44 Core doorset associated construction with 0.5mm Interdens fitted around the letter plate and were installed such that they were tested from both sides.

The associated construction leaves had overall nominal dimensions of 655 mm wide by 1490 mm high, The door leaves were formed from a graduated density chipboard core. There were no hinges or locksets fitted to this.

Detailed drawings of the test specimen(s) and a comprehensive description of the test construction based on a detailed survey of the specimen(s) and information supplied by the sponsor of the test are included in the Test Specimen and Schedule of Components sections of this report.

Performance Criteria and Test Results

Integrity	It is required that the specimens retain their separating function, without either causing ignition of a cotton pad when applied, or permitting the penetration of a gap gauge as specified in BS EN 1634-1: 2014, or resulting in sustained flaming on the unexposed surface. **These requirements were satisfied for the periods shown below:**			
	Doorset A		**Doorset B**	
Sustained flaming	58 minutes		59 minutes	
Gap gauge	58 minutes	Area extinguished	60 minutes	Area extinguished
Cotton pad	58 minutes		59 minutes	
Insulation (I_2)	The mean temperature rise of the unexposed surface shall not be greater than 140°C and that the maximum temperature rise shall not be greater than 180°C with the exception that the limit for temperature rise for any frame member or transom member adjacent to the leaf/leaves of the doorset or openable window shall be 360°C. Insulation failure also occurs simultaneously with integrity failure as specified in BS EN 1634-1: 2014. **These requirements were satisfied for the period shown below:**			
Specimen	58 minutes	Due to integrity failure	59 minutes	Due to integrity failure
Insulation (I_1)	The test specimen shall be evaluated against the maximum temperature rise criterion specified in EN 1363-1: 2020 (180°C).			
	58 minutes		59 minutes	
	*Test was discontinued after a period of 59 minutes.			

Date of Test 02 September 2024

Quality Management

Issue No: 1	Issue Date: 18 September 2024
Responsible Officer: **P. White***	Approved By: **S. Whittle***
Signature Image	Signature Image
	

Issue No: 2	Re-issue Date: 29 April 2025
Responsible Officer: **P. White***	Approved By: **S. Whittle***
Signature Image	Signature Image
	
Reason for Revision: Incorrect Job number referenced throughout report. Now corrected	

Issue No: 3	Re-issue Date: 20 May 2025
Responsible Officer: **P. White***	Approved By: **S. Whittle***
Signature Image	Signature Image
	
Reason for Revision: Page two summary and drawings stated the Interdens around the letter plates where 0.8 mm however after client sent over sampling and drawings evidence this is now changed to 0.5 mm as this was used on the test.	

Issue No: 4	Re-issue Date: 05 February 2026
Responsible Officer: **P. White***	Approved By: **S. Whittle***
Signature Image	Signature Image
	
Reason for Revision: Incorrect door core described in Schedule of Components. Door leaf blank now amended to 'Marksman™ 44' in the Schedule of Components.	

* For and on behalf of **Warringtonfire**.

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Test Conditions

Standard

BS EN 1634-2:2008 Fire resistance and smoke control tests for door and shutter assemblies, openable windows and elements of building hardware - Part 2: Fire resistance characterisation test for elements of building hardware

Sampling

A representative of **Warringtonfire** sample selected the following components of the tested specimen:

Component	Sampling date	Sampling report reference
Arrone TS008 Letterplate AR708HS-PCH	15/08/2024	A0-106117
Intumescent Tube 30 units sampled	15/08/2024	A0-106117
Intumescent Article No 2	15/08/2024	A0-106117
Intumescent Seal Article No 1	15/08/2024	A0-106117
Intumescent Article No 5	15/08/2024	A0-106117
Intumescent Seal Article No 4	15/08/2024	A0-106117

Copies of sampling reports are included in the Sample Report section.

Installation

The doorset was received on the 02 September 2024 and mounted within an aperture in a blockwork wall construction such that the leaf opened away from the heating conditions of the test. Representatives of **WIA** conducted the installation on the 02 September 2024.

Conditioning

The specimen's storage, construction, and test preparation took place in the test laboratory over a total, combined time of 1 days. Throughout this period of time both the temperature and the humidity of the laboratory were measured and recorded as being within a range of from 21°C to 28°C and 48.5% to 76.5% respectively.

Instruction to Test

The test was conducted on the 02 September 2024 at the request of Hoppe UK Limited, the test sponsor.

Representatives of the test sponsor Neil Harrison witnessed the test.

Pre-Test Conditioning

Prior to testing, the doorsets they was subjected to appropriate mechanical pre-test conditioning in accordance with the requirement of EN 16034:2014, Annex A.

Ambient Temperature

The ambient air temperature in the vicinity of the test construction was 18ºC at the start of the test with a maximum variation of +2ºC during the test.

Furnace

The furnace was controlled so that its mean temperature complied with the requirements of BS EN 1363-1: 2020 Clause 5.1 using four plate thermometers, distributed over a plane 100 mm from the surface of the test construction.

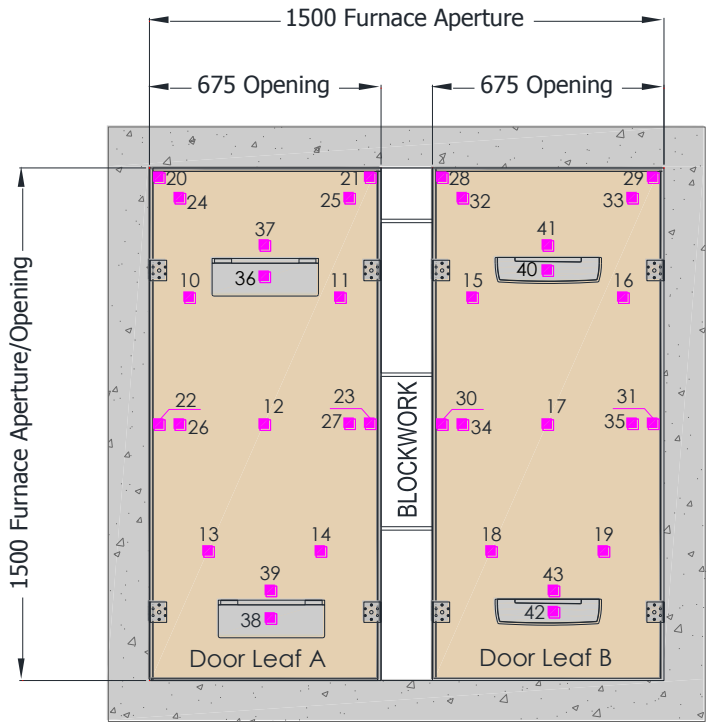
Thermocouples

Thermocouples were provided to monitor the unexposed surface of the specimens. The output of all instrumentation was recorded at no less than one minute intervals. The locations and reference numbers of the various unexposed surface thermocouples are shown in Figure 1.

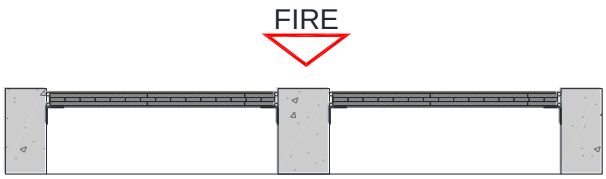
Furnace Pressure

After the first five minutes of testing and for the remainder of the test, the furnace atmospheric pressure was controlled so that it complied with the requirements of BS EN 1363-1: 2020, clause 5.2.1 The calculated pressure differential relative to the laboratory atmosphere at the top of the specimen was 9.52 (± 5) Pa between 5 and 10 minutes and 9.52 (± 3) Pa thereafter.

Test Drawings



GENERAL ELEVATION OF TEST CONSTRUCTION
UNEXPOSED FACE



HORIZONTAL SECTION THROUGH TEST CONSTRUCTION

Figure 1 General Elevation of Test Construction – Unexposed Face

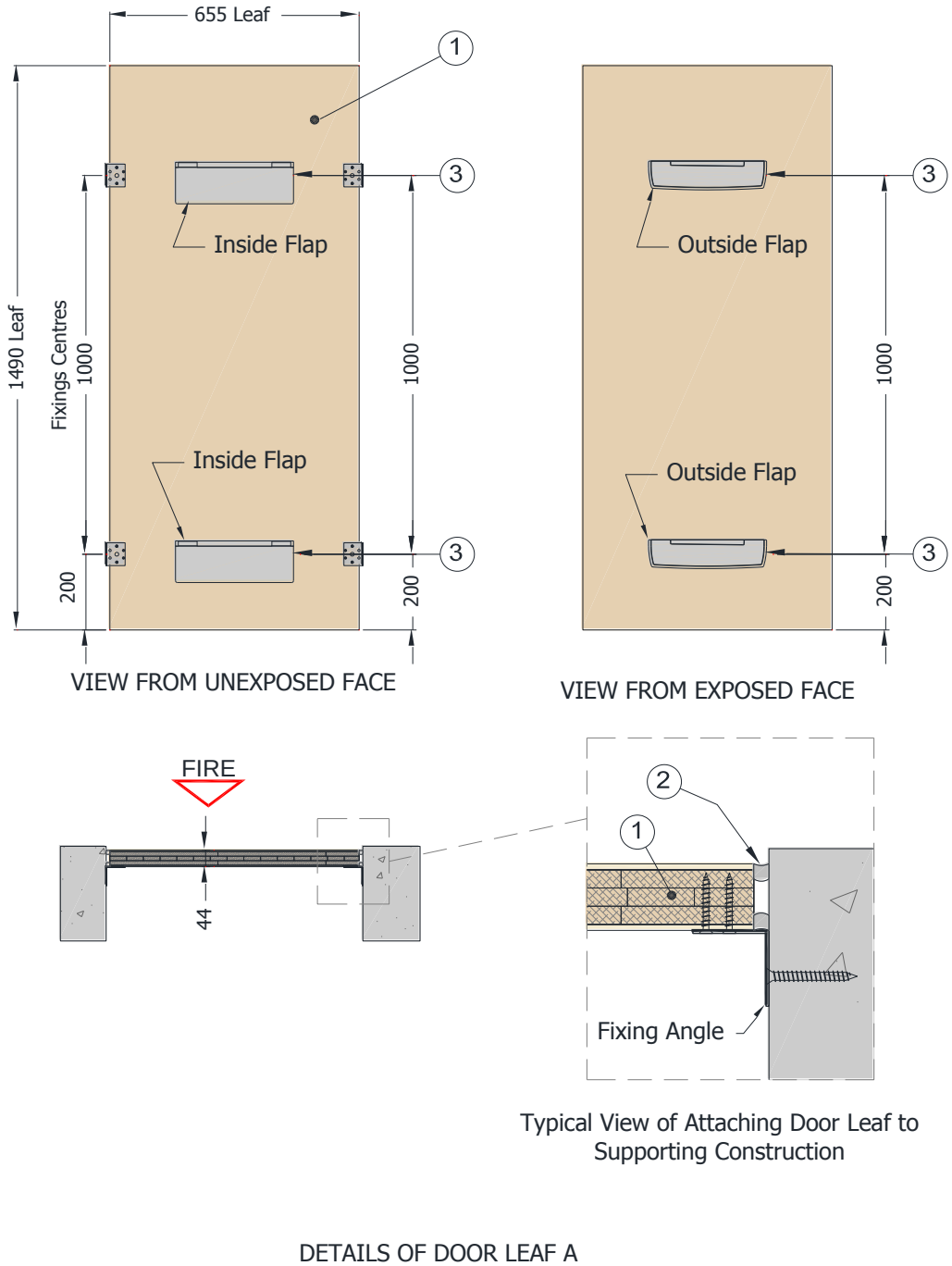


Figure 2 Details of Door Leaf 'A'

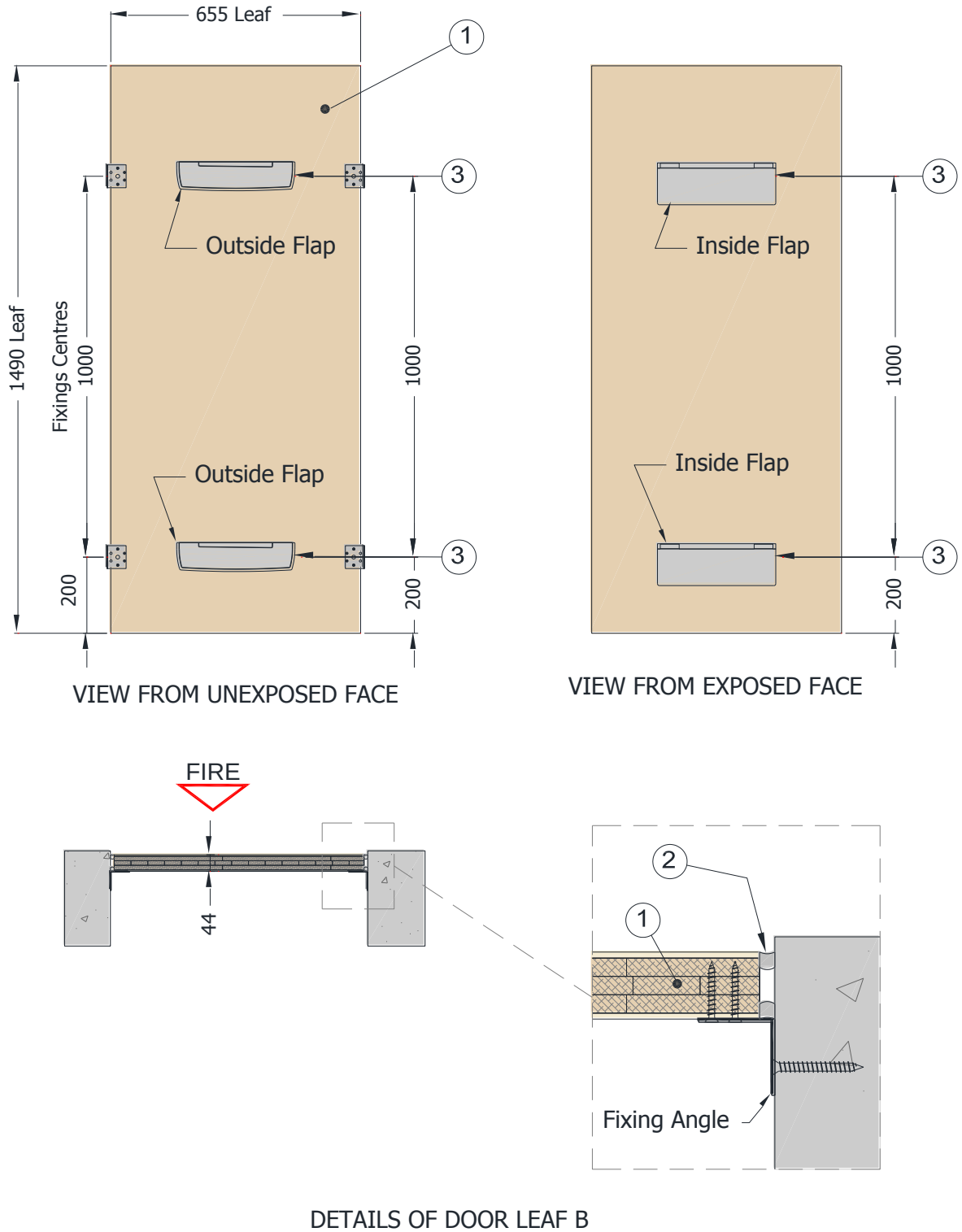
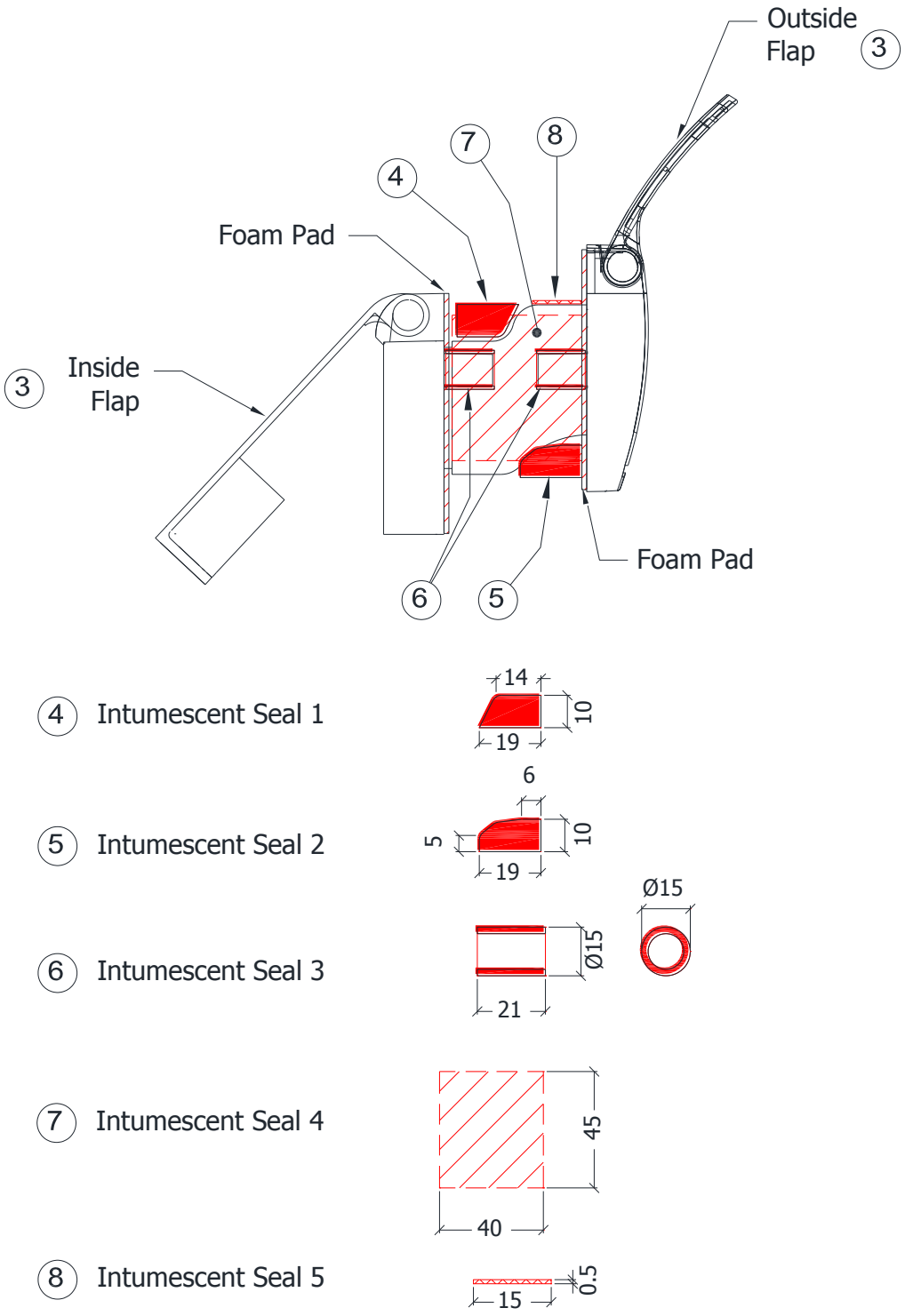


Figure 3 Details of Door Leaf 'B'



DETAILS OF INTUMESCENT STRIPS

Figure 4 Details of Intumescent Strips

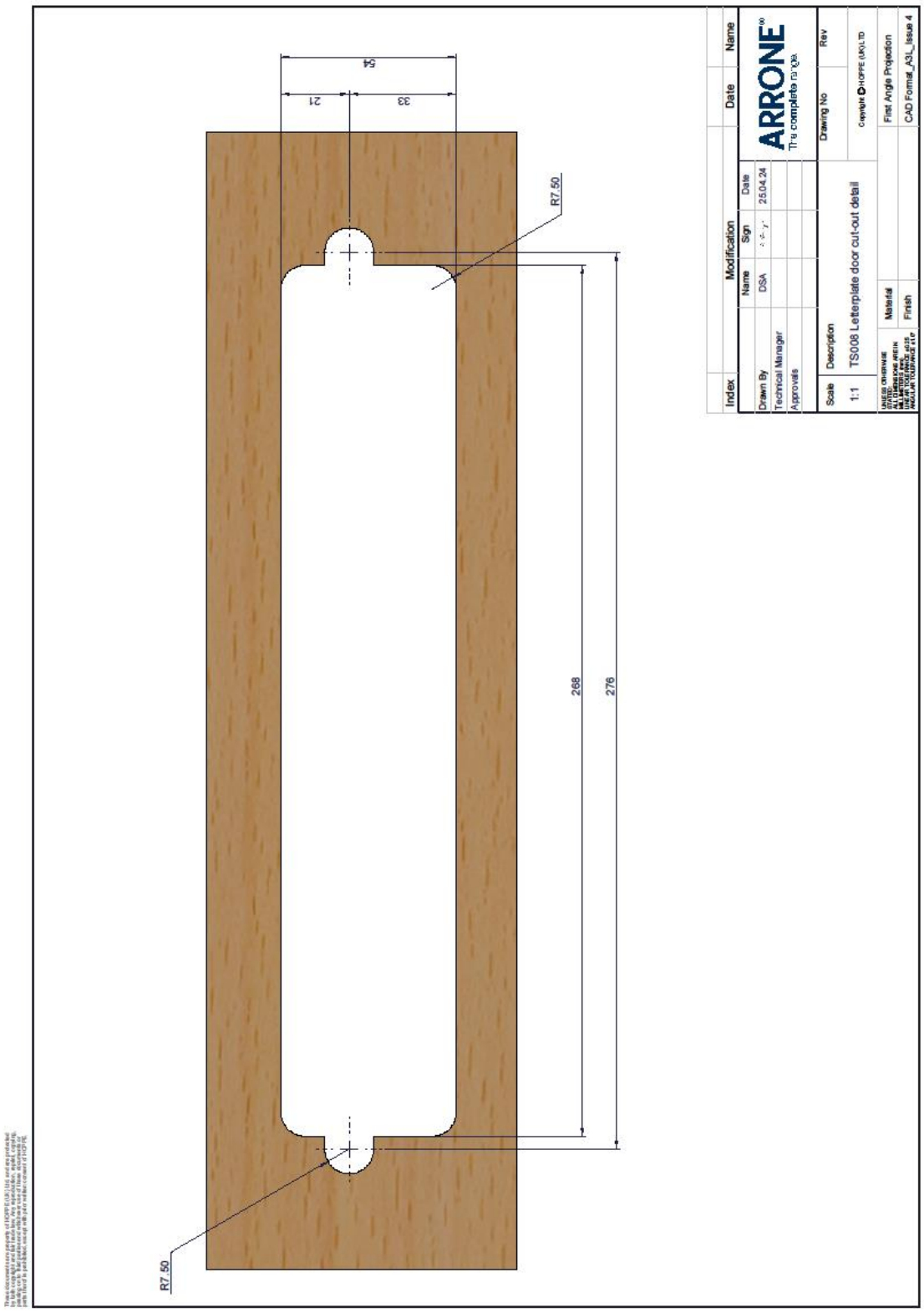


Figure 5 Client Inward Drawings – Details of Letterplate door leaf cut-out

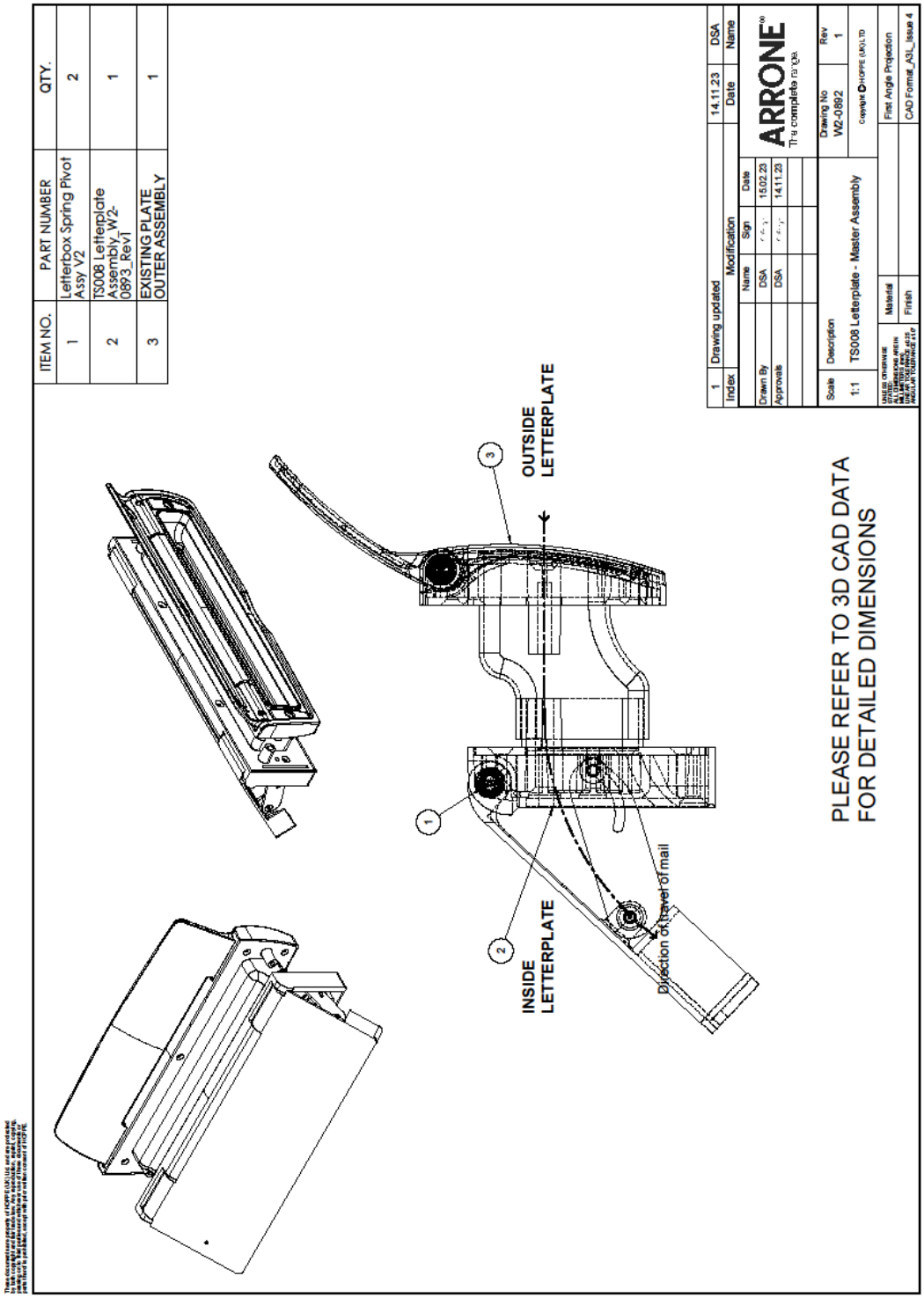


Figure 6 Client Inward Drawings – Letterplate Assembly

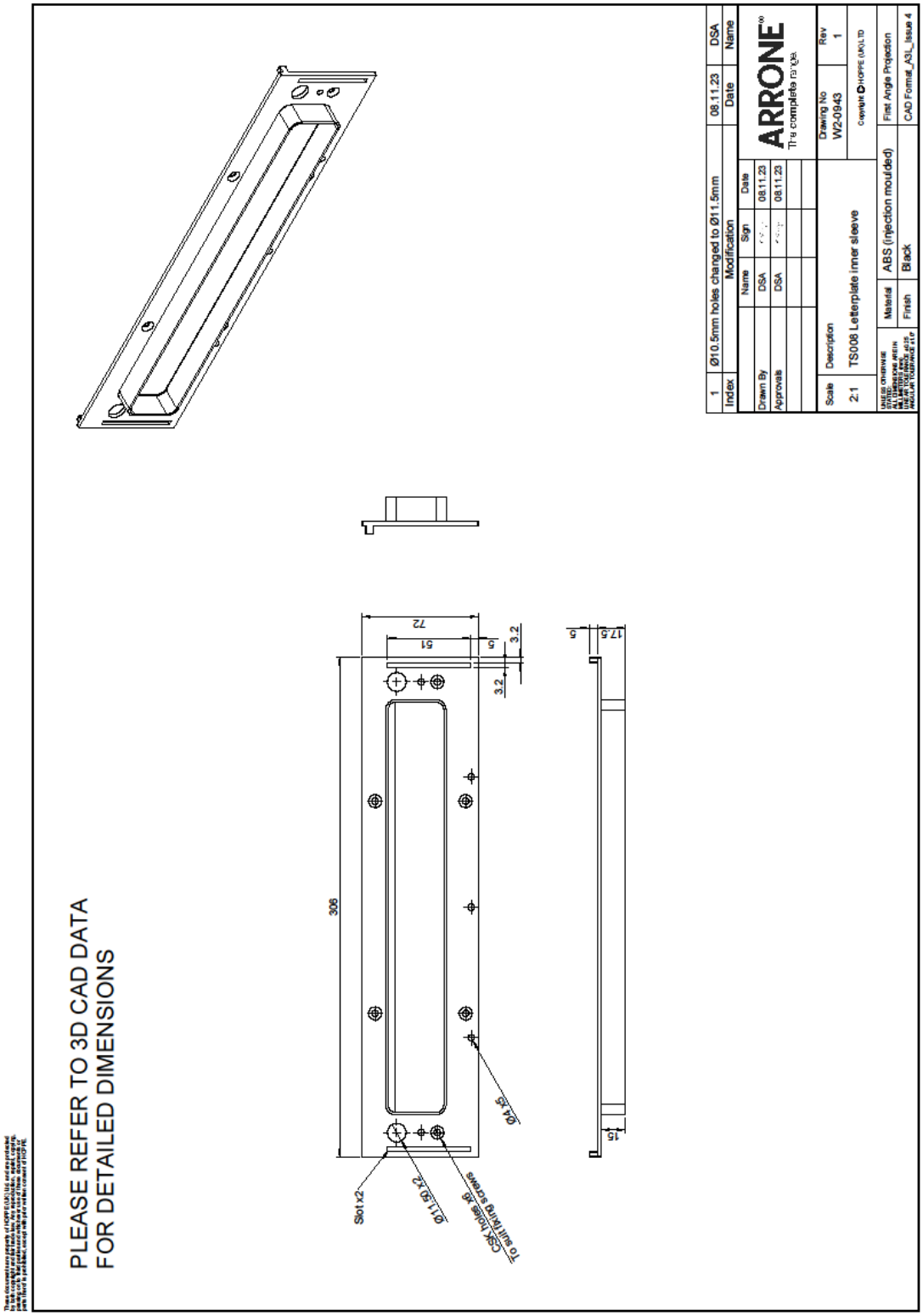


Figure 7 Client Inward Drawings – Letterplate Inner Sleeve

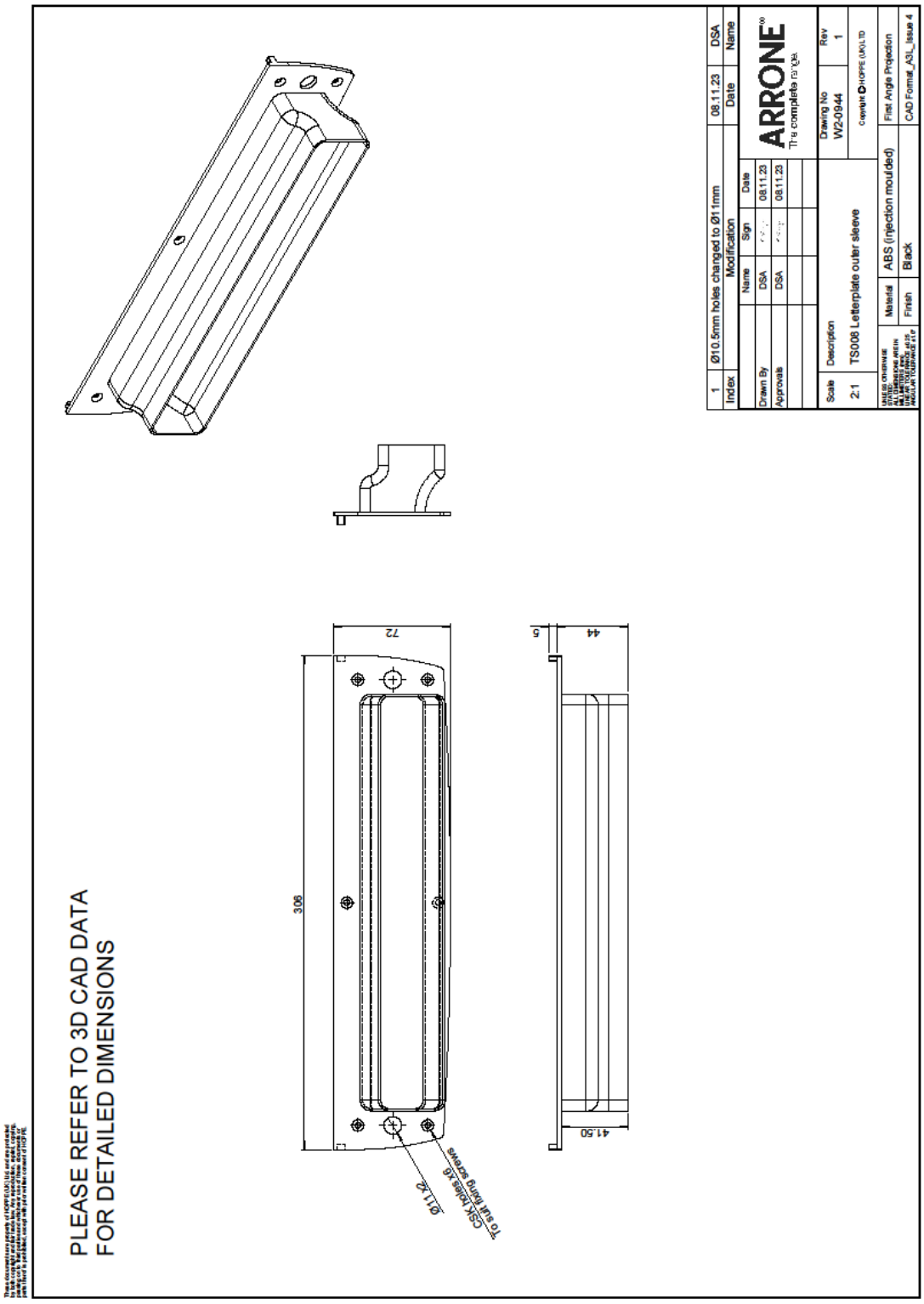


Figure 8 Client Inward Drawings – Letterplate Outer Sleeve

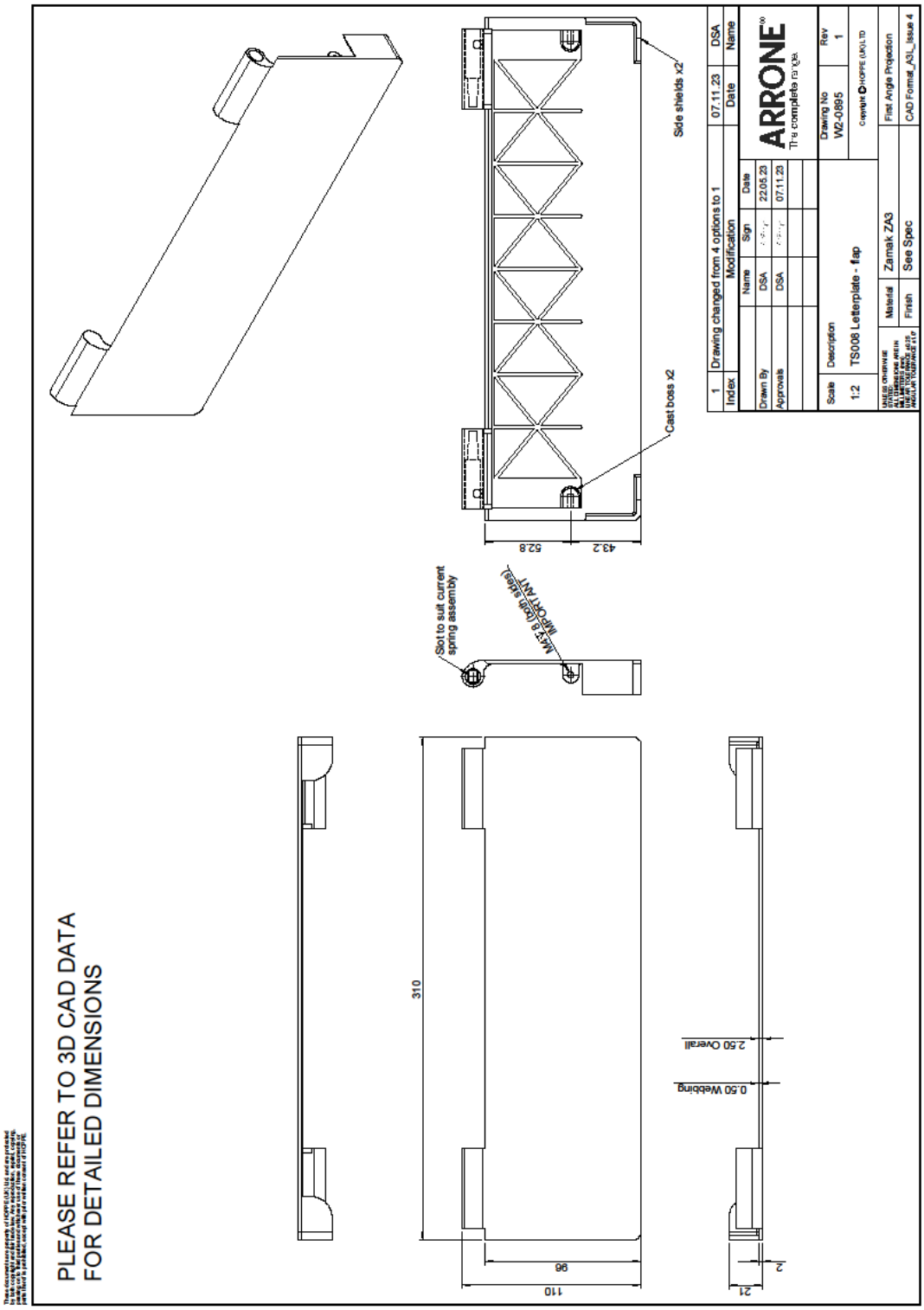


Figure 9 Client Inward Drawings – Letterplate Inside Flap

Schedule Of Components

Door Leaf

1. Door Leaf Blank	
Manufacturer	Wood International Agency Ltd
Door reference	Marksman™ 44
Q-Mark Certificate Number	3588
Average moisture content	8.6 %
Overall size	1490 mm x 655 mm x 44 mm
Door Leaf Core	
i. Material	Graduated density chipboard
ii. Density	535kg/m^3 ± 15kg/m^3
iii. Overall thickness	44 mm
Door Leaf Stiles/Rails/Lippings	N/a
Fixing method to supporting construction	Each door leaf retained with 4no. steel angles from unexposed face.
Fixings to Door Leaf	4 no. 4 x 40 mm stainless steel wood screws to each angle
Fixings to Supporting Construction	1 no or 2 no. 7.5 x 60 mm yellow-passivated concrete screws to each angle

Fire stopping

2. Frame to supporting construction fire stopping detail	
Manufacturer	Sealed Tight Solutions
Reference	ST88
Material	Intumescent mastic
Overall dimension	Approximately 10 mm wide x 10mm deep
Application method	Gun applied
Location	Applied between the Door Leaf and supporting construction on both sides

Hardware

3. Letterplate	
Manufacturer	Hoppe UK
Reference	AR708HS
Material	Injection moulded ABS, black
i. Inner Sleeve	Injection moulded ABS, black
ii. Outer Sleeve	Zamak ZA3, black
iii. Outside Flap	Zamak ZA3, white / silver
iv. Inside Flap	N/A
v. Security Cowl	
Overall size	72 mm x 306 mm x 22.5 mm thick, Figure 7 for details
i. Inner Sleeve	72 mm x 306 mm x 44 mm thick, Figure 8 for details
ii. Outer Sleeve	76 mm x 310 mm x 19 mm thick
iii. Outside Flap	110 mm x 310 mm x 21 mm thick, Figure 9 for details
iv. Inside Flap	54 mm high x 268 mm wide, Figure 5 for details
v. Cut out size	96 mm high x 310 mm wide x 21 mm thick
vi. Footprint	Injection moulded ABS, black
Fixing method	Inside Flap connected with Outside Flap through Knock - In Pins with 2no M5 x 50 mm Bolts. Inside Flap fixed to Door Leaf with additional 5no 3.5 x 30 mm wood screws.
Details of intumescent protection	Graphite / MAP strips with 1.5 mm foam pad, Figure 4 for details
Location (relative to the opening face of the door leaf)	Top letterplate fitted 1200 mm from the base of door leaf, Bottom letterplate fitted 200 mm from the base of door leaf and centrally in width of door leaf

4. Intumescent Seal 1	
Supplier/Manufacturer	Mann McGowan
Reference	Intumescent 1
Material	Graphite based, black
Overall size	19 mm x 10 mm x 245 mm
Fixing method	Self-adhesive to outer sleeve
5. Intumescent Seal 2	
Supplier/Manufacturer	Mann McGowan
Reference	Intumescent 2
Material	Graphite based, black
Overall size	19 mm x 10 mm x 245 mm
Fixing method	Self-adhesive to outer sleeve
6. Intumescent Seal 3	
Supplier/Manufacturer	Mann McGowan
Reference	Intumescent 3
Material	Graphite based, black
Thickness	2 mm
Overall size	Diameter 15 x 21 mm
Fixing method	Cover fixing tubes of Outer and Inner Flaps
7. Intumescent Seal 4	
Supplier/Manufacturer	Mann McGowan
Reference	Intumescent 4
Material	Graphite based, black
Thickness	2 mm
Overall size	40 mm x 45 mm
Fixing method	Self-adhesive to outer sleeve
8. Intumescent Seal 5	
Supplier/Manufacturer	Mann McGowan
Reference	Intumescent 4
Material	MAP, white
Thickness	0.5 mm
Overall size	15 mm x 245 mm
Fixing method	Self-adhesive to outer sleeve

Supporting Construction

Supporting Construction - supplied by Warringtonfire Masonry blockwork	
Type	Single skin
Material	Autoclaved aerated concrete blocks
Thickness	150 mm
Block Overall Size	440 mm x 215 mm
Density	760 kg/m^3
Fixing method	Ordinary sand/cement mortar, mix 3:1

Test Observations

Time		All observations are from the unexposed face unless noted otherwise.
mins	secs	
00	00	**The Test Commences.**
02	00	Steam/Smoke coming from both leaves at the top letter plates
09	20	High volume steam/smoke coming from the top letter plate on Leaf A
12	00	Steam/Smoke from the top letter plate on leaf B has now increased in volume
20	00	Brown discolouration at the top letter plate on Leaf B above and below it
47	00	Discoloration around the top letter plates on both leaves
53	00	Flicker of flame bottom letter plate on Leaf B
56	00	Cotton pad applied to the flicker of flame on Leaf B. no signs of failure
57	00	Cotton pad applied to the flicker of flame on Leaf B. no signs of failure
58	00	**Sustained flaming has started at the top letter plate on Leaf A. This means cotton pad and sustained flaming integrity failures are deemed to have occurred. Area dampened to continue test.**
59	00	**Sustained flaming has started on both letter plates on Leaf B. This means cotton pad and sustained flaming integrity failures are deemed to have occurred.**
60	00	**The Test is Discontinued at the sponsors request**

Test Photographs

The exposed face of the doorsets prior to the start of the test

The unexposed face of the doorsets after a test duration of 20 minutes

The unexposed face of the doorsets after a test duration of 40 minutes

The unexposed face of the doorsets after a test duration of 60 minutes

The exposed face of the doorsets shortly after the test

Temperature and Deflection Data

Mean furnace temperature, together with the temperature/time relationship specified in BS EN 1363-1: 2012

Time Mins	Specified Furnace Temperature Deg. C	Actual Furnace Temperature Deg. C
0	20	31
2	445	609
4	544	486
6	603	662
8	645	596
10	678	658
12	705	695
14	728	725
16	748	731
18	766	753
20	781	774
22	796	783
24	809	793
26	820	823
28	831	853
30	842	850
32	851	870
34	860	871
36	869	875
38	877	881
40	885	887
42	892	903
44	899	915
46	906	918
48	912	921
50	918	926
52	924	931
54	930	936
56	935	942
58	940	943
60	945	949

Individual And Mean Temperatures Recorded On The Unexposed Surface Of Doorset A

Time Mins	T/C Number 10 Deg. C	T/C Number 11 Deg. C	T/C Number 12 Deg. C	T/C Number 13 Deg. C	T/C Number 14 Deg. C	Overall Mean Temp Deg. C
0	25	25	25	26	25	25
2	25	25	25	25	25	25
4	25	25	25	25	25	25
6	25	25	25	26	25	25
8	26	26	25	26	25	26
10	30	28	26	27	27	28
12	31	34	27	29	31	30
14	35	40	30	33	36	35
16	38	47	34	36	41	39
18	41	52	39	39	47	44
20	42	55	43	40	50	46
22	43	58	47	42	53	49
24	44	60	50	44	56	51
26	45	62	54	45	58	53
28	46	64	58	46	61	55
30	47	66	61	48	63	57
32	49	68	65	50	66	60
34	50	70	67	52	68	61
36	52	72	70	54	71	64
38	54	73	73	56	73	66
40	56	75	75	59	75	68
42	59	77	77	61	77	70
44	61	79	80	64	79	73
46	63	81	82	67	81	75
48	66	83	83	70	83	77
50	69	85	85	73	86	80
52	72	86	87	76	87	82
54	75	89	90	79	90	85
56	78	90	92	82	92	87
58	81	93	94	86	95	90
60	85	96	97	90	97	93

Individual And Mean Temperatures Recorded On The Unexposed Surface Of Doorset B

Time Mins	T/C Number 15 Deg. C	T/C Number 16 Deg. C	T/C Number 17 Deg. C	T/C Number 18 Deg. C	T/C Number 19 Deg. C	Overall Mean Temp Deg. C
0	26	23	24	24	24	24
2	25	23	24	23	24	24
4	26	23	24	23	24	24
6	26	23	24	24	24	24
8	26	24	24	24	24	24
10	30	26	25	27	26	27
12	38	33	30	34	31	33
14	46	41	36	41	37	40
16	52	48	42	47	44	47
18	56	53	48	53	49	52
20	59	56	52	56	53	55
22	61	59	56	58	56	58
24	63	61	58	61	58	60
26	64	63	61	63	61	62
28	66	64	63	65	63	64
30	67	66	65	67	65	66
32	69	68	67	69	67	68
34	70	69	69	70	69	69
36	72	71	71	72	72	72
38	73	72	73	74	74	73
40	75	74	75	76	76	75
42	76	76	77	78	78	77
44	78	78	79	80	80	79
46	80	79	81	82	82	81
48	82	81	83	85	84	83
50	83	83	85	87	86	85
52	85	85	87	89	88	87
54	87	87	89	91	90	89
56	89	89	91	94	92	91
58	91	91	93	97	95	93
60	96	93	96	152	100	107

Individual Temperatures Recorded On The Door Leaf 100 mm Away From The Edges On Doorset A

Time Mins	T/C Number 24 Deg. C	T/C Number 25 Deg. C	T/C Number 26 Deg. C	T/C Number 27 Deg. C
0	24	25	25	26
2	23	25	25	25
4	23	25	25	25
6	23	25	25	25
8	24	26	25	26
10	28	29	26	27
12	35	35	29	29
14	44	43	33	34
16	51	50	37	38
18	56	55	41	43
20	59	59	46	47
22	62	61	50	50
24	64	63	53	53
26	65	65	56	56
28	67	67	59	59
30	68	68	62	62
32	69	70	65	64
34	71	71	68	66
36	72	73	71	69
38	73	74	73	71
40	75	76	75	73
42	76	78	77	76
44	78	79	80	77
46	79	81	82	80
48	81	83	84	81
50	82	84	86	83
52	84	86	88	85
54	86	88	90	87
56	88	90	92	90
58	90	92	94	92
60	96	99	97	94

Individual Temperatures Recorded On The Door Leaf 100 mm Away From The Edges On Doorset B

Time Mins	T/C Number 32 Deg. C	T/C Number 33 Deg. C	T/C Number 34 Deg. C	T/C Number 35 Deg. C
0	23	24	24	24
2	23	23	23	24
4	23	23	24	24
6	23	24	24	24
8	24	24	24	24
10	28	27	26	26
12	37	35	31	30
14	46	44	38	37
16	53	52	44	44
18	58	58	49	49
20	61	61	52	54
22	63	64	56	57
24	65	66	58	59
26	67	67	61	61
28	68	69	63	63
30	69	70	65	65
32	70	71	67	66
34	72	72	69	68
36	73	73	71	70
38	74	74	73	72
40	76	76	75	73
42	77	77	77	75
44	79	79	79	77
46	80	80	81	78
48	82	81	82	80
50	84	83	84	82
52	86	85	86	84
54	87	87	88	87
56	89	89	90	88
58	91	91	91	91
60	94	95	94	94

Individual Temperatures Recorded On The Door Leaf 25 mm Away From The Edges Of Doorset A

Time Mins	T/C Number 20 Deg. C	T/C Number 21 Deg. C	T/C Number 22 Deg. C	T/C Number 23 Deg. C
0	22	22	23	23
2	22	22	23	23
4	22	22	23	23
6	23	23	23	23
8	23	24	23	25
10	25	26	25	29
12	31	31	29	32
14	38	39	34	37
16	45	47	39	42
18	52	55	44	47
20	58	62	48	52
22	64	67	52	56
24	69	72	56	60
26	72	75	59	64
28	75	78	62	67
30	77	79	65	69
32	78	80	68	71
34	79	81	70	73
36	79	82	71	72
38	79	83	73	73
40	80	84	74	75
42	79	85	76	76
44	79	85	77	78
46	80	86	78	79
48	81	86	80	81
50	83	87	81	82
52	85	88	81	83
54	86	89	83	84
56	86	90	84	86
58	87	91	85	87
60	92	93	87	89

Individual Temperatures Recorded On The Door Leaf 25 mm Away From The Edges Of Doorset B

Time Mins	T/C Number 28 Deg. C	T/C Number 29 Deg. C	T/C Number 30 Deg. C	T/C Number 31 Deg. C
0	23	24	24	25
2	22	24	24	25
4	22	24	24	25
6	22	24	24	25
8	23	24	24	25
10	26	26	26	26
12	34	32	31	30
14	44	42	37	36
16	54	50	43	42
18	61	57	49	48
20	66	64	54	53
22	71	69	57	57
24	75	74	60	61
26	79	77	62	64
28	80	80	65	66
30	81	82	66	68
32	82	83	68	70
34	83	84	70	72
36	84	84	71	73
38	85	84	73	74
40	85	85	74	75
42	86	83	75	77
44	86	85	76	78
46	86	86	78	79
48	86	88	79	80
50	87	88	80	80
52	88	89	81	82
54	89	89	82	82
56	90	90	83	83
58	91	91	85	84
60	93	94	86	86

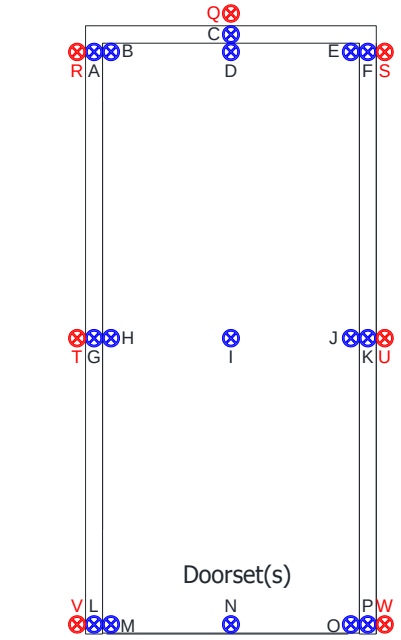
Individual Temperatures Recorded On The Letter Plates And Above On Leaf A

Time Mins	T/C Number 36 Deg. C	T/C Number 37 Deg. C	T/C Number 38 Deg. C	T/C Number 39 Deg. C
0	24	24	23	24
2	24	24	23	24
4	32	24	23	24
6	49	27	30	24
8	64	34	42	25
10	77	46	41	28
12	81	49	45	33
14	82	50	46	38
16	83	54	52	45
18	83	57	54	50
20	82	59	54	52
22	84	62	58	56
24	85	64	62	58
26	87	66	67	61
28	89	68	69	63
30	88	69	71	65
32	92	71	76	68
34	94	72	80	70
36	98	73	83	72
38	99	75	87	74
40	109	77	92	76
42	148	82	97	78
44	167	88	103	80
46	173	91	109	82
48	180	93	114	84
50	192	95	119	86
52	205	98	125	88
54	218	100	131	90
56	233	105	139	92
58	249	123	145	94
60	343	342	152	98

Individual Temperatures Recorded On The Letter Plates And Above On Leaf B

Time Mins	T/C Number 40 Deg. C	T/C Number 41 Deg. C	T/C Number 42 Deg. C	T/C Number 43 Deg. C
0	23	23	22	23
2	24	23	22	23
4	26	23	23	23
6	36	23	29	23
8	57	26	42	24
10	64	31	53	27
12	96	42	64	33
14	134	59	61	40
16	133	65	65	46
18	122	66	68	51
20	115	66	66	54
22	115	67	67	57
24	119	68	71	59
26	123	70	79	62
28	124	70	82	64
30	124	71	86	65
32	128	73	90	68
34	134	74	94	70
36	143	76	98	72
38	151	77	104	73
40	159	79	112	75
42	167	81	124	78
44	173	82	138	79
46	179	84	152	82
48	184	85	164	84
50	189	87	175	87
52	194	89	185	89
54	199	91	195	90
56	206	101	206	92
58	213	114	217	95
60	222	171	231	174

Horizontal Deflections Of Leaf A



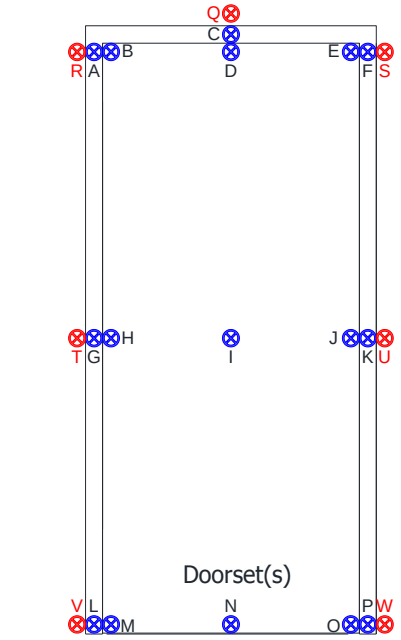
⊗ Positions of deflection measurements
⊗ Positions of additional deflection measurements (constructions other than masonry)

Leaf reference : A									
Deflections - mm									
Time-Mins	B	D	E	H	I	J	M	N	O
0	0	0	0	0	0	0	0	0	0
5	-10	44	21	-3	-3	4	1	-10	0
10	-6	-2	16	8	-1	-1	3	-5	5
15	-3	7	11	0	-5	0	-8	-6	7
20	0	0	10	-4	-5	-3	0	-8	9
25	0	0	0	0	0	0	0	0	0
30	6	8	14	-2	-8	-4	-3	-9	3
35	-2	-1	11	-4	-9	0	7	-6	4
40	6	-2	12	-3	-12	-4	2	-7	3
45	3	2	5	-5	-17	-2	-33	-9	6
50	0	0	0	0	0	0	0	0	0
55	6	-3	8	-6	-19	-5	8	-2	9
60	*	*	*	*	*	*	*	*	*

*indicates test discontinued before having time to take deflections

Positive values indicate movement towards the furnace

Horizontal Deflections Of Leaf B



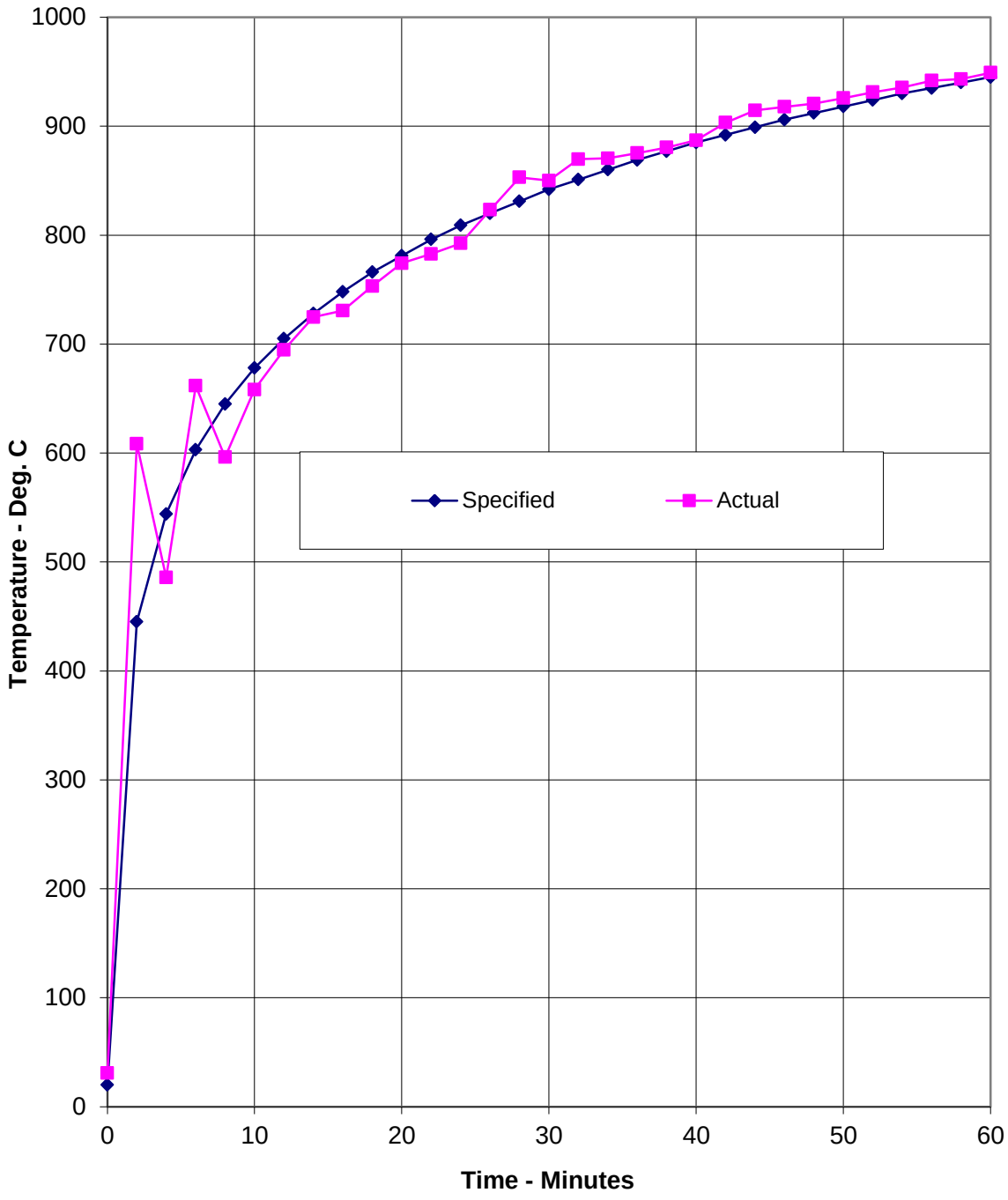
⊗ Positions of deflection measurements
⊗ Positions of additional deflection measurements (constructions other than masonry)

Leaf reference : B									
Deflections - mm									
Time-Mins	B	D	E	H	I	J	M	N	O
0	0	0	0	0	0	0	0	0	0
5	5	-14	-13	0	-3	-2	-5	-11	1
10	5	5	-11	-2	-4	3	4	1	5
15	16	0	-10	-3	-6	-1	13	12	16
20	7	6	-4	-3	-8	-1	8	2	3
25	0	0	0	0	0	0	0	0	0
30	-3	7	-5	-7	-9	-6	0	1	4
35	12	13	-8	-10	-19	-1	2	2	6
40	12	16	-8	-10	-19	-1	73	-5	2
45	9	0	-1	-7	-14	-1	5	0	9
50	0	0	0	0	0	0	0	0	0
55	2	-22	-12	-12	-28	-7	0	-5	-1
60	*	*	*	*	*	*	*	*	*

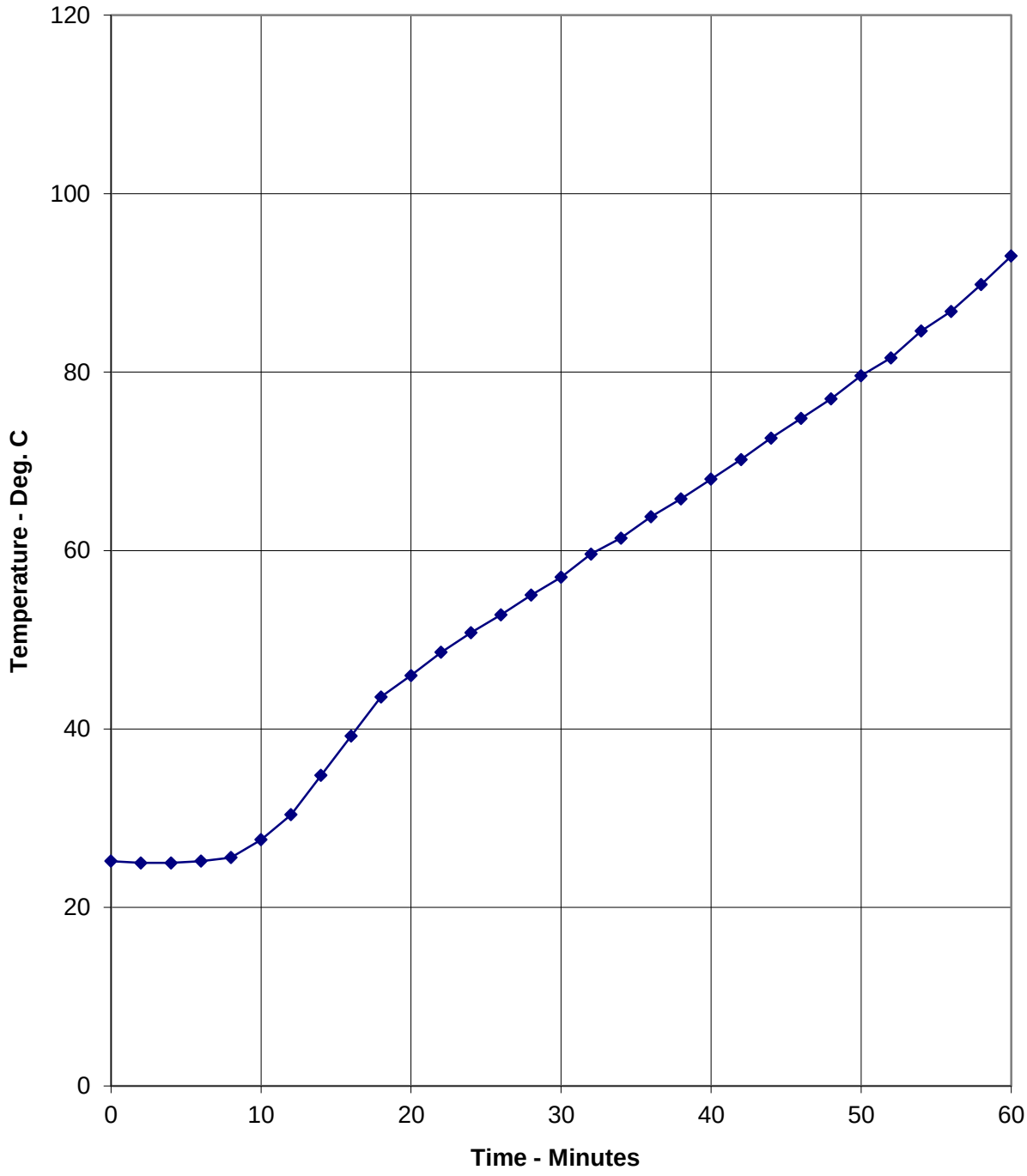
*Indicates test discontinued before having time to take deflections

Positive values indicate movement towards the furnace

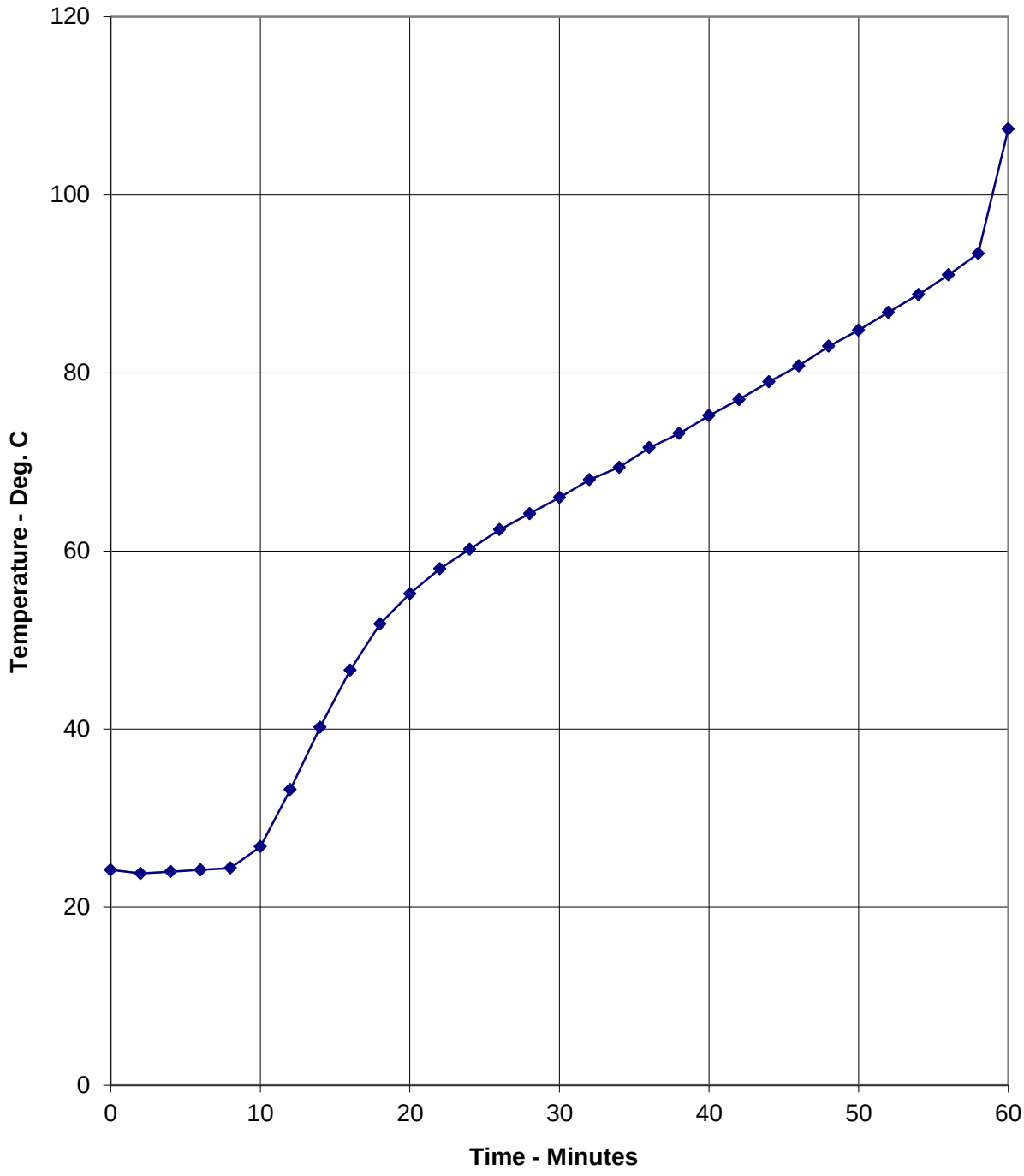
Graph showing mean furnace temperature, together with the temperature/time relationship specified in BS EN 1363-1: 2012



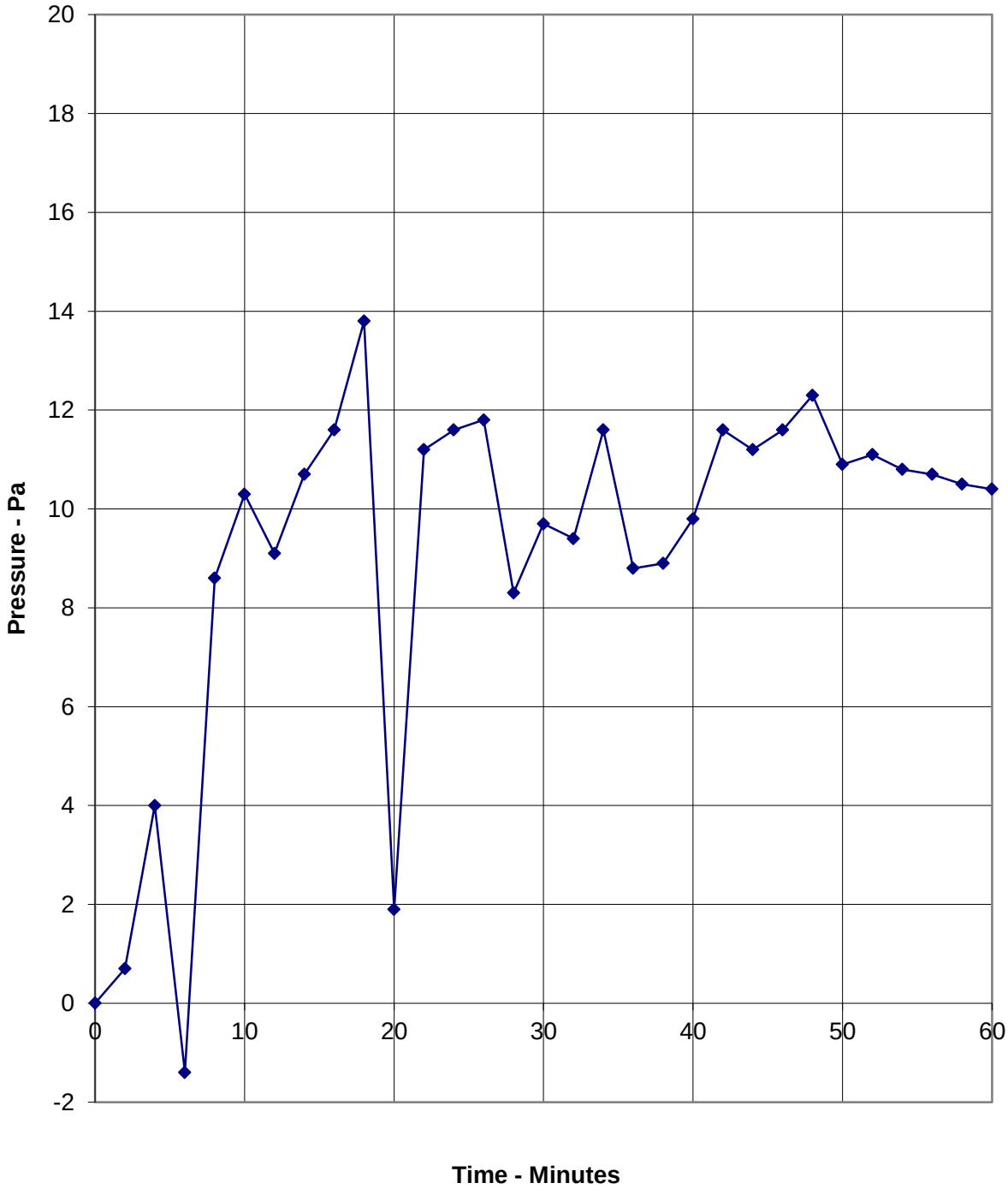
Graph Showing Mean Temperatures Recorded On The Unexposed Surface Of Leaf A



Graph Showing Mean Temperatures Recorded On The Unexposed Surface Of Leaf B



Graph showing recorded furnace pressure at the head of the Doorset



On-going Implications

Limitations

This report details the method of construction, the test conditions and the results obtained when the specific elements of construction described herein were tested following the procedure outlined in BS EN 1363-1: 2012, and where appropriate BS EN 1363-2: 1999. 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. Annex A of BS EN 1363-1: 2012, provides guidance information on the application of fire resistance tests and the interpretation of test data.

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 supersedes the issue 3 dated 20 May 2025

EGOLF

Certain aspects of some fire test specifications are open to different interpretations. EGOLF have identified a number of such areas and have agreed Resolutions which define common agreement of interpretations between fire test laboratories which are members of the Groups. Where such Resolutions are applicable to this test they have been followed

Field of Direct Application

General

The field of direct application defines the allowable changes to the test specimen following a successful fire resistance test. These variations can be applied automatically without the need for the sponsor to seek additional evaluation, calculation or approval.

Materials And Constructions, General

Unless otherwise stated in the following text, the materials and construction of the doorset or openable window shall be the same as that tested. The number of leaves and the mode of operation (e.g. sliding, single action or double action) shall not be changed.

Specific Restrictions On Materials And Construction (Timber Constructions)

The thickness of the door panel(s) shall not be reduced but may be increased.

The door panel thickness and/or density may be increased provided the total increase in weight is not greater than 25 %.

For timber based board products (e.g. particle board, blockboard, etc), the composition (e.g. type of resin) shall not change from that tested. The density shall not be reduced but may be increased.

The cross-sectional dimensions and/or the density of the timber frames (including rebates) shall not be reduced but may be increased.

Fixings

The number of fixings per unit length used to attach doorsets to supporting constructions may be increased, but shall not be decreased and the distance between fixings may be reduced but shall not be increased.

Building Hardware

The number of hinges and dog bolts may be increased but shall not be decreased.

NOTE 1 The number of movement restrictors such as locks and latches is not covered by direct application.

Where a doorset has been tested with a door closing device fitted, but with the retention force released in accordance with 10.1.4, the doorset may be provided either with or without that closing device, i.e. where self closing characteristics are not required.

NOTE 2 Interchange of building hardware is not covered by the field of direct application.

Other changes

For smaller doorset sizes the relative positioning of movement restrictors (e.g. hinges and latches) shall remain the same as tested or any change to the distances between them will be limited to the same percentage reduction as the decrease of test specimen size.

For larger doorset sizes the following shall also apply:

a) the height of the latch above floor level shall be equal to or greater than the tested height, and such increase in height shall be at least proportional to the increase in door height;

b) the distance of the top hinge from the top of door leaf shall be equal to or less than that tested;

c) the distance of the bottom hinge from bottom of door leaf shall be equal to or less than that tested;

d) where three hinges or distortion preventers are used, the distance between the bottom of the door leaf and centre restraint shall be equal to or greater than that tested.

Asymmetrical assemblies

EN 1363-1 states that for separating elements required to be fire resisting from both sides, two test specimens shall be tested (one from each direction) unless the element is fully symmetrical, i.e. the construction of the doorset is identical on both sides of the centre line when viewed in plan (from above). However, in some cases it is possible to develop rules whereby the fire resistance of an asymmetrical door assembly tested in one direction can apply when the fire exposure is from the other direction. The possibility to develop such rules increases if the consideration is limited to certain types of door assembly and on the criteria being applicable (e.g. integrity only doors). The following rules represent the minimum level of common agreement which shall be followed. The rationale behind the rules is given in Annex C.

Specific Rules

The rules governing the applicability of tests carried out in one direction to other directions are given in Table 2 and are based on the following premises:

— that each of the door leaves are themselves of symmetrical construction with the exception of the edges (e.g. lock/leading edge and hinge edge or double rebated doors);

— that any restraining/supporting elements of building hardware has been included in a test to EN 1634-1 when exposed in both directions so that they will retain their function when exposed to the heat of the test;

— that there is no change in the number of leaves or the mode of operation (e.g. sliding, swinging, single action or double action);

— that side, over and transom panels are excluded from Table 2 unless they are fully symmetrical.

Table 2 lists the type of door assembly for which rules can be generated and gives the direction in which it should be tested to cover the opposite direction. The separate columns for the integrity and insulation criteria reflect the different ability to make rules for integrity only doors as opposed to those which satisfy both criteria. A 'Yes' means that it is possible to identify the direction of test which covers the opposite direction. A 'No' indicates that it is not possible to identify the direction which will cover the opposite direction.

Table 2 — Type of doorset and direction to be tested to cover the opposite direction

Type of doorset	Direction to be tested to cover opposite direction	Integrity	Insulation	Radiation
Hinged or pivoted, timber leaf, timber frame	Opening into the furnace	yes	yes	yes
Hinged or pivoted, timber leaf, metal frame (no transom)	Opening into the furnace	yes	no	yes
Hinged, metal leaf, metal frame (not pivoted)	Opening away from Furnace	yes	no	yes
Rolling shutter	Barrel and supporting components fixed on the face of the supporting wall on the fire side	yes	no	no
Sliding/folding	Sliding/folding supporting components fixed on the face of the supporting wall on the fire side	yes	no	no
Operable fabric curtains	Not possible to define a scenario			

[a] This only applies to doors without insulation in the core and with a movement restrictor at approximately mid-height on the hinge side.

Supporting Constructions

The fire resistance of a door assembly tested in one form of standard supporting construction may or may not apply when it is mounted in other types of construction. Generally, the rigid and flexible types are not interchangeable and rules governing the direct application within each group are given in 13.5.2 to 13.5.4. However, in some cases it is possible for the result of a test on a particular type of door assembly tested in one form of standard supporting construction to be applicable to that door assembly when mounted in a different type of standard supporting construction. Specific rules governing the situation for hinged and pivoted door assemblies are given in 13.5.4. The rationale behind the rules is given in Annex C.

Rigid standard supporting constructions (high or low density)

The fire resistance of a doorset tested in a high or low density rigid standard supporting construction as specified in EN 1363-1 can be applied to a doorset mounted in the same manner in a wall provided the density and the thickness of the wall are equal to or greater than that in which the doorset was tested.

Specific rules for hinged or pivoted doorsets

a) For timber door leaves hung in timber frames, the result of a test in a rigid standard supporting construction is applicable to that door assembly mounted in a flexible construction.

b) For timber door leaves hung in timber frames, the result of a test in a flexible standard supporting construction is applicable to that door assembly mounted in a rigid construction.

c) For timber door leaves hung in metal frames, the result of a test in a flexible standard supporting construction is applicable to that door assembly mounted in a rigid construction but not vice versa.

d) For insulated metal door leaves hung in metal frames, there is no applicability of results in rigid standard supporting construction to flexible constructions or vice versa; to cover rigid and flexible types, tests shall be undertaken in each type of standard supporting construction.

e) For uninsulated metal doors, the result of a test in a rigid standard supporting construction is applicable to that door assembly mounted in a flexible construction, but not vice versa.

The rules above assume that the fixing methods used in each type of supporting construction are appropriate to that construction. Thus for example in a), the test on the timber door leaf in a timber frame will have been carried out with appropriate fixings for timber frames in rigid constructions. The result is applicable to a timber door leaf in a timber frame mounted into a flexible construction with appropriate fixings for timber frames in flexible constructions.

Associated supporting construction

The fire resistance of a door tested in an associated supporting construction has no field of direct application. The applicability of the result to other supporting constructions shall be the subject of extended application.

Sample Report

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Sample Report

This report provides a record of the information relating to samples taken by Warringtonfire Testing and Certification Limited trading, or its agent, for certification of the products detailed below.

Job No.	A0-106117
Certificate Number (if applicable)	—
Manufacturer	NINGBO TAANBAO HENGXI IMPORT & EXPORT CO. LTD.
Manufacturing site	508 FENGMING ROAD, XIEPU TOWN, 315204 ZHENHAI, CHINA.
Place of sampling	Hoppe Limited, Gailey Park, Gravelly Way, Standeford, Wolverhampton. WV1 7GW.
Traceability information	Date/time of production: Production unit/line: SAMPLED FROM STOCK. Batch number: BATCH No. 2424568 Shift:
Product Details: • Name • Product Number (if applicable) • Description	ARRONE TS008 LETTERPLATE AR708HS-PCH & INTUMESCENT ELEMENTS (SUB-COMPONENTS) WERE ALSO SAMPLED - SEE BELOW DETAILS.
Marking of the product by the manufacturer e.g. label, batch number and date of manufacture	PRODUCT IDENTIFIED WITH HOPPE PRODUCT LABEL.
Marking of the samples by Warringtonfire Testing and Certification Limited	Job No: AO-106117 Date: 15/08/2024 Signature or initials: AW
Stock/batch quantity from which samples selected and sample quantity	STOCK QTY 8 UNITS STOCK LOCATION 99999. SAMPLED QTY 8 UNITS.
Results of tests and/or inspections during manufacture	SAMPLED FROM STOCK - AS PER ORDER CONFIRMATION 71026050-1 (SEE ATTACHED).
Essential characteristics to be tested i.e. Test Reference	FIRE RESISTANCE
Samples to be dispatched by manufacturer to *** within *** weeks/month(s)	TO BE DESPATCHED BY 19/8/24
Date of sampling	15/08/2024
Warringtonfire Testing and Certification Limited UK Approved Body Number	1121

INTUMESCENT SEALING – SUB-COMPONENTS. (MANN MCGOLIAN FABRICATIONS) SUPPLIER.
15 x 11 INTUMESCENT TUBE 30 UNITS. SAMPLED (CLIENT REQUIRES 2 ADDITIONAL TUBE TO FOLLOW)
INTUMESCENT SEAL ARTICLE No 2 – SAMPLE QTY 10 UNITS – TOTAL BATCH SIZE 19.
INTUMESCENT SEAL ARTICLE No 1 – SAMPLE QTY 10 UNITS – TOTAL BATCH SIZE 160
INTUMESCENT SEAL ARTICLE No 5 – SAMPLE QTY 8 UNITS – TOTAL BATCH SIZE 18
INTUMESCENT SEAL ARTICLE No 4 – SAMPLE QTY 30 UNITS – TOTAL BATCH SIZE 100.