

CONFIDENTIAL

ADDITIONAL TEST REPORT
Test Report : Chilt/RF01059A(AR1)

**A fire resistance test performed on
a single acting, single leaf doorset**

Test conducted in accordance with BS 476 : Part 22 : 1987

Test Date: 16 July 2001

Test for : Springfarm Architectural Mouldings Ltd
Newpark Industrial Estate
Greystone Road
Antrim
BT41 2DU

Page 1 of 14

The details of the sponsor of test report Chilt/RF01059A are held on file by Chiltern International Fire Ltd. This report is additional to that issued as Chilt/RF01059A and dated 26 October 2001 and the original report shall remain valid and is not replaced by the additional report.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

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No. 1762

Chiltern International Fire Limited

A member of the TTL Chiltern Group of companies

Registered Office:

Chiltern House, Stocking Lane, Hughenden Valley,
High Wycombe, Buckinghamshire HP14 4ND, UK

Registered Number 3125010 England

CONTENTS

	Page No
INTRODUCTION	3
2. SPECIFICATION	3
2. Door leaf	3
Door perimeter gaps	3
2.3 Closer forces	3
3. TEST CONDITIONS	4
4. TEST RESULTS	5
4.1 Furnace temperature curve	5
4.2 Unexposed face temperature curve	5
4.3 Door distortion data	6
Observations	7
Times to failure	8
5. LIMITATIONS	8
DESCRIPTION OF CONSTRUCTION	9
FIGURE 1	11
FIGURE 2	12
FIGURE 3	13
FIGURE 4	14

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1. Introduction

The door leaf and frame components were delivered to Chiltern International Fire Limited (CIFL) on 3 July 2001. CIFL further produced the doorset, constructed a timber stud/plasterboard clad partition and installed the doorset into the partition.

Two doorsets were tested, only one of which is the subject of this report. The other doorset is reported in test report number Chilt/RF01059B.

2. Specification

Details of the specimen are shown in Figures 1 to 4.

2.1 Door leaves

The leaf measured 2040mm high x 825mm wide x 44mm thick and was hung to open in towards the furnace, which is considered to be the most onerous direction based on experience of testing doors of similar construction. It is therefore the opinion of the laboratory that the test results can be applied to doors opening in either direction. The results of this test were obtained from a door fitted with a latch but disengaged.

2.2 Door perimeter gaps

The gaps between the edge of the door and frame were measured prior to test. A total of 12 readings were taken. The measurements (in mm) are given in Figure 4.

2.3 Closer Forces

Measured in accordance with FTSG Resolution No 63.

Opening Force (Nm)	Closing Force (Nm)
26	17

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3. Test Conditions

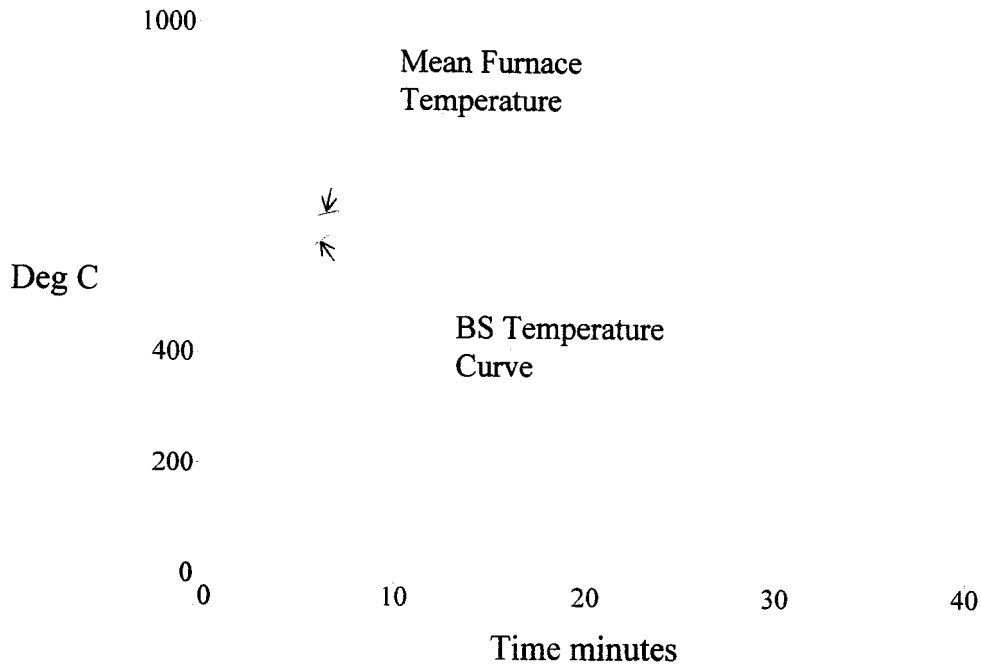
3. Where areas of the test specification are ambiguous or open to interpretation the Fire Test Study Group Resolutions No's 51, 63, 70, 71, 72 and 78 have been followed (further specific details are available on request). These Resolutions provide basis of common agreements between the fire test laboratories which are members of this Group.
- 3.2 The ambient temperature of the test area at commencement of test was 19°C.
- 3.3 After the first 5 minutes of the test, the furnace pressure was maintained at 0 ± 2 Pa with respect to atmosphere, at a point 1m from the notional floor level.
- 3.4 The furnace was controlled to follow the temperature/time relationship specified in BS 476: Part 20: 1987 as closely as possible, using the average of six thermocouples suitably distributed within the furnace. The temperatures recorded are shown graphically in Section 4.1.
- 3.5 The temperature of the unexposed face was monitored by means of five thermocouples fixed to the surface of the door leaf, and three thermocouples attached to the frame, one at midheight on each jamb, one centrally located above the leaf on the frame head. The thermocouple positions are shown in Figure 4. The average temperature of the door leaf and maximum temperature of the doorset are shown graphically in Section 4.2.

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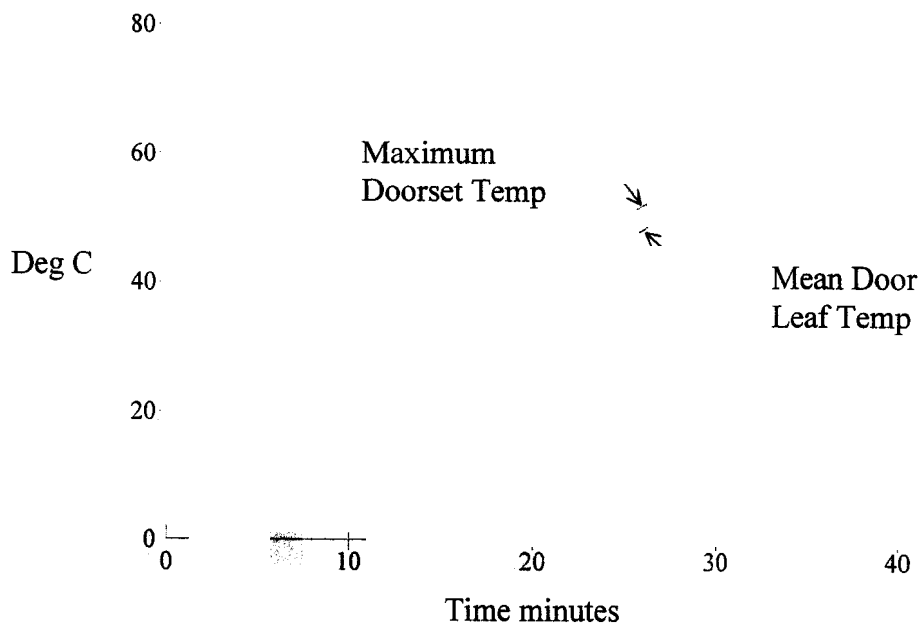
4. Test Results

The following data and observations were recorded during the test.

4.1 Furnace temperature curve



4.2 Unexposed face temperature curves



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4.3 Door Distortion Data

The following tables show the distortion of the doors in mm.

A positive measurement indicates distortion towards the fire.

A negative measurement indicates distortion away from the fire.

J, K and L give vertical movement of the door, a negative reading indicates that the door has dropped.

A	B	C
D	E	F
G	H	I
	K	L

Doorset (hung on the right and opening in towards the fire)

Time	A	B	C	D	E	F	G	H	I	J	K	L
10	5	1	1.5	-1	-1	0	7	6	1	-2	4	-2.5
20	12.5	3	6	-1	-5	-2	9	6	2	-4.5	-5	-3.5
30	17	7.5	11	-1	-5	-1	8	5	2	-5.5	-5.5	-4

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4.4 Observations

All comments relate to the unexposed face unless otherwise specified.

Time	Comments
	Test started.
	There is smoke issuing from around the perimeter of the leaf.
06.51	There is smoke issuing from the top hinge position.
1 01	There is a decrease in the level of smoke issuing from along the hanging edge.
19.38	There are fissures in the lipping around the top hinge position.
26.12	There is a glow visible at the top hinge position.
28.59	A cotton pad integrity test was performed at the top hinge position, no failure. A cotton pad integrity test was performed at the top hinge position, no failure. There is intermittent flaming from the top hanging corner of the leaf. There is a glow visible at the top closing corner of the leaf.
39.14	A cotton pad integrity test was performed at the top closing corner of the leaf, no failure.
39.46	There is continuous flaming from the top closing corner of the leaf thereby constituting INTEGRITY FAILURE .
40.55	Test terminated.

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4.5 Times to failure

When tested in accordance with BS 476: Part 22: 1987, Method 6, Determination of fire resistance of fully insulated doorsets and shutter assemblies, the requirements of the standard were satisfied for the following periods:

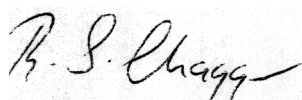
Integrity	39 (thirty nine) minutes
Insulation	39 (thirty nine) minutes

5. Limitations

The results only relate to the behaviour of the element of construction under the particular conditions of test; they are not intended to be the sole criteria for assessing the potential fire performance of the element in use nor do they reflect the actual behaviour in fires.

The results of this test were obtained using the door to frame gaps recorded in Figure 4. The fire resistance performance of doors of this design may change if substantially different gaps are employed.

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over 5 years old should be considered by the user. CIFL will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.



R S CHAGGER
Fire Test Engineer



J J OSBORN
Laboratory Manager

Date of issue: 26/10/01

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Description of Construction (refers to Figures 1 to 4)

Leaf

	Species/type	Dimensions (mm)	Density (kg/m ³)	Moisture (% w/w)	Key to figures
Stiles	None fitted	-	-	-	-
Rails	None fitted	-	-	-	-
Core	Halspan™ 3 layer particleboard	44 thick	-	7	1
Facings	None fitted	-	-	-	-
Adhesive	Lipping Urea formaldehyde	-	-	-	-
Lippings - vertical edges only	Sapele	10 thick	640*	8.5	2

* Nominal density

Door frame

	Species/type	Dimensions (mm)	Density (kg/m ³)	Moisture (% w/w)	Key to figures
Head & Jambs	SAM MDF (primed) door frame	120 wide x 30 thick	730-750*	7	3
Stops	SAM MDF (primed) planted stop (pinned)	12 deep x 32 wide	730-750*	7	4
Architrave	SAM MDF (primed) architrave	70 wide x 20 thick	730-750*	7	5
Threshold	Non combustible	-	-	-	-

Stated density not checked by laboratory

Intumescent materials

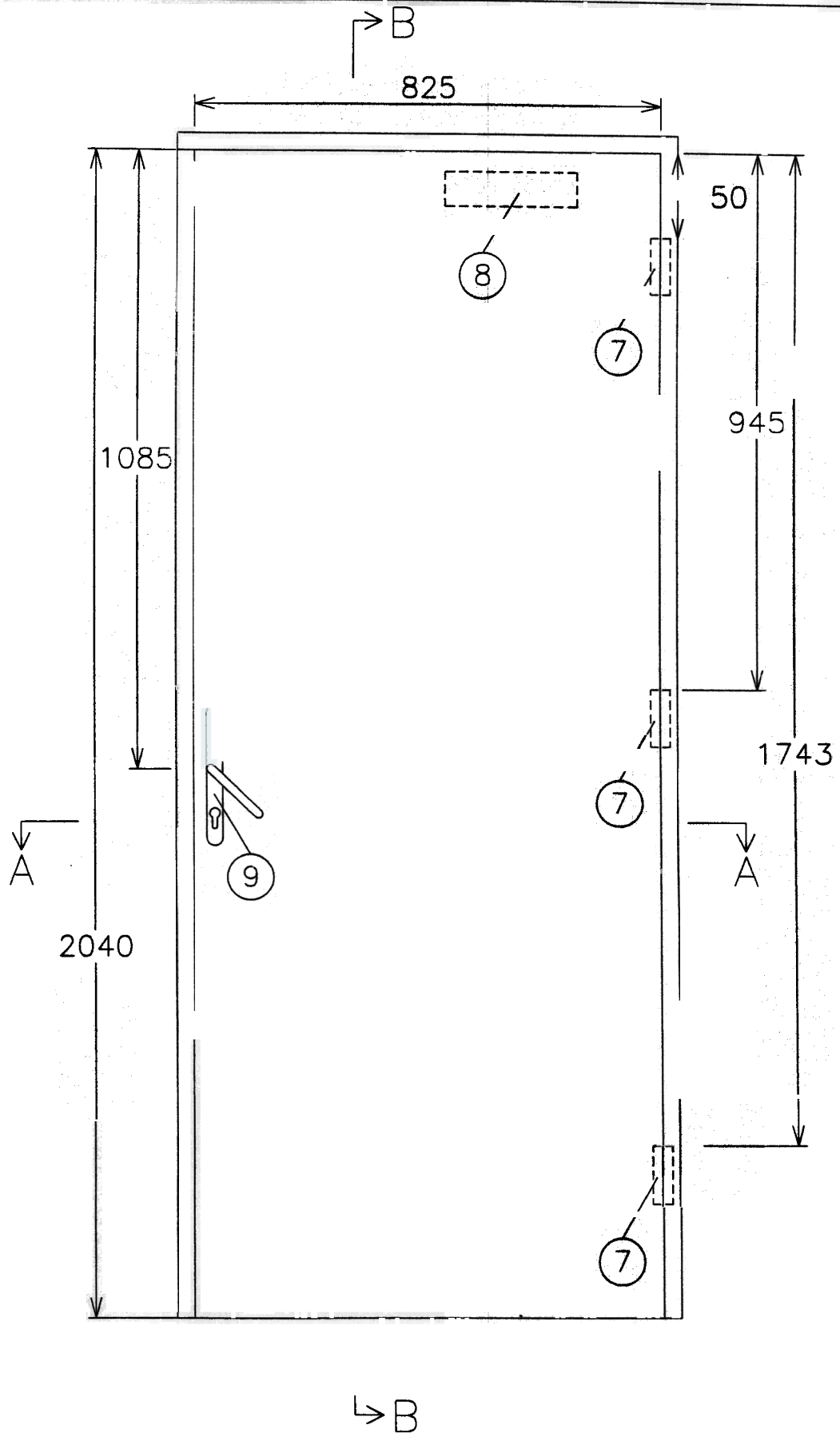
	Make/type	Size (mm)	Location	Key to figures
Door edges	None fitted	-	-	-
Frame reveal	Head I No Intumescent Seals Ltd Therm-A-Seal strip	10 x 4	Centrally fitted in the frame reveal	6
	Jambs I No Intumescent Seals Ltd Therm-A-Seal strip	10 x 4	Centrally fitted in the frame reveal	6
Around hinges	Fully interrupted	-	Fully interrupted at the hinge positions	-
Under hinge blade	None fitted	-	-	-
Encasing latch body	None fitted	-	-	-
Under latch forend	None fitted	-	-	-
Under latch keep	None fitted	-	-	-

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Ironmongery

	Make/type	Size (mm)	Location	Key to figures
Hinges	3 No Royde & Tucker H105 lift off hinges	100 x 35 (blade size)	Fitted 150, 945 and 1743 down from the head of the leaf	7
Closer	Dorma Door Controls Ltd TS73V	233 x 60 (footprint size)	Fitted to the exposed face as per manufacturer's instructions	8
Latch	Henderson Hardware Ltd tubular mortise latch - disengaged	57 x 26 (forend size)	Fitted 1085 from the head of the leaf to the middle of the nib	-
Furniture	Aluminium lever handles	100 x 40	Fitted 1035 from the head of the leaf to the top of the handle	9

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Chiltern
INTERNATIONAL FIRE

Chiltern House, Stocking Lane, Hughenden Valley
High Wycombe, Buckinghamshire, HP14 4ND, UK.

Tel: +44 (0)1494 569800 Fax: +44 (0)1494 564895

B

Title
Unexposed face elevation showing
ironmongery positions

Date Drawn

29/08/01

Drawn By

HSM

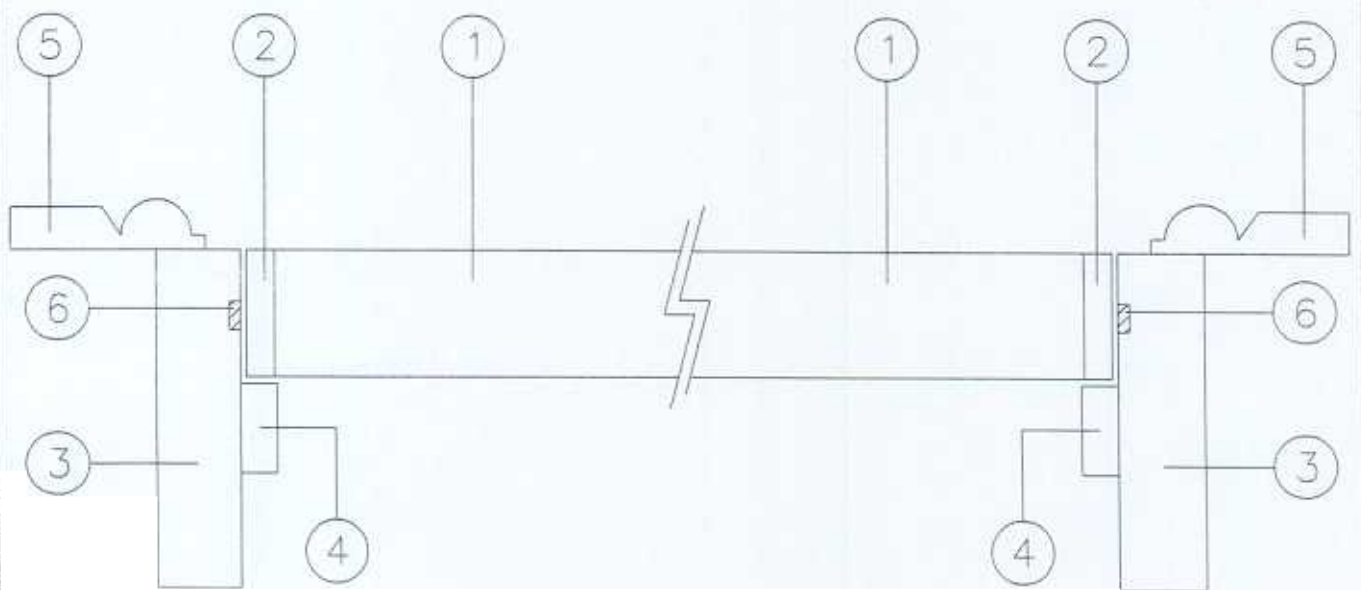
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Page 11 of 14



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INTERNATIONAL FIRE

Chiltern House, Stocking Lane, Hughenden Valley

High Wycombe, Buckinghamshire, HP14 4ND, UK.

Tel: +44 (0)1494 569800 Fax: +44 (0)1494 564895

Title

Horizontal Cross Section A-A

Date Drawn

29/08/01

Drawn By

RSC

Scale

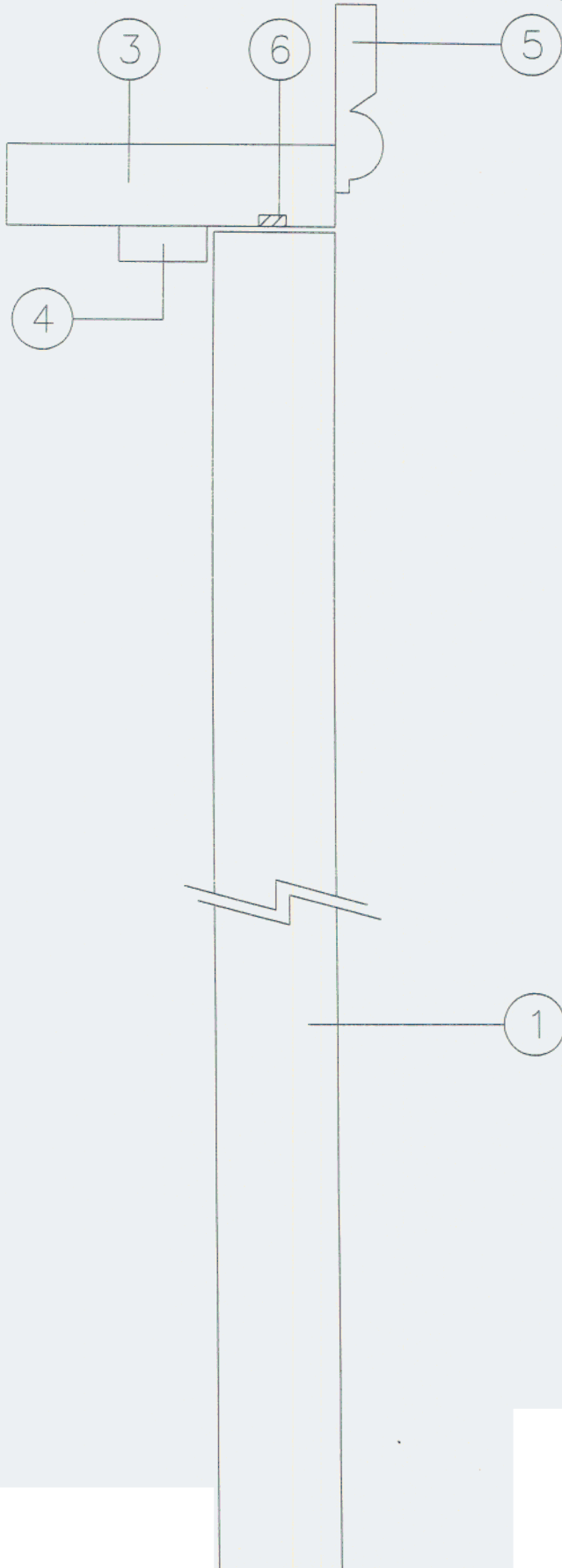
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Page 12 of 4

Figure 3 of 4



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Chiltern House, Stocking Lane, Hughenden Valley
High Wycombe, Buckinghamshire, HP14 4ND, UK.

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Title
Vertical Section B-B

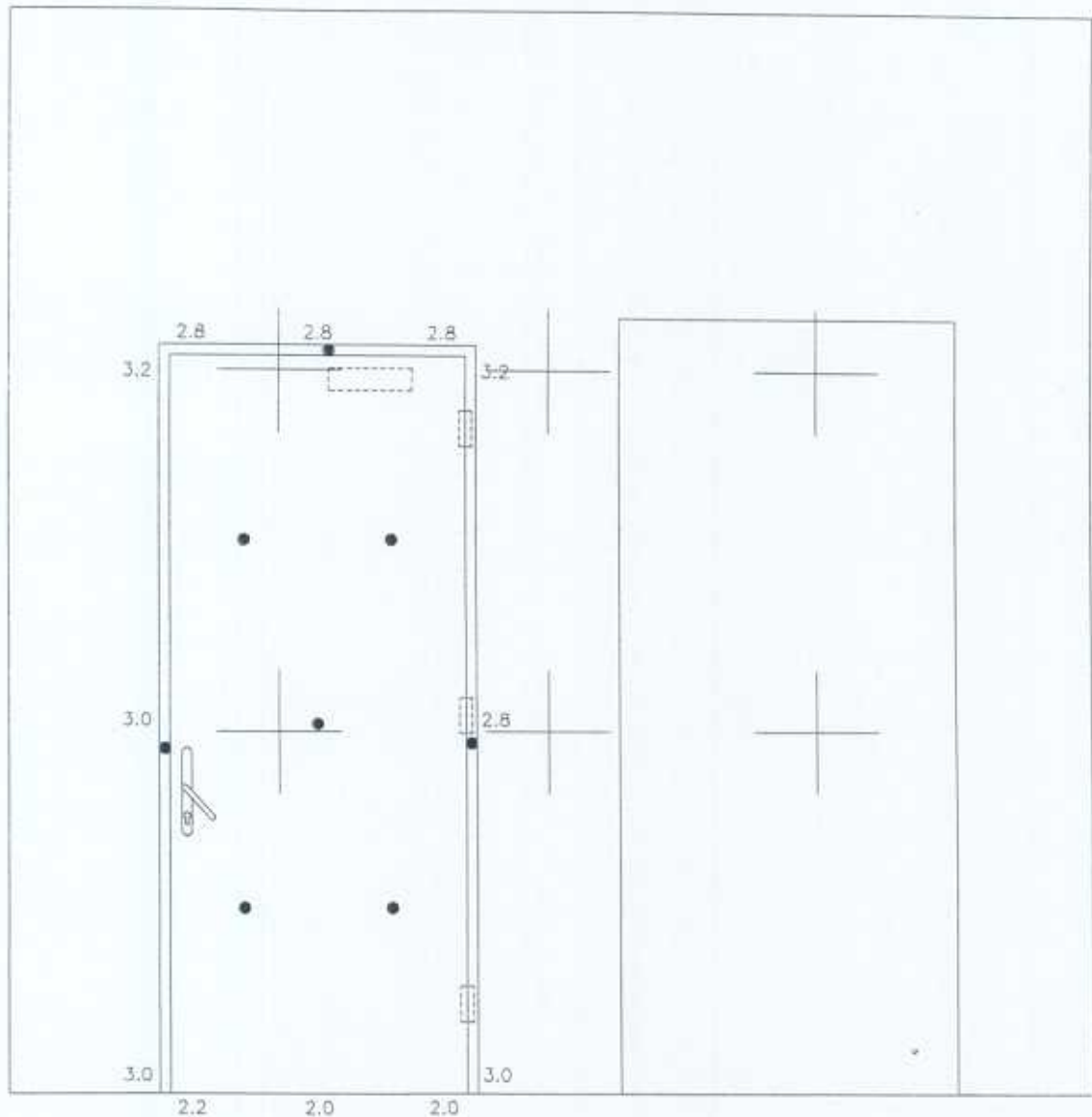
Date Drawn
29/08/01

Drawn By
RSC

Scale
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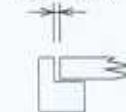
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Page 13 of 14



- + : Furnace Thermocouples
- : Unexposed Face Thermocouples

Gaps Shown



Viewed From Unexposed Face

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Chiltern House, Stocking Lane, Hughenden Valley

High Wycombe, Buckinghamshire, HP14 4ND, UK.

Tel: +44 (0)1494 569800. Fax: +44 (0)1494 564895

Title

Thermocouple positions and door gaps (mm)

Date Drawn

29/08/01

Drawn By

RSC

Scale

NTS

Project No.

Chilt/RF01059A

Page 14 of 14