

Title:

Indicative fire test

WF Report No:

175102



Prepared for:

**Samuel Heath & Sons
PLC**

Leopold Street
Birmingham
B12 0UJ

Date: 23rd July 2008



Indicative Fire Test

We have pleasure in enclosing the information obtained from the indicative fire test conducted on your behalf on the 14th July 2008.

The information enclosed relates to an investigation which utilised the heating conditions given in BS 476: Part 20: 1987, the full requirements of the Standard were not, however, complied with. The information is provided for the test sponsor's information only and should not be used to demonstrate performance against the Standard nor compliance with a regulatory requirement.

The test was not conducted under the requirements of UKAS accreditation.

The purpose of the test was to provide an indication of the performance of a timber door leaf construction incorporating a Perko – Powermatic R100 door closer, when exposed to the heating conditions specified in BS 476: Part 20: 1987.

The doorset had overall dimensions of 990 mm high by 990 mm wide and incorporated a section of door leaf nominally 44 mm thick consisting of a graduated density chipboard core and hardwood lippings to the vertical edges. The door leaf was hung within a hardwood door frame on two steel hinges. The doorset was provided with a Perko – 'Powermatic R100' door closer which was bedded on intumescent mastic and fixed to the trailing edge of the leaf.

The specimen formed the front vertical face of a one metre cubed gas fired furnace chamber, the temperature rise of which was controlled to conform with the relationship given in BS 476: Part 20: 1987.

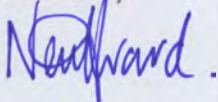
The following information relating to the test is enclosed:

- ◆ Table 1 - Specified and actual furnace temperatures
- ◆ Table 2 - Unexposed surface temperatures
- ◆ Graph 1 - Graph showing the specified and actual furnace temperatures
- ◆ Observations made during the test
- ◆ Test photographs

The test was discontinued after a period of 70 minutes.

We trust that the information obtained from the test will be useful to you

Yours faithfully



Responsible Officer

N. Howard*

Testing Officer

Fire Resistance Department

Bodycote **warringtonfire**

Table 1

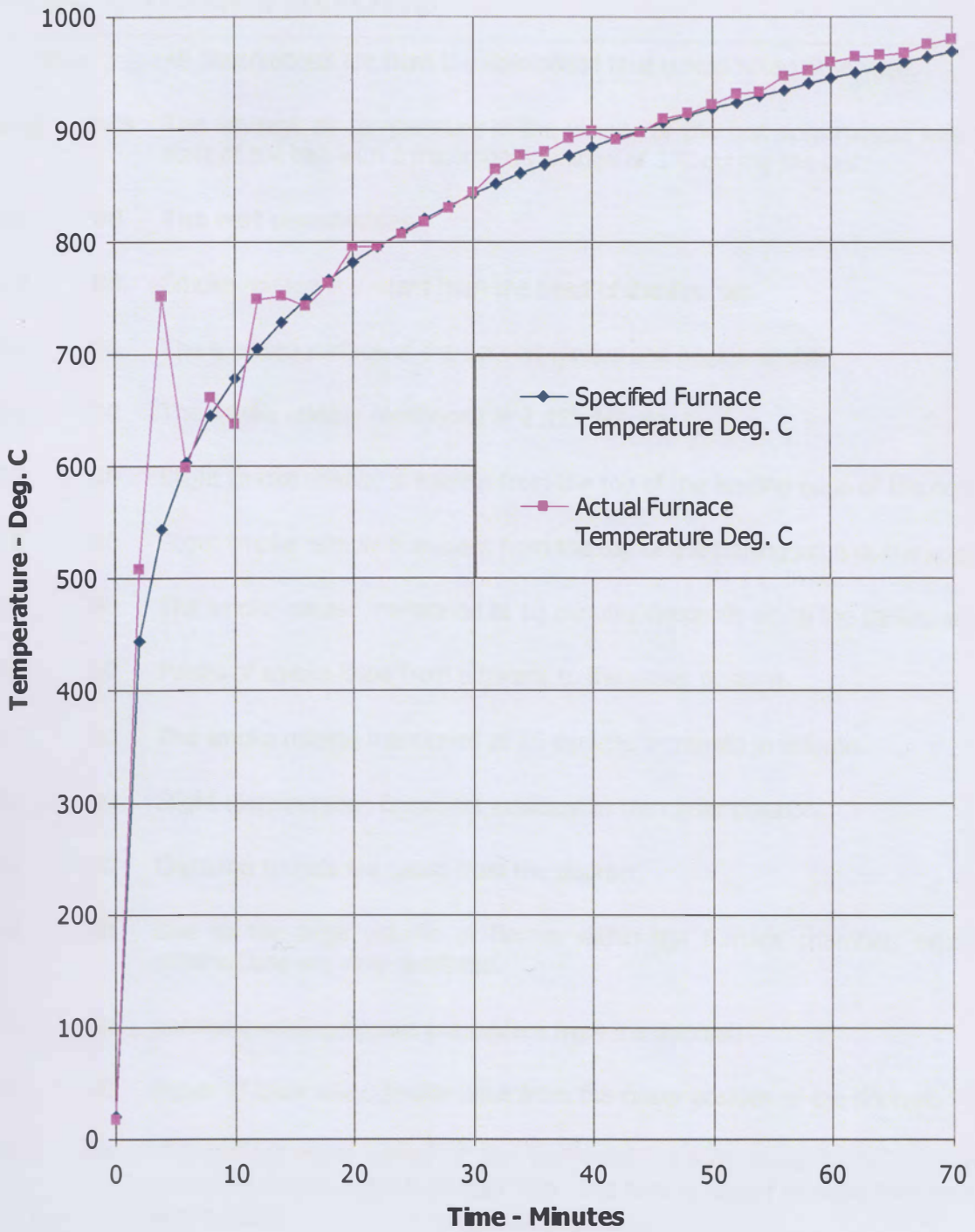
Time Mins	Specified Furnace Temperature Deg. C	Actual Furnace Temperature Deg. C
0	20	18
2	445	507
4	544	752
6	603	599
8	645	662
10	678	638
12	705	748
14	728	752
16	748	741
18	766	763
20	781	796
22	796	795
24	809	806
26	820	817
28	832	830
30	842	843
32	851	864
34	860	876
36	869	879
38	877	892
40	885	898
42	892	891
44	899	897
46	906	909
48	912	914
50	918	921
52	924	930
54	930	933
56	935	947
58	940	951
60	945	960
62	950	964
64	955	966
66	960	968
68	964	975
70	968	980

Table 2

Time Mins	T/C Number 8 Deg. C	T/C Number 10 Deg. C	T/C Number 11 Deg. C
0	18	18	20
2	18	18	20
4	19	18	20
6	20	18	20
8	19	18	20
10	19	18	20
12	19	18	20
14	19	19	*
16	20	19	
18	21	20	
20	23	21	
22	25	22	
24	27	23	
26	30	25	
28	32	26	
30	34	29	
32	37	31	
34	38	34	
36	41	36	
38	43	38	
40	45	41	
42	47	44	
44	49	47	
46	52	49	
48	54	53	51
50	56	55	51
52	59	59	52
54	61	62	53
56	64	66	55
58	67	70	57
60	69	73	59
62	72	76	61
64	75	80	63
66	78	83	66
68	80	86	67
70	81	88	69

* Thermocouple Malfunction

Graph 1

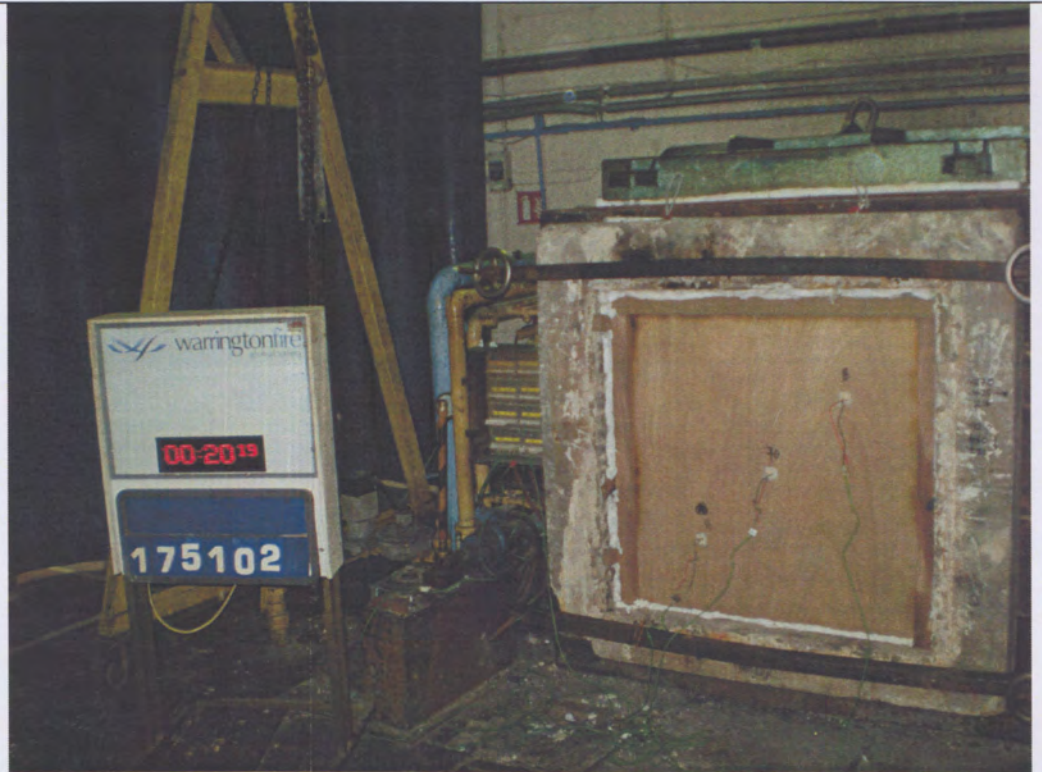


Test Observations

Time		All observations are from the unexposed face unless noted otherwise.
mins	secs	
00	00	The test commences.
02	00	Smoke release is evident from the head of the doorset.
04	00	The exposed surface of the doorset ignites and begins to char.
06	30	The smoke release mentioned at 2 minutes stops.
12	00	Slight smoke release is evident from the top of the leading edge of the doorset.
16	00	Slight smoke release is evident from the top of the trailing edge of the specimen.
22	00	The smoke release mentioned at 16 minutes descends along the trailing edge.
25	00	Pulses of smoke issue from adjacent to the closer position.
27	00	The smoke release mentioned at 25 minutes increases in volume.
32	00	Slight discolouration is evident adjacent to the closer position.
40	00	Crackling sounds are heard from the doorset.
50	00	Due to the large volume of flames within the furnace chamber, exposed surface observations are very restricted.
53	00	Further crackling sounds are evident from the doorset.
55	00	Pulses of thick white smoke issue from the closer position of the doorset.
58	00	The top left hand corner of the leaf visibly distorts towards the furnace chamber. Sustained flames issue from this area. The area is sealed to allow further examination of the closer.
60	00	There are no signs of flaming or loss of impermeability from the closer position.
65	00	No further significant visible changes are evident at this time.
70	00	There are no signs of flaming or loss of impermeability from the closer position. The test is discontinued at the sponsors request.

Test Photographs

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



The unexposed face of the doorset after a test duration of 30 minutes



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



The unexposed face of the doorset after a test duration of 70 minutes

