

Our Ref: JO/IF98020

31 July 1998

Mr D Ward  
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Dear Mr Ward

**Re: Indicative Fire Resistance Test IF98020**

This letter is to confirm that an indicative fire resistance test was performed on behalf of your company under the above reference on 8 June 1998.

The specimen comprised 2 No. Mild steel I beam sections each measuring 595mm high x 275mm wide x 260mm deep. The flanges measured 25mm thick and the web measured 15.5mm thick. One section was designated specimen A and the other specimen B.

Four Type K thermocouples were fitted to each of the I sections, two were fitted to the web and two to the flange prior to the application of any coatings.

The following coatings were applied over the entire surface of each specimen.

**Specimen A**

**Day One**

- 1) Envirograph Primer EP/FS/60P (8m<sup>2</sup>/kg)
- 2) Dulux gloss paint (8m<sup>2</sup>/l)
- 3) Beaver undercoat paint (8m<sup>2</sup>/l)

**Day Two (coatings dried with a hot air gun)**

- 4) Dulux gloss paint (8m<sup>2</sup>/l)
- 5) Beaver undercoat paint (8m<sup>2</sup>/l)
- 6) Dulux gloss paint (8m<sup>2</sup>/l)
- 7) Beaver undercoat paint (8m<sup>2</sup>/l)
- 8) Dulux gloss paint (8m<sup>2</sup>/l)

**Specimen B**

**Day One**

- 1) Envirograph Primer EP/FS/60P (8m<sup>2</sup>/kg)
- 2) Dulux gloss paint (8m<sup>2</sup>/l)
- 3) Beaver undercoat paint (8m<sup>2</sup>/l)

**Day Two (coatings dried with a hot air gun)**

- 4) Dulux gloss paint (8m<sup>2</sup>/l)
- 5) Beaver undercoat paint (8m<sup>2</sup>/l)
- 6) Dulux gloss paint (8m<sup>2</sup>/l)
- 7) Beaver undercoat paint (8m<sup>2</sup>/l)
- 8) Dulux gloss paint (8m<sup>2</sup>/l)

**Day Nine**

- 9) Envirograph Primer EP/FS/60P (8m<sup>2</sup>/kg)
- 10) EP/FS/60INT Intumescent (1800g/m<sup>2</sup>)
- 11) EP/FS/60INT Intumescent (1800g/m<sup>2</sup>)
- 12) FP/FS/60TC Top Coat (8m<sup>2</sup>/kg)

The test was conducted on **Day Forty Nine (49)**.

The specimens were sited centrally on the floor of the furnace, 150mm apart. The furnace was controlled to the time/temperature curve outlined in BS 476: Part 20: 1987.

**Chiltern International Fire Limited**  
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The temperature of each specimen was recorded from each of the four thermocouples for a period of 150 minutes. The comparative results of the two sections can be seen in table 1 and graphically in figure 1.

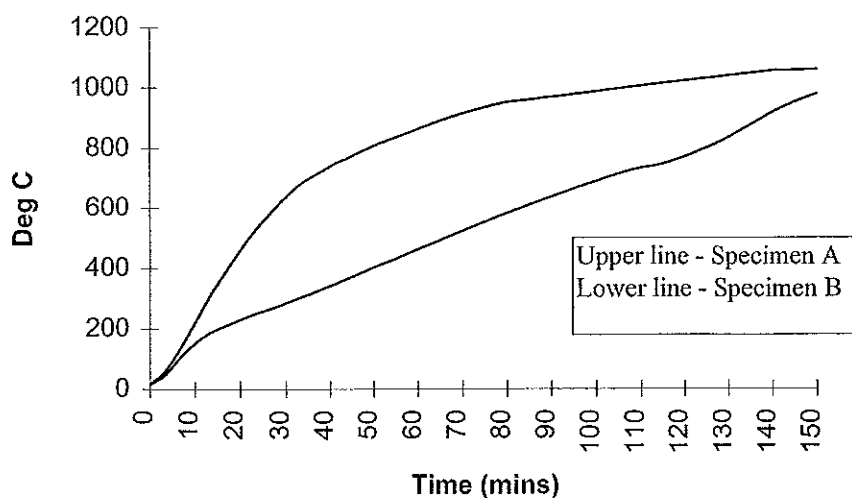
**Table 1**

Time (mins)	Mean temperature °C		
	Specimen A	Specimen B	Furnace
10	220	152	681
20	458	230	784
30	637	284	842
40	738	340	890
50	806	402	913
60	862	462	943
70	912	522	975
80	949	581	991
90	966	635	1005
100	984	686	1023
110	1001	730	1038
120	1018	767	1052
130	1035	831	1066
140	1051	914	1079
150	1055	975	1080

Throughout the duration of the test, the pressure within the furnace was maintained at 5 Pascal's at midheight, An ambient temperature of 17°C was recorded.

**Figure 1**

### Comparison of I beam mean temperatures

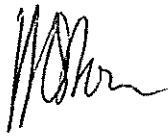


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This report covers a test which was conducted to a procedure which is not the subject of any British Standard specification, but the test utilised the general principles of fire resistance testing given in BS 476: Part 20-23. Since fire tests are the subject of a continuing Standardisation process, and because existing standards are the subject of review and possible amendment and new interpretation, it is recommended that the report be referred back to the test laboratory after a period of two years to ensure that the methodology adopted and the results obtained remain valid in the light of the situation prevailing at the time.

Yours sincerely



Jonathan Osborn  
**Fire Test Engineer**

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