



**KOREA INSTITUTE OF
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TEST REPORT

Name of the Test : Fire resistance test for door assemblies.
Report No. : 0406-1038
Receipt No. : 601-472
Applicant : SAM HOON MACHINERY CO.
#532-5, Simgokbon1-dong, Sosa-gu, Bucheon-city,
Gyeonggi-do, Korea
Tested Date : JUNE, 2nd, 2004
Name of Specimen : BLAST PROOF WINDOW
Test Standard : UL 10B : 2001(Standard for Fire Tests of Door Assemblies)
Result of Test

(Refer to test Result of Appendix)

Above is the test result of specimen supplied by client,
and the name of specimen belongs to client.

Tested by : Tal J. Choi

Approved by : J. H. Seo

Report issued JUNE, 10th, 2004

The President of Korea Institute of Construction Technology



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1. SUMMARY

1.1 The fire resistance test was conducted in accordance with the standard for fire tests of door assemblies, UL10B, (excepted hose stream test)

1.2 Furnace temperature was controlled in accordance with the standard time/temperature curve specified in UL10B.(See Appendix 2)

1.3 The pressure within the furnace measured at the top of the specimen was controlled to be maintained as zero.(See Appendix 4)

2. TEST RESULTS

2.1 The actual time/temperature curve is shown in Appendix 2.

The percentage difference in the areas under the standard time/temperature curve and actual time/temperature curve is shown in Appendix 2-A. The percentage difference satisfied the tolerance for the percentage difference of UL10B.

2.3 There was no crack, no flaming on the unexposed face of the specimen during the test. (See Appendix 5)

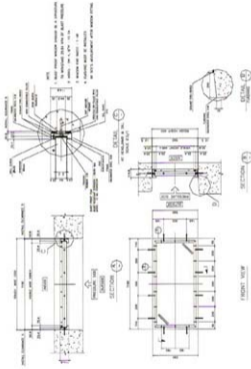
APPENDIX

| | |
|---|----|
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Appendix 1. Drawing of test specimen

A. Construction Drawing & Material of test specimen

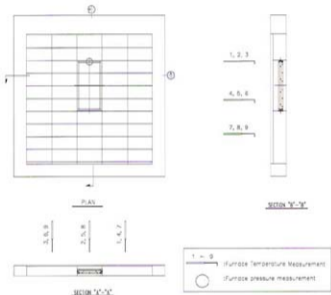
(Dimension : mm)



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B. Drawing of measurement location

(Dimension : mm)



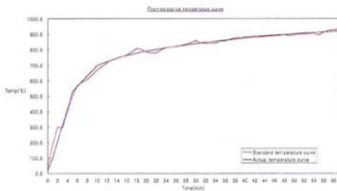
Appendix 2. Heating temperature

A. Measured heating temperature table

| Time (min) | UL10B Furnace Temp. (Deg C) | Actual Furnace Temp. (Deg C) | Area Under Standard Curve. (Deg C) | Area Under Actual Curve. (Deg C) | Difference (%) | Tolerance (+ or -) (%) |
|---------------|--------------------------------------|---------------------------------------|---|---|-------------------|------------------------------|
| 0 | 20 | 42 | 20 | 42 | | |
| 1 | 101 | 189 | 121 | 231 | | |
| 2 | 208 | 300 | 329 | 531 | | |
| 3 | 315 | 297 | 644 | 828 | | |
| 4 | 421 | 394 | 1065 | 1221 | | |
| 5 | 528 | 501 | 1593 | 1722 | | |
| 6 | 564 | 568 | 2157 | 2290 | | |
| 7 | 597 | 592 | 2754 | 2882 | | |
| 8 | 630 | 608 | 3385 | 3490 | | |
| 9 | 663 | 637 | 4048 | 4127 | | |
| 10 | 698 | 670 | 4747 | 4797 | | |
| 12 | 722 | 716 | 6180 | 6205 | | |
| 14 | 745 | 745 | 7658 | 7685 | | |
| 16 | 764 | 767 | 9178 | 9206 | | |
| 18 | 777 | 808 | 10726 | 10799 | | |
| 20 | 792 | 786 | 12302 | 12386 | | |
| 22 | 802 | 779 | 13901 | 13945 | | |
| 24 | 812 | 813 | 15521 | 15558 | | |
| 26 | 822 | 821 | 17160 | 17196 | | |
| 28 | 831 | 836 | 18817 | 18859 | | |
| 30 | 839 | 861 | 20492 | 20563 | | |
| 35 | 858 | 857 | 24746 | 24786 | | |
| 40 | 874 | 882 | 29087 | 29179 | | |
| 45 | 889 | 881 | 33502 | 33530 | | |
| 50 | 901 | 912 | 37984 | 38088 | | |
| 55 | 913 | 885 | 42525 | 42546 | | |
| 60 | 924 | 938 | 47121 | 47182 | 0.1 | 10 |

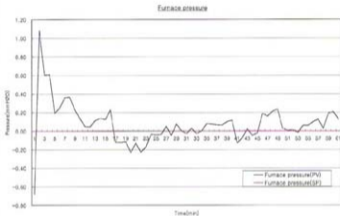
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B. Fire-resistance temperature curve



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Appendix 3. Furnace pressure curve

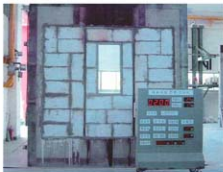


Appendix 4. Observation

| Time(min) | Observation |
|-----------|---|
| 00:00 | Test started |
| 00:13 | Slight smoke began to be released from the test specimen. |
| 00:23 | whole specimen getting dark |
| 01:00 | The test was terminated. |

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Appendix 5. Test photography



Before the test



After the test

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