FACULTY OF ENGINEERING
CHULALONGKORN UNIVERSITY
FIRE SAFETY RESEARCH CENTER

TYPE OF TEST : DETERMINATION OF THE FIRE RESISTANCE OF NON-LOADBEARING ELEMENTS OF CONSTRUCTION

TEST SPECIMEN : **"SPR" Steel Fireproof Door with Glass Vision Size 1100x2000 mm**

The specimen is a doorset consisting of a single-sided steel door leaf with a fixed clear glass panel and a steel door frame. The dimensions of the door leaf are 2000 mm x 1100 mm x 45 mm. The door leaf has a fixed 1700 mm x 800 mm fire lite ceramic glass (5 mm) panel installed in the 150 mm-wide perimeter frame. The glass frame is constructed of 1.6-mm thick cold rolled steel sheet in-filled with rock wool with a density of 100 kg/m^3. The specimen was mounted on a 15-cm thick reinforced concrete wall, which was installed on a 3 m x 3 m testing frame. The door leaf was locked with the door frame by a mortise lock (3-point lock) and 4 stainless steel hinges. Intumescent fire seal was installed around the inner perimeter of the door frame. The details of the specimen are shown in Appendix C. The specimen was provided and installed by the client.

CLIENT : **SUPA RICH CO., LTD.**

27 Ramintra Soi 48, Ramintra Road, Kannayao
Kannayao, Bangkok 10230, Thailand

DATE OF TEST : November 13, 2019

TEST MACHINE : Large-scale vertical furnace (Fire Tester III) at the Fire Safety Research Center (FSRC), Department of Civil Engineering, Chulalongkorn University (Thailand). The furnace is capable of producing a standard temperature-time relationship according to BS 476 Part 20: 1987.

TEST METHOD : The testing procedures follow the British Standard BS 476: Fire tests on building materials and structures

BS 476 Part 20: 1987: Method for determination of the fire resistance of elements of construction (general principles)

BS 476 Part 22: 1987: Methods for determination of the fire resistance of non-loadbearing elements of construction Section 8: Determination of the fire resistance of uninsulated doorsets and shutter assemblies.

TEST RESULTS : The non-loadbearing element of construction described above has the fire resistance of each criterion for the period stated:

(The test results are good only for the specimen tested.)

Criteria	Fire Resistance (hr:min)	Remarks
Integrity	3:00	The test was terminated by the client. During the test, all integrity criteria were fulfilled (no sustained flaming and no through gap such that the 6 mm diameter gap gauge could penetrate).

Date: November 27, 2019

Tested by: .....
(Dr. Veerayut Komolvilas)

.....
(Professor Dr. Thanyawat Pothisiri)

.....
(Associate Prof. Dr. Tirawat Boonyatee)
On Behalf of Head of Civil Engineering Department

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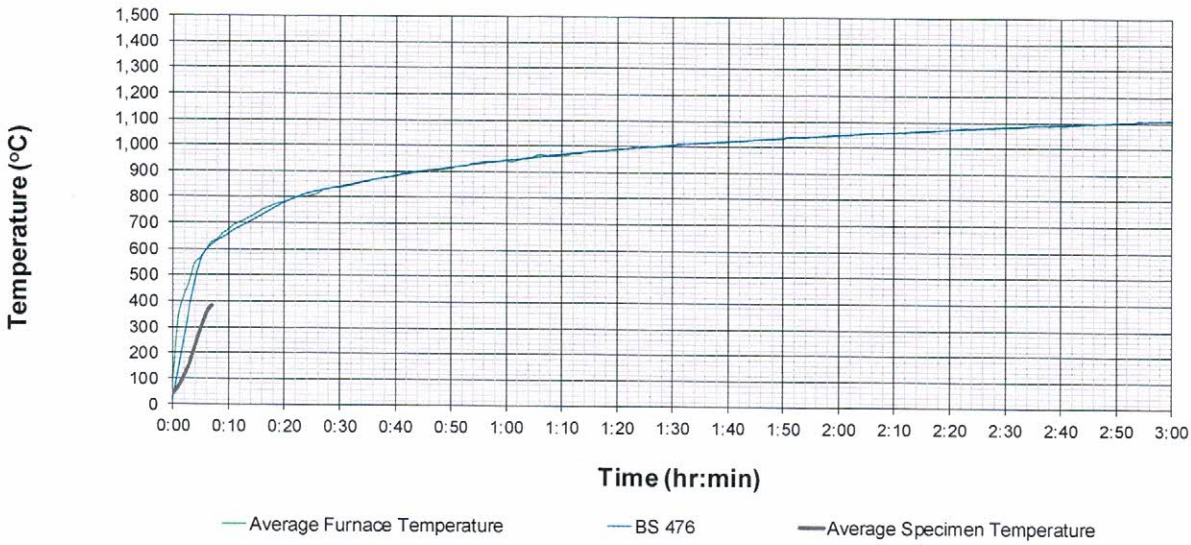
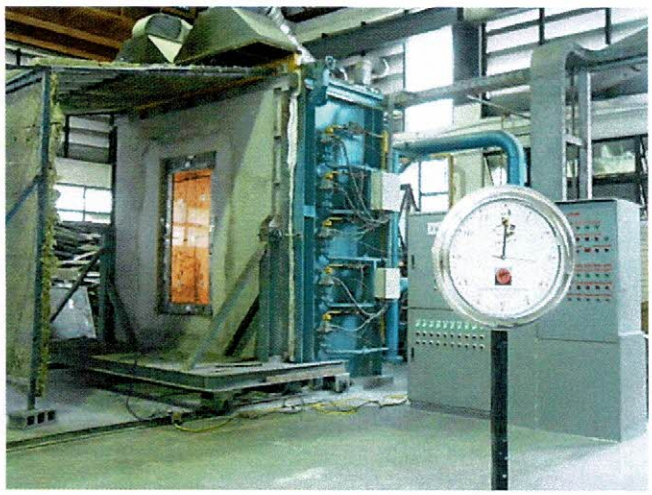
FURNACE TEMPERATURE

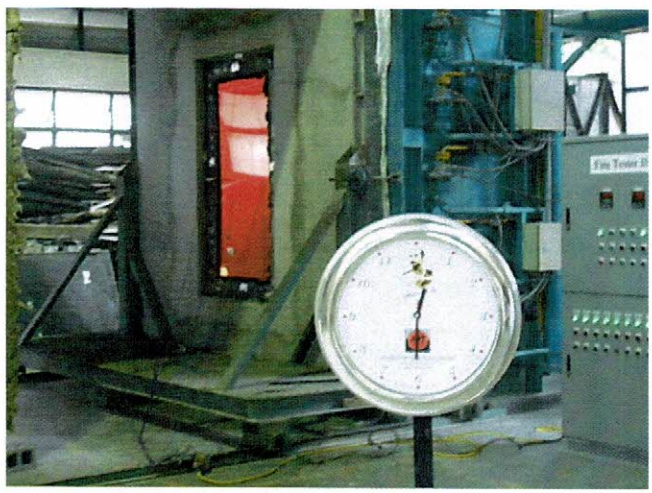


(Mr. Sirichai Pethrung)
Authorized Testing Officer



(a) 0:00 hr

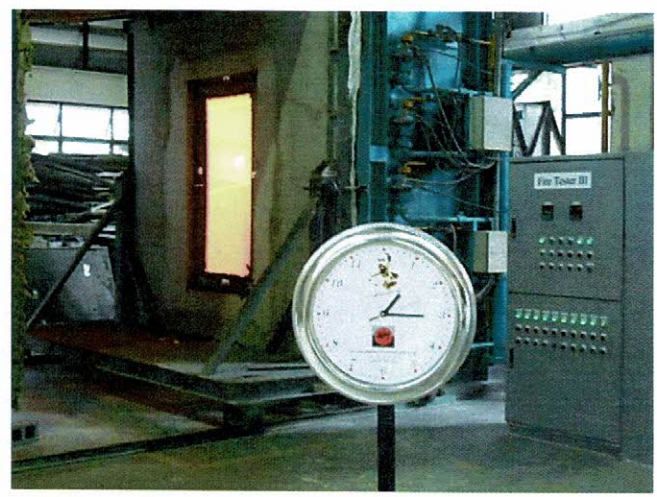
(b) 0:15 hr



(c) 0:30 hr

(d) 0:45 hr

(e) 1:00 hr



(f) 1:15 hr

Figure D-2: The specimen during the test

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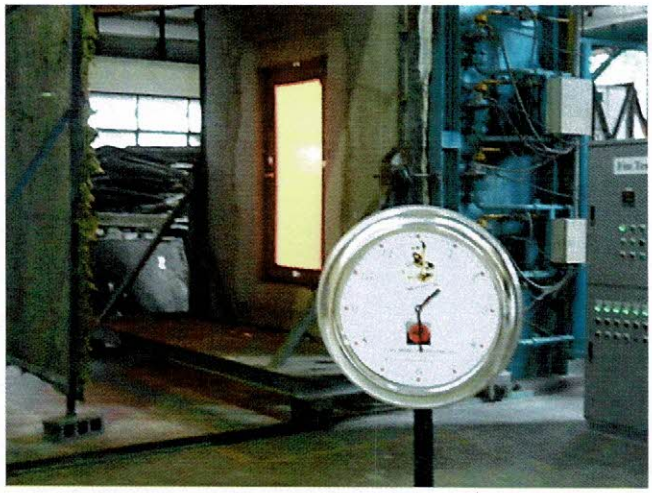
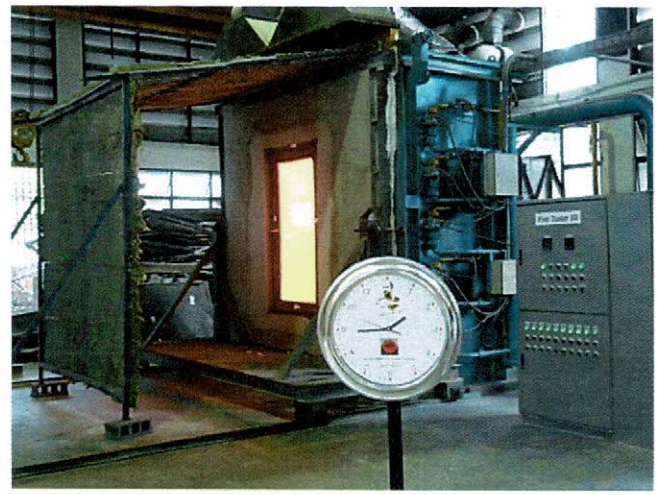
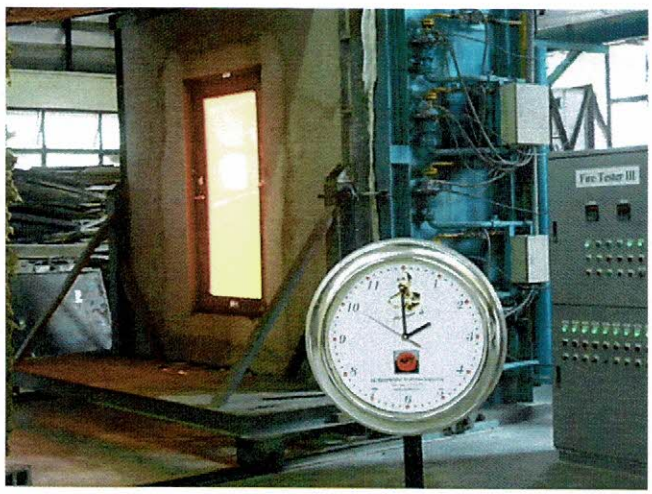
Authorized Testing Officer



(g) 1:30 hr



(h) 1:45 hr



(i) 2:00 hr

(j) 2:15 hr

(k) 2:30 hr

(l) 2:45 hr

Figure D-2 (continued): The specimen during the test

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Authorized Testing Officer

(m) 3:00 hr

Figure D-2 (continued): The specimen during the test

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Figure D-3: The specimen after the test

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Authorized Testing Officer