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 FIRE DOOR**

The specimen is a doorset consisting of double-sided steel door leaves and a steel door frame. The dimensions of each door leaf are 2200 mm x 1100 mm x 45 mm. Each door leaf has a fixed 127 mm x 508 mm Pyran clear fire rated glass (9 mm) vision panel located at the height of 1246 mm measured from its lower edge. The door leaf is constructed of 1.5-mm thick cold rolled steel sheet in-filled with rock wool with a density of 100 kg/m^3. The specimen was mounted in a 15-cm thick reinforced concrete wall, which was installed on the 3.0 m x 3.0 m testing frame. The door leaf was locked with the door frame by a door knob (Fire Mortise Lock), and 10 stainless steel hinges. Smoke rubber seal was installed around the edge 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 Soi48, Ramintra Road, Kannayao
Kannayao, Bangkok 10230, Thailand

DATE OF TEST : July 31, 2017

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 for the doorset follow the British Standard BS 476: Fire tests on building materials and structures (with no temperature measurements on the unexposed surface of the glass area and the integrity criteria specified in accordance with the client's request)

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 6: Determination of the fire resistance of fully insulated doorsets and shutter assemblies.

Integrity criteria for the doorsets and glass area: no sustained flaming on the unexposed surface of the specimen for a period of more than 10 seconds and no loss of impermeability (no through gap measured with a 6 mm diameter gap gauge and a 25 mm diameter gap gauge).

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
Insulation	0:14	The average temperature of the unexposed face of the specimen exceeded 140°C above its initial value of 35°C.
Integrity	3:00	The test was terminated by the client. All integrity criteria were fulfilled.

Date: August 14, 2017

Tested by: .....
(Associate Prof. Dr. Thanyawat Pothisiri)

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

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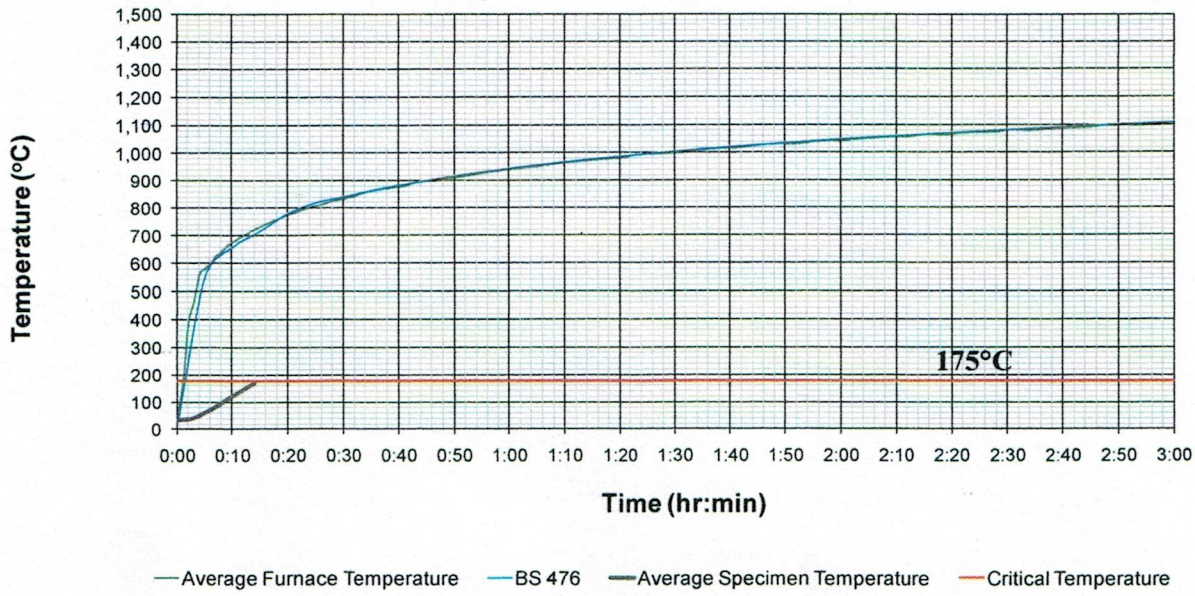
FURNACE TEMPERATURE



(Mr. Sirichai Pethrung)
Authorized Testing Officer