



**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** : **DM8V+DM8**
- The specimen is a doorset consisting of double-sided steel door leaves and a steel door frame. The dimensions of each door leaf are 593 mm x 2400 mm x 45 mm and 993 mm x 2400 mm x 45, respectively (overall dimensions: 1600 mm x 2400 mm x 45 mm). The larger door leaf has a fixed 150 mm x 600 mm Pyran platinum glass (5 mm) vision panel located at the height of 600 mm measured from its upper edge. Both door leaves are constructed of 1.6-mm thick zinc electro galvanized steel sheets and rock wool with a density of 110 kg/m<sup>3</sup>. The specimen was mounted in a 15-cm thick reinforced concrete wall, which was installed on the 3 m x 3 m testing frame. The door leaves were locked with the door frame by a panic bar and 8 stainless steel hinges. Smoke seal was installed around the edge of the doorframe. The details of the specimen are shown in Appendix C. The specimen was provided and installed by the client.
- CLIENT** : **THAI STEEL DOOR CO., LTD**  
89 Moo 14 Kingkaew Road, Rajateva, Bangplee  
Samutprakan 10540, Thailand
- DATE OF TEST** : July 25, 2018
- 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 measurement and the integrity criteria specified for the glazed element 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 glazed element**: 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	0:27	The maximum temperature of the unexposed face of the specimen exceeded 180°C above the initial mean value of 31°C.
Integrity	3:00	The test was terminated by the client. All integrity criteria were fulfilled.

Date: August 9, 2018

Tested by: .....  
(Dr. Sawekchai Tangaramvong)

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(Professor Dr. Thanyawat Pothisiri)

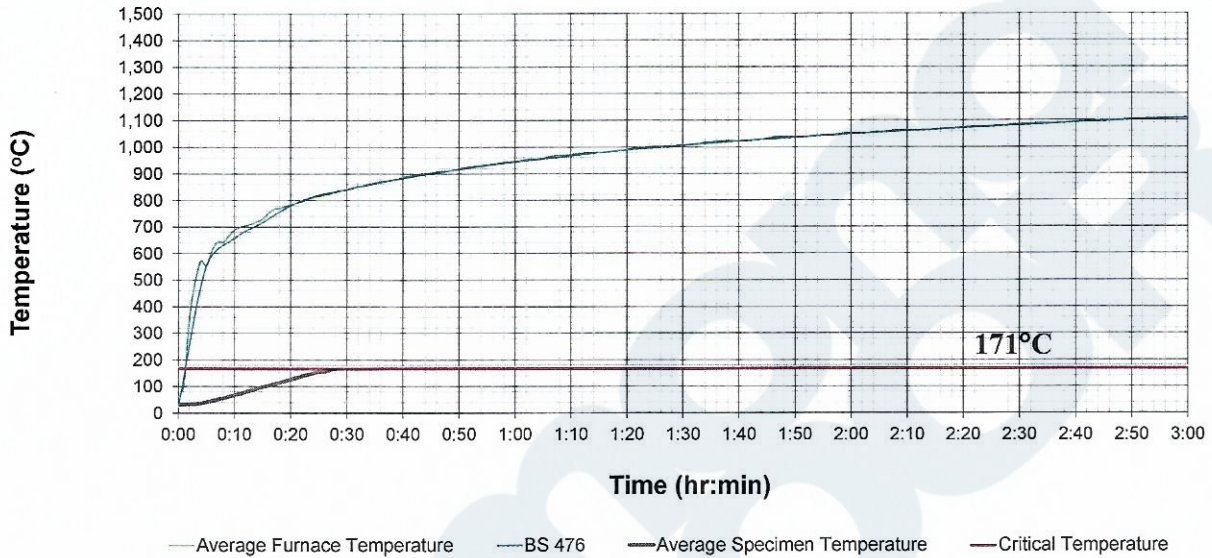
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(Associate Prof. Dr. Tirawat Boonyatee)  
On Behalf of Head of Civil Engineering Department




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### FURNACE TEMPERATURE



  
(Mr. Sirichai Pethrung)  
Authorized Testing Officer