



**FACULTY OF ENGINEERING
CHULALONGKORN UNIVERSITY
FIRE TESTING LABORATORY**

- TYPE OF TEST** : DETERMINATION OF FIRE RESISTANCE OF NON-LOADBEARING ELEMENTS OF CONSTRUCTION
- TEST SPECIMEN** : **PARTIALLY INSULATED METAL FIRE DOOR**
DOOR TYPE : FIRE RESISTANT STEEL DOOR WITH WINDOW (SD)
MODEL : SD (ROCKWOOL)
DOOR INFILL : ROCKWOOL (Density 110 kg/m³)
FRAME TYPE : Single rebate and fire resistant seal
MATERIAL : 1.6 mm thick SPCC (with sill and primer coating)
FRAME SIZE : 1038 x 2125
DOOR SIZE : 1032 x 2110
DOOR HINGES : PLUS K-42-H
LOCK SET : GOAL UCSQ BS-64
DOOR CLOSER : DAIHATSU NHN-184
- The specimen was mounted in an 15-cm thick reinforced concrete wall, which was cast to the testing frame. Details of the specimen is shown in Page 3 of this report. The specimen was provided and installed to the testing frame by the client.
- CLIENT** : SUN METAL Co.,Ltd.
- DATE OF TEST** : 11 July, 2000
- TEST MACHINE** : Large-scale furnace at the Fire Testing Laboratory, Department of Civil Engineering Chulalongkorn University. The furnace is capable of producing a standard temperature-time relationship according to several fire resistance standards including BS 476 Part 20: 1987.
- TEST METHOD** : 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 7**: Determination of the fire resistance of fully insulated doorsets and shutter assemblies.
- TEST RESULTS** : The element of construction described above satisfied the following criteria for fire-resistance for the period stated: (The test result is good only for the specimen tested.)

Criteria	Fire Resistance	Remarks
Integrity	120 minutes	No failure observed at 121 minutes
Insulation	53 minutes	Average increase in temperature on an unexposed face of the door exceeded 140 °C (not including glazed area)



(Assistant Prof. Dr. Boonchai Stittmannathum)

On behalf of Head of Civil Engineering Department

Date : October 31, 2000

Tested by



(Dr. Chadcharn Sittipunt)