



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 : NANO PLUS

The specimen is a 3 m x 3 m vertical construction consisting of 60 cm x 20 cm x 7.5 cm light-weight blocks bonded with 2-3 mm thick mortar with 10 mm thick plastering finishes on both sides and a single layer of 1000 mm x 1000 mm x 4 mm aluminum composite panels installed on the light-weight block wall on the unexposed side. Each aluminum composite panel is supported on an edge frame comprising mild steel square tube-12.7x12.7x1.2 mm. The edge frames are fixed with the light-weight block wall through steel angles and expansion bolts. Silicone sealant is also installed around the edge of each aluminum composite panel. The details of the specimen are shown in Appendix C. The specimen was provided and installed by the client.

CLIENT : GB ALUMINUM & GLASS LIMITED PARTNERSHIP

888/4 Moo12 Nuanchan RD,
Klongkum, Buengkum, Bangkok 10230, Thailand

DATE OF TEST : July 17, 2015

TEST MACHINE : Large-scale vertical furnace (Fire Tester III) at the Fire Safety Research Center, Department of Civil Engineering, Chulalongkorn University (Thailand). The furnace is capable of producing a standard temperature-time relationship according to several fire resistance standards including ASTM E119-14.

TEST METHOD : The testing procedures follow ASTM E119-14: Standard test methods for fire tests of building construction and materials. The hose stream test was not conducted based on the client's request.

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	4:00	The test was terminated by the client. The average and the maximum temperatures of the unexposed face of the specimen did not exceed 139°C and 181°C above the initial mean value of 30°C.
Integrity	4:00	The test was terminated by the client without passage of flame or gases hot enough to ignite the cotton waste.

Date: July 29, 2015

Tested by: 
(Assistant Prof. Dr. Boonchai Sangpetngam)

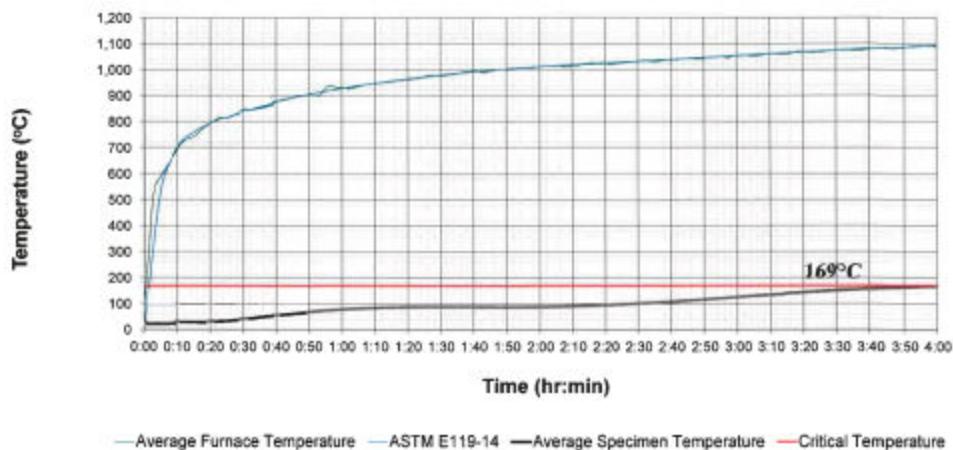

(Associate Prof. Dr. Thanyawat Pothisiri)


(Associate Prof. Dr. Tirawat Boonyatee)

On Behalf of Head of Civil Engineering Department



FURNACE TEMPERATURE



(Mr. Sirichai Pethrung)
Authorized Testing Officer