





FACULTY OF ENGINEERING
CHULALONGKORN UNIVERSITY
FIRE SAFETY RESEARCH CENTER




- TYPE OF TEST** : DETERMINATION OF THE FIRE RESISTANCE OF PROTECTION FOR STRUCTURAL STEEL SECTIONS
- TEST SPECIMEN** : NEOCOAT INTUMESCENT PAINT-S
The specimens consist of four structural steel sections, H 200x200x8x12 mm, with the Hp/A values as shown in the table below. The Neocoat Intumescent Paint-S was applied to the specimens with the coating thicknesses as shown in Appendix C. The length of the specimens was approximately 1.00 m. The fire protection material was applied to the outside surface of the specimens. The fire protection of the specimens was provided and installed by the client.
- CLIENT** : UNIQUE PRODUCTS (THAILAND) CO., LTD.
104/34-35 Moo 12, Soi Tanasit, Bangpla, Bangplee
Samutprakarn 10540, Thailand
Tel: (662) 174-6176-80 Fax: (662) 174-6181
- DATE OF TEST** : September 29, 2008
- TEST MACHINE** : Medium-scale horizontal furnace (Fire Tester II) at the Fire Safety Research Center, Department of Civil Engineering, Chulalongkorn University. The furnace is capable of producing a standard temperature-time relationship according to several fire resistance standards including ASTM E119-07a.
- TEST METHOD** : The testing procedures follow ASTM E119-07a Standard Test Methods for Fire Tests of Building Construction and Materials: Alternative Test of Protection for Structural Steel Columns. The specimens were exposed to fire on the outside surface. Failure is deemed to occur when the maximum temperature at any point on the specimen exceeds 649°C or the average temperature of the specimen at any section exceeds 538°C.
- TEST RESULTS** : The specimens described above have the fire resistance of fire protection coating for the structural steel sections as shown in the following table. The details of the test results and photographs are shown in Appendix B and Appendix D.
(The test results are good only for the specimens tested.)


Specimen	Section	Model	Average Thickness (µm)	Hp/A (m ⁻¹)	Fire Resistance (hr:min)	Remarks
1	H 200x200x8x12 mm	Neocoat	514	191	0:48	Failure occurred when the maximum temperature of the specimen exceeded 649°C.
2	H 200x200x8x12 mm	Neocoat	820	191	0:59	Failure occurred when the maximum temperature of the specimen exceeded 649°C.
3	H 200x200x8x12 mm	Neocoat	1093	191	0:56	Failure occurred when the maximum temperature of the specimen exceeded 649°C.
4	H 200x200x8x12 mm	Neocoat	1186	191	1:04	Failure occurred when the maximum temperature of the specimen exceeded 649°C.

Tested by: 
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(Assistant Prof. Dr. Watanachai Smiltakorn)


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(Associate Prof. Dr. Chadchart Sittipunt)

Date: October 10, 2008


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(Associate Prof. Dr. Thanyawat Pothisiri)


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(Assistant Prof. Dr. Chatpan Chintanapakdee)
On Behalf of Head of Civil Engineering Department