Novabrik fire test report

January 31st, 2005

Seiji Kutsuna

Date：January 25th and 26th, 2005

Place：Hokkaido Northern Regional Building Research Institute

Object：Acquire authorization for fire preventive wall of a wood frame structure

Cost：

Application fee ：1,350,000 yen

Licence fee ：1,500,000 yen, including two wood panels building

Novabrik ： 91,040 yen 1600 from IBM

Labour fee: still in calculation

Subsidiary material fee ： 5,534 yen, including glue and screws

Yonezawa Corporation Inc. Seiji Kutsuna

Hokkaido Northern Regional Building Research Institute

Environment science section	Chief researcher, Minami	0166-66-4225
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Test specimen construction

Toa rika Inc. , President, Ogaw 03-3251-7578

Shinwa Corporation Inc. President, Yoshida 0166-32-0982

1. Test specimen construction

The test specimen was built at Asahikawa Shinwa Corporation on January 24th, 2005. Novabrik was attached onto the two 30 degree tilted test specimens.
Size : W3,300mm. x H3,250 mm. x 2 specimen

2. Fire test

Fire test was conducted at the Hokkaido Northern Regional Building Research Institute on January 25th and 26th, 2005

Test description:

Test specimens were connected to a furnace and the exterior of the bricks sides were exposed to heat of up to 800°C. Refer to the files “Fire_Test.xls” and “Fire_Test_Date-1.xls” as to the temperature changes of the exterior and interior sides.

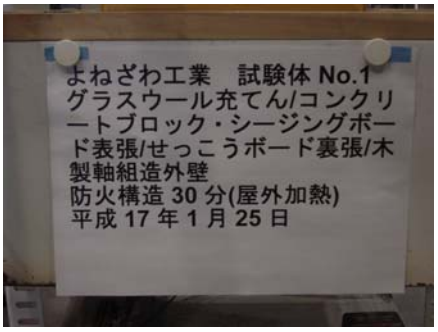
Furnace

Installation of test specimen

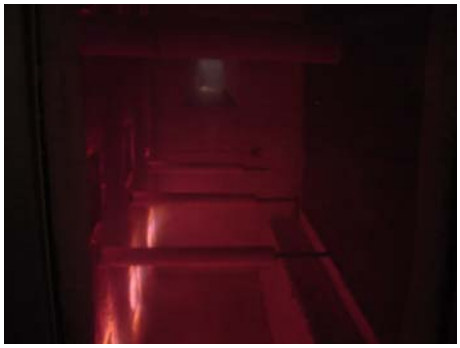
Yonezawa Corporation Inc. Test specimen No.1

Wall assembly description: Novabrik / Sheathing Board / Glasswool insulation / Gypsum Board / Wood Frame Wall

Fire-proof construction, exposed to heat for 30 minutes.
January 25th , 2005



Immediately after ignition



After ignition

Furnace at about 800^{o}C

Result

During testing, the highest surface temperature of the gypsum board reached 29^{o}C, where the authorized limitation was 180^{o}C.

The only obvious change was the vapour due to moisture coming from inside of the Novabrik. When substrate lumber burns, black smoke comes out.

Immediate results of test

3. Final result

The day following the test, the test specimens were disassembled at Shinwa Corporation. No evidence of combustion was found on the furring strips along with no significant change around the screw holes. The air barrier system (housewrap) melted but it seemed as though the heat spread through the joint. As for the Novabrik, the surface layer changed leaving the other side untouched.

4. Remark

Based on these results, we applied for an authorization of fire preventive walls to the Ministry of Land, Infrastructure and Transport. We expect to receive an authorization around May

Since the exposed side of the Novabrik was damage, as a result of the test, it would be a necessary precaution to check if the test specimen can withstand the one hour fire test.

There are no promotional benefits in doing these tests. The comments given here are strictly to improve the product’s performance.