

TECHNICAL BULLETIN

CertainTeed Corporation • Insulation Group • 750 East Swedesford Road • Valley Forge, PA 19482

TECHNICAL BULLETIN #74

SUBJECT: OPTIMA® RATING
DATE: JULY 23, 2004

Recently CertainTeed's OPTIMA® fiber glass insulation, used in the Blow-In-Blanket System, achieved a one-and-a-half hour fire resistance rating for load bearing double wood stud partition walls in multi-family housing construction. This will allow us to match the claim made by several cellulose companies. Johns Manville's BIBS Climate Pro® has not achieved this fire resistance rating.

The Omega Point Laboratories, Inc, Elmendorf, TX, conducted standard fire tests on CertainTeed's OPTIMA using ASTM Standard Test Method E 119, "Fire Tests of Building Construction and Materials".

The wall system tested consisted of nominal 2 x 4 inch double wood stud frames, spaced 16 inches on center, with a 1 inch space between the two frames. The cavities were then filled with OPTIMA. The insulated system was finished on both sides with 5/8 inch Type C gypsum wallboard in the vertical position. Details can be found in the attached construction drawings.

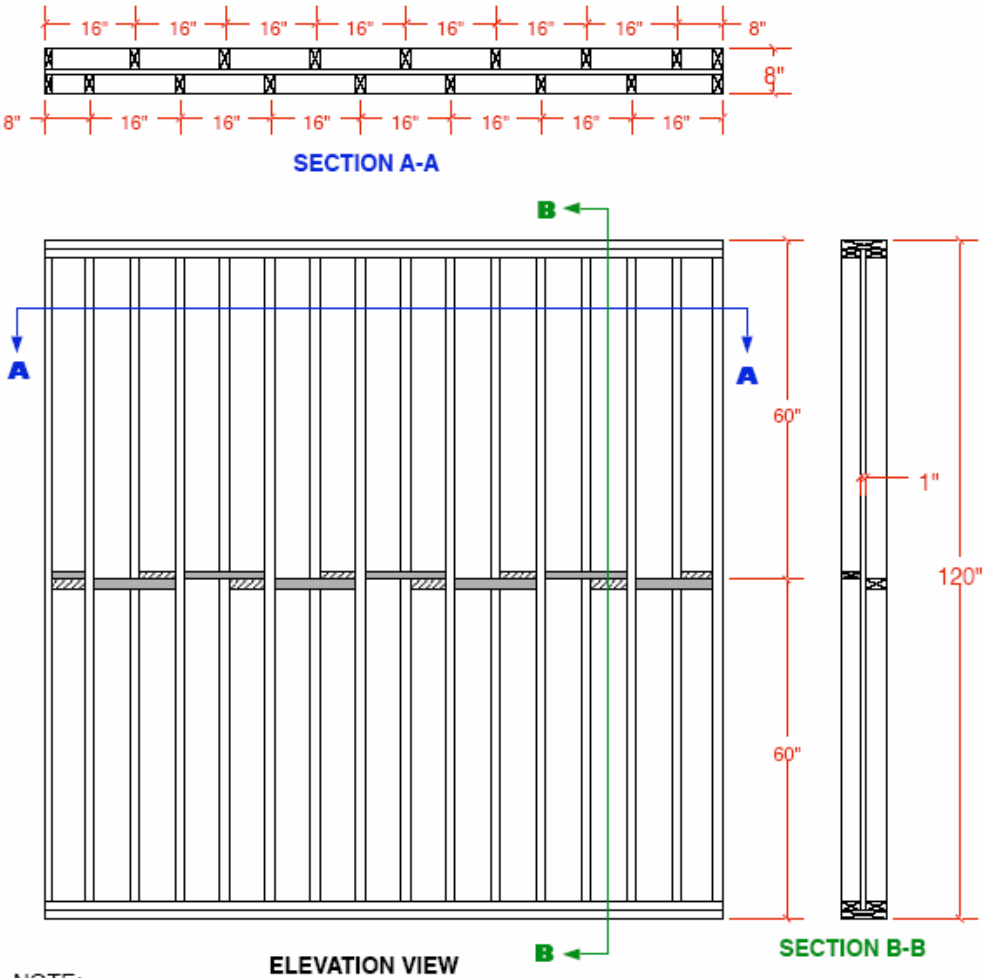
Once the wall system was assembled it was subjected to heat created by a vertical gas furnace with temperatures in excess of 1,000° F. Initially, a fire exposure endurance test was conducted with an applied load of 2,375 pounds per stud to determine the load bearing time rating. A second test was then conducted to determine the effects of a standard hose stream on the exposed surface and assembly after exposing the system to the same loading and fire conditions for half of the duration of the initial test, as required by the test method.

CertainTeed's OPTIMA passed the tests. The wall withstood the fire endurance and hose stream tests without passage of flame or gases hot enough to ignite cotton waste for one-and-a-half hours and 45 minutes, respectively. Transmission of heat through the wall during the fire endurance test did not raise the average temperature on the unexposed surface more than 250° F, or any individual temperature more than 325° F. In addition, no openings developed that permitted a projection of water from the stream beyond the unexposed surface during the time of the hose stream test.

CertainTeed can now recommend double wood stud walls insulated with OPTIMA in the Blow-In-Blanket System for buildings requiring 1-1/2 hour fire resistance load bearing wood stud wall partitions. For more information on the test including specific construction details, contact your local CertainTeed territory manager or call CertainTeed at 1-800-233-8990.

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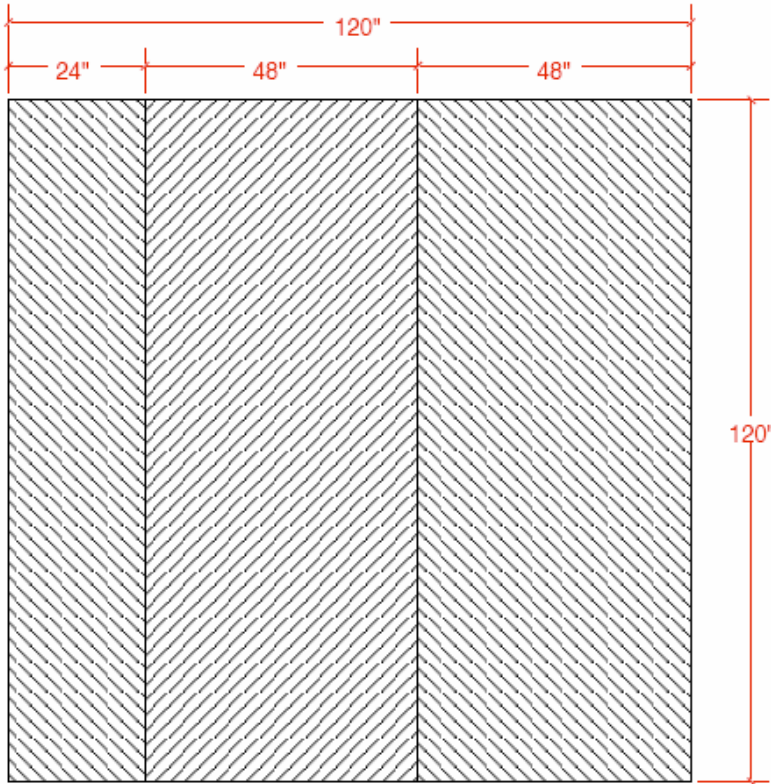
NOTE:
 The wall assembly was constructed of No. 2 Grade Douglas fir wood studs, spaced 16 in. o.c. between double top and bottom plates (cut 8" wide from 2 x 10 lumber) with horizontal cross-bracing as indicated. All studs, plates and cross-bracing were attached using two standard 16d framing nails at each location. Studs on opposing sides were staggered 8" o.c.

OMEGA POINT LABORATORIES, INC. Project No. 12350-116712
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Fig. 1 Stud Configuration

Scale: 1/2"=1'

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ELEVATION VIEW OF SIDE 1 & 2

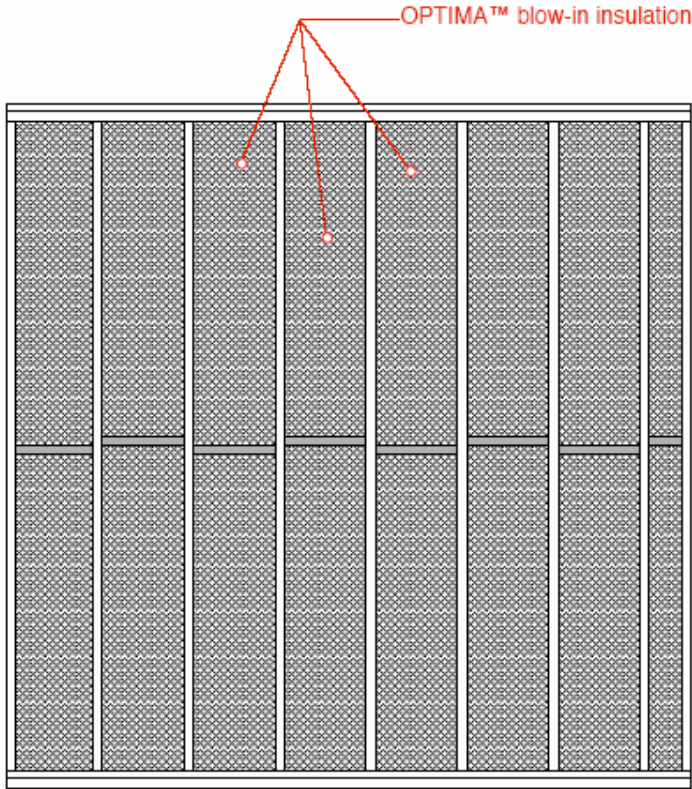
NOTE:
The wall assembly was clad on "Side 1" with 5/8" Type C gypsum wallboard applied vertically and fastened using 1-7/8" long cup-head drywall nails @ 7" o.c. Joints taped and finished. Nail heads received two coats of compound. Following the installation of the insulation, "Side 2" was clad similarly.

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Fig. 2 Gypsum Wallboard: Either Side

Scale: 1/2"=1'

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ELEVATION VIEW OF SIDE 2

NOTE:
After one layer of 5/8" Type C gypsum board was installed on Side 1 and before the wall was closed in with the other layer of 5/8" Type C gypsum wallboard, the entire wall cavity was filled with OPTIMA™ blow-in insulation.

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Fig. 3 Insulation

Scale: 1/2"=1'