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Temperature Measurements in Full-Scale Insulated and Non-Insulated (1x2) Gypsum Board Protected Wall Assemblies with Steel Studs

by M.A. Sultan, J.W. MacLaurin, E.M.A. Denham and R.C. Monette

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TEMPERATURE MEASUREMENTS IN FULL-SCALE INSULATED AND NON-INSULATED (1x2) GYPSUM BOARD PROTECTED WALL ASSEMBLIES WITH STEEL STUDS

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- Roxul Inc.
- Cellulose Insulation Manufacturers Association of Canada
- Gypsum Manufacturers of Canada
- Forintek Canada Corporation
- Canadian Sheet Steel Building Institute
- Institute for Research in Construction

TEMPERATURE MEASUREMENTS IN FULL-SCALE INSULATED AND NON-INSULATED (1x2) GYPSUM BOARD PROTECTED WALL ASSEMBLIES WITH STEEL STUDS

ABSTRACT

This report presents the temperature measurements from 5 full-scale fire resistance tests conducted at the National Fire Laboratory on insulated and non-insulated full-scale gypsum board protected wall assemblies. Asymmetrical gypsum board installations 1x2 (one layer of 12.7 mm thick gypsum board on the exposed side and two layers of gypsum board on the unexposed side) on light steel studs were evaluated. The insulations used were glass, mineral and cellulose (wet sprayed) fibres. Tests were conducted to determine the effects of the insulation type in the wall cavity and the insulation tightness between the studs on the fire resistance rating of gypsum board wall assemblies. The temperatures measured on the gypsum board surface and on the studs are presented.

TEMPERATURE MEASUREMENTS IN FULL-SCALE INSULATED AND NON-INSULATED (1x2) GYPSUM BOARD PROTECTED WALL ASSEMBLIES WITH STEEL STUDS

1.0 INTRODUCTION

Changes included in the 1990 edition of the National Building Code of Canada (NBCC) [1] increased the sound transmission classification between dwelling units from STC 45 to STC 50. As well, changes included in the 1991 CAN/CSA-A82.27-M91 Standard [2] "Gypsum Board-Building Materials and Products" removed minimum density requirements for gypsum board. Either or both of these changes may have an impact on the fire resistance of both wall and floor assemblies referenced in Parts 3 and 9 of the NBCC, as well as the calculation methods in Chapter 2 of the Supplement to the NBCC.

As a result of these changes, a Joint Research Project involving the Institute for Research in Construction (IRC), the National Research Council Canada (NRCC) and 8 industry partners was conducted. The primary objective of the project was to determine the impact of the changes to the Code and Standard on the fire resistance ratings of insulated and non-insulated gypsum board wall assemblies. To evaluate these possible effects, a number of full-scale (22) and small-scale fire resistance tests (49) were conducted.

This report presents the results of 5 full-scale fire tests conducted at the National Fire Laboratory, IRC, NRCC, as part of the Joint Research Project. These tests were conducted to determine the effect of different insulations in the wall cavity and the insulation tightness between steel studs on the fire resistance performance of non-load-bearing (1x2) gypsum board wall assemblies. The temperatures measured on the gypsum board surfaces and on the studs are presented.

2.0 DESCRIPTION OF TEST ASSEMBLIES

The full-scale test assembly furnace is shown in Figure 1.

2.1 Dimensions

Five full-scale assemblies were constructed, 3048 mm high by 3658 mm wide and 128.1 mm deep. The specific dimensions for Assemblies F-07, F-09, F-10 and F-11 are given in Figures 2 to 5 respectively. Assembly F-10B had the same dimensions as Assembly F-10.

2.2 Materials

Materials used in assemblies were as shown in the following sections.

2.2.1 Gypsum Board

Type X gypsum board conforming to the requirements of CAN/CSA-A82.27-M91 [2] was used. The gypsum board used in the assemblies was 12.7 mm thick.

2.2.2 Framing Materials

The steel studs used were light C sections 90 mm wide by 30 mm deep by 0.46 mm thick, manufactured in accordance with CAN/CGSB-7.1-M86 [3].

2.2.3 Insulation

Three types of insulation were used: glass fibre-R12 (supplied by Fiberglas Canada Inc., Willowdale, Ontario with a mass per unit area of 1.08 kg/m^2), mineral fibre-R13 (supplied by Roxul Inc., Milton, Ontario with a mass per unit area of 2.78 kg/m^2) and cellulose (wet sprayed) fibre (supplied by Thermo-Cell Insulation Ltd., Orleans, Ontario with a mass per unit area 5.25 kg/m^2). All insulations used conformed to CSA A101-M83 [4].

2.3 Fabrication

The full-scale assemblies were constructed in accordance with CAN/CSA-A82.31-M91 [5]. Details on assemblies are presented in Table 1. All assemblies were constructed by the same contractor using the same construction practices.

2.3.1 Steel Stud Assemblies

The steel studs were light C sections 90 mm by 30 mm by 0.46 mm and were spaced at 600 mm O.C.

In asymmetrical gypsum board (1x2) wall assemblies with studs spaced at 600 mm O.C., the exposed side had one gypsum board layer and the unexposed side had two gypsum board layers: base and face layers. All gypsum board was applied vertically to the studs. The base layer on the unexposed side was attached to steel studs with Type S drywall screws, 25 mm long, spaced at 600 mm O.C. in the field of the gypsum board and at 300 mm O.C. along the edges of the board. The face layer was attached to both the base layer and steel studs with Type S drywall screws, 41 mm long, spaced at 300 mm O.C. along the edges of the gypsum board and in the field of the board. The gypsum board layer on the exposed side was attached to steel studs with Type S drywall screws, 25 mm long, spaced at 300 mm O.C. along the edges of the gypsum board and in the field of the board. Screw locations and gypsum board joints are shown in Figures 6 to 8 [5]. Screw heads on both the exposed and unexposed faces were covered with joint compound. Gypsum board joints were also taped and covered with joint compound.

2.3.2 Insulation

Mineral fibre batts were supplied in different sizes: one sample was 90 mm thick by 615 mm wide and 1220 mm long and the other was 90 mm thick by 584 mm wide and 1220 mm long. Glass fibre batts were supplied in samples 90 mm thick by 615 mm wide and 1220 mm long. The cellulose fibre insulation was sprayed wet on the single gypsum board layer side after the installation of the thermocouples.

2.4 Instrumentation

Type K (20 gauge) chromel-alumel thermocouples, with a thickness of 0.91 mm, were used for measuring temperatures at a number of locations throughout an assembly. Inside the cavities, the thermocouples were attached to 6 wire hangers installed midway between the studs and at mid-depth of the studs at distances of 1/4 and 3/4 of the height of the wall. By providing tension to the hanger wire, the thermocouples were positioned flush with the surface of the gypsum board. Thermocouple locations for each assembly are shown in Figures 2 to 5.

The deflection at the unexposed surface was measured at the centre of the wall as shown in Figure 9 using the electro-mechanical method described in Reference [6].

3.0 TEST APPARATUS

The tests were carried out by exposing the assemblies to heat in a propane-fired vertical furnace as shown in Figure 1. The furnace was lined with fire brick covered with a 25.4 mm thick ceramic fibre blanket. The assemblies were sealed at the edges against the furnace with ceramic fibre insulation. The furnace temperature was measured by nine (20 gauge) shielded thermocouples in accordance with CAN/ULC-S101-M89 [7]. The average of the nine thermocouple temperatures was used to control the furnace temperature.

4.0 TEST CONDITIONS AND PROCEDURES

4.1 Fire Exposure

The ambient temperature at the start of each test was approximately 22°C. During the test, the wall assembly was exposed to heating on the exposed side, in such a way that the average temperature in the furnace followed as closely as possible the CAN/ULC-S101 [7] standard temperature-time curve.

4.2 Failure Criteria

The failure criteria for the tests were from CAN/ULC-S101-M89 [7]. An assembly was considered to have failed if a single point thermocouple temperature reading on the unexposed face rose 180°C above the ambient temperature or the average temperature of the 9 thermocouple readings under the insulated pads on the unexposed face (see Figure 10) rose 140°C above the ambient temperature or there was passage of flame or gases hot enough to ignite cotton waste.

4.3 Recording of Results

The furnace and wall assembly temperatures were recorded at 1 minute intervals. In Test F-10B, due to a power failure at 65 min, all computer-stored data up to that time was lost.

5.0 RESULTS AND DISCUSSION

The results of the 5 full-scale fire resistance tests are summarized in Table 1 in which the failure times are given for each assembly.

Tabular data for each test is presented in the following:

Test	Single Location Temperature Tables	Average Surface Temperature Tables	Deflection Measurement Tables
F-07	2	3	***
F-09	4	5	12
F-10	6	7	13
F-10B	8	9	14
F-11	10	11	15

The average temperatures on gypsum board surfaces and on the studs are plotted in Figures 11 to 15. Detailed temperatures for all nine thermocouples under the insulation pads on the unexposed surface are also plotted in the Figures.

The deflections measured at the unexposed surface are plotted in Figure 16.

5.1 Effects of Different Insulations in (1x2) Non-load-bearing Assemblies (Figure 17)

Glass Fibre Insulation – Tests F-09 (insulated) and F-07 (non-insulated) were carried out to investigate the effect of the installation of glass fibre insulation (GFI) in a wall cavity on the fire resistance ratings of (1x2) asymmetrical installation of gypsum board wall assemblies. The temperature failure criterion was reached at 65 min for Test F-09 and at 65 min for Test F-07. These results suggest that, in (1x2) assemblies, the 90 mm thick glass fibre insulation in the wall cavity did not affect the fire resistance rating.

Mineral Fibre Insulation – Tests F-10B (insulated) and F-07 (non-insulated) were conducted to investigate the effect of installation of mineral fibre insulation (MFI) in a wall cavity on the fire resistance ratings of asymmetrical (1x2) gypsum board wall assemblies. The temperature failure criterion was reached at 100 min for Test F-10B and at 65 min for Test F-07. These results suggest that, in asymmetrical (1x2) assemblies, the installation of 90 mm thick mineral fibre in the wall cavity provided a 54% increase in the fire resistance rating compared to a non-insulated assembly.

Tests F-10 (MFI, 584 mm wide, installed loose) and F-10B (MFI, 615 mm wide, installed tight) were conducted to determine whether the width of the insulation batts between the studs has an effect on the fire resistance performance of (1x2) gypsum board wall assemblies. The temperature failure criterion, as shown in Figure 18, was reached at 60 min for Test F-10 and at 100 min for Test F-10B. To maximize the benefit of the insulation on the fire resistance rating in (1x2) assemblies, it is important to have insulation tightly installed between the studs.

Cellulose Fibre Insulation – Tests F-11 and F-07 were conducted to investigate the effect of wet sprayed cellulose fibre insulation (CFI) in the wall cavity on the fire resistance ratings of (1x2) asymmetrical installation gypsum board wall assemblies. The temperature failure criterion was reached at 62 min for Test F-11 and at 65 min for Test F-07. In (1x2) assemblies with 90 mm thick wet sprayed cellulose fibre insulation in the wall cavity, the cellulose fibre insulation slightly decreased the fire resistance rating compared to a non-insulated assembly.

6.0 CONCLUSIONS

1. In non-loaded 1x2 gypsum board wall assemblies, the glass fibre insulation did not affect the fire resistance performance of the assemblies while the cellulose fibre insulation slightly decreased the fire resistance by 5% and mineral fibre insulation increased the fire resistance performance by 54% compared to non-insulated assemblies.
2. To maximize the benefit of the insulation on the fire resistance performance, it is important to have insulation tightly installed between the studs.

7.0 REFERENCES

1. National Building Code of Canada (Part 9), National Research Council Canada, Ottawa, Ontario, Canada, 1990.
2. CAN/CSA-A82.27-M91, Gypsum Board-Building Materials and Products, Canadian Standards Association, Rexdale, Ontario, 1991.
3. CAN/CGSB-7.1-M86, Cold Formed Steel Framing Components, Canadian General Standards Board, Ottawa, Ontario, Canada, 1986.
4. CSA-A101-M83, Thermal Insulation, Canadian Standards Association, Rexdale, Ontario, 1983.
5. CAN/CSA-A82.31-M91, Gypsum Board Application, Canadian Standards Association, Rexdale, Ontario, 1991.
6. Lie, T.T. and Berndt, J.E., Remote Measurement of Large Deflections in Fire Tests, Division of Building Research, National Research Council Canada, Building Research Note No. 84, 1972.
7. CAN/ULC-S101-M89, Standard Method of Fire Endurance Tests of Building Construction and Materials, Underwriters' Laboratories of Canada, Scarborough, Ontario, 1989.

Table 1. Full-Scale Assembly Parameters and Fire Test Results

Assembly Number	Stud Type	Stud Size (mm)	Stud Spacing (mm)	Gypsum Board Layers (Exp/Unexp.)	Gypsum Board Thickness (mm)	Gypsum Board Type	Insulation Type	Insulation Thickness (mm)	Fire Rating (min)	Mode Of Failure
F-07	Steel	90	600	1x2	12.7	X	***	***	65	Temp.
F-09	Steel	90	600	1x2	12.7	X	GFI	90	65	Temp.
F-10	Steel	90	600	1x2	12.7	X	MFI	90	60	Temp.
F-10B	Steel	90	600	1x2	12.7	X	MFI*	90	100	Temp.
F-11	Steel	90	600	1x2	12.7	X	CFI*	90	62	Temp.

X - Gypsum Board Type X
GFI - Glass Fibre Insulation
MFI - Mineral Fibre Insulation 584 mm wide
MFI* - Mineral Fibre Insulation 615 mm wide
CFI* - Cellulosic Fibre Insulation 615 mm wide (sprayed)
*** - Null Value

Table 2. Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0	26.3	25.7	25.9	25.5	25.4	25.7	25.8	25.6	25.4	25.6	26.6	26.6	26.3	26.9	26.6	27.4	***	***	25.8	25.6	***	25.6
1	36.8	25.7	25.9	25.5	25.5	25.7	25.8	25.6	25.4	25.5	26.7	26.8	26.4	27.1	26.8	27.6	***	***	27.4	26.7	***	25.6
2	177.0	25.7	25.9	25.5	25.5	25.7	25.8	25.7	25.4	25.6	26.9	26.9	26.5	27.3	27.0	27.9	***	***	89.0	50.4	***	27.4
3	407.6	25.7	25.9	25.5	25.5	25.8	25.8	25.7	25.4	25.6	27.0	27.0	26.8	27.4	27.1	28.0	***	***	98.9	99.1	***	51.0
4	437.1	25.8	26.0	25.6	25.5	25.8	25.9	25.7	25.4	25.6	27.1	27.1	27.6	27.5	27.2	28.2	***	***	95.0	94.9	***	57.5
5	454.3	26.2	26.2	25.7	25.6	26.0	26.2	25.9	25.6	25.8	27.4	27.4	28.3	27.8	27.3	28.4	***	***	96.8	95.7	***	56.8
6	596.4	27.1	26.7	26.1	26.0	26.4	27.2	26.3	25.9	26.4	28.1	27.8	29.0	28.5	27.7	28.9	***	***	98.5	98.3	***	64.9
7	612.3	28.4	27.7	26.6	26.7	27.2	29.3	27.1	26.5	27.3	29.2	28.5	30.0	29.4	28.2	29.6	***	***	97.5	97.2	***	71.7
8	612.8	30.1	29.0	27.4	27.6	28.4	33.2	28.3	27.3	28.6	30.5	29.5	31.0	30.8	29.1	30.4	***	***	103.1	96.5	***	73.2
9	671.9	32.2	30.8	28.4	28.8	30.0	38.7	30.0	28.4	30.4	32.0	30.7	31.9	32.3	30.0	31.6	***	***	113.2	97.7	***	76.6
10	713.8	34.8	32.9	29.6	30.3	31.9	44.7	32.0	29.7	32.4	33.5	32.1	33.0	34.1	31.2	32.9	***	***	138.6	99.7	***	80.2
11	720.4	37.6	35.4	31.2	32.0	34.1	50.5	34.4	31.3	34.8	35.1	33.8	34.2	36.0	32.4	34.2	***	***	180.2	108.4	***	83.0
12	714.3	40.7	38.0	32.8	34.0	36.5	55.3	36.9	33.1	37.4	36.6	35.6	35.5	37.7	33.8	35.6	***	***	232.6	136.4	***	84.7
13	727.0	43.8	40.8	34.7	36.3	39.1	58.4	39.6	35.0	40.2	38.4	37.6	37.0	39.8	35.3	37.1	***	***	299.4	173.7	***	86.1
14	751.7	46.9	43.7	36.8	38.8	41.8	60.7	42.6	37.2	43.1	39.9	39.4	37.9	41.8	37.0	38.9	***	***	367.6	219.3	***	92.7
15	765.7	50.0	46.6	39.1	41.5	44.6	63.0	45.5	39.5	46.2	41.7	41.4	39.6	43.6	39.0	40.1	***	***	385.3	279.0	***	119.3
16	764.8	53.6	49.6	41.4	44.5	47.7	65.1	48.3	41.9	49.4	44.1	43.6	41.5	46.1	41.2	41.5	***	***	384.3	330.1	***	143.5
17	763.6	57.5	52.8	43.9	48.1	51.4	66.9	50.9	44.4	52.8	46.1	46.1	43.8	46.6	43.7	43.2	***	***	438.7	374.1	***	163.3
18	772.2	61.9	56.6	46.7	52.2	55.6	69.4	53.5	47.2	56.3	48.3	49.1	45.9	51.3	45.8	45.3	***	***	473.5	404.0	***	175.3
19	789.3	66.5	60.6	49.9	56.7	59.8	71.8	56.1	50.3	60.1	50.1	52.1	48.4	52.9	48.9	46.9	***	***	502.0	444.0	***	188.5
20	800.1	70.2	64.2	53.4	61.2	63.3	73.3	58.7	53.8	63.8	51.7	55.2	51.4	54.3	51.8	49.0	***	***	531.5	460.1	***	204.3
21	798.4	73.1	67.1	57.4	64.9	66.0	74.3	61.5	57.9	67.2	53.4	58.2	53.6	55.6	53.6	50.9	***	***	551.0	472.1	***	219.3
22	795.5	75.3	69.4	61.4	67.9	68.1	75.1	64.5	62.2	69.7	53.9	60.2	56.8	56.6	55.1	51.6	***	***	569.4	492.6	***	233.3
23	803.0	76.9	71.4	64.9	70.3	69.9	75.7	67.6	66.3	71.6	54.7	62.6	59.5	57.8	55.3	52.7	***	***	602.6	520.6	***	247.1
24	816.8	78.1	73.0	67.6	71.9	71.5	76.3	70.1	69.5	72.9	54.8	64.7	62.0	58.5	56.5	52.8	***	***	614.9	542.1	***	262.1
25	826.6	79.0	74.2	69.9	73.3	72.7	76.9	72.0	71.9	74.1	55.2	66.3	62.4	59.2	56.7	54.1	***	***	622.3	559.0	***	276.2
26	825.5	79.7	75.2	71.7	74.3	73.7	77.4	73.3	73.6	75.0	55.6	67.8	64.7	59.6	56.9	54.7	***	***	615.8	570.9	***	290.4
27	821.8	80.1	76.1	73.1	75.2	74.5	77.8	74.5	74.8	75.8	56.3	68.9	66.0	60.3	59.8	55.0	***	***	621.5	586.1	***	304.8
28	825.7	80.1	76.9	74.2	75.9	75.1	78.2	75.3	75.7	76.4	55.8	69.3	65.5	60.0	58.7	55.6	***	***	641.9	614.8	***	321.4
29	839.6	79.9	77.4	75.0	76.5	75.5	78.5	76.0	76.4	77.0	56.0	69.3	66.3	60.1	58.7	54.5	***	***	670.1	645.3	***	337.9
30	848.1	79.7	77.4	75.7	76.7	75.9	78.7	76.5	76.9	77.5	55.6	70.4	67.7	59.8	58.6	54.9	***	***	714.6	664.3	***	354.1
31	846.1	79.8	77.4	76.1	77.0	76.4	79.0	76.8	77.3	77.9	56.3	70.6	67.5	60.4	61.0	55.0	***	***	727.0	674.7	***	372.2
32	842.2	80.2	77.6	76.4	77.2	76.7	79.2	77.1	77.6	78.3	56.3	70.3	68.6	61.3	59.1	56.2	***	***	731.8	689.0	***	385.3
33	845.1	81.0	77.9	76.7	77.4	76.9	79.6	77.4	77.8	78.5	56.9	70.6	68.2	60.4	59.9	55.3	***	***	753.8	710.3	***	401.9
34	858.1	81.9	78.1	76.9	77.4	77.1	80.1	77.5	77.8	78.6	56.3	70.8	69.4	60.2	59.1	55.1	***	***	771.7	722.9	***	436.8
35	868.0	82.9	78.3	77.1	77.5	77.0	80.5	77.7	77.6	78.6	55.5	71.0	69.7	60.9	60.5	56.2	***	***	794.3	730.5	***	457.1
36	865.7	83.8	78.5	77.2	77.6	77.0	81.2	77.8	77.7	78.6	56.2	71.0	69.4	60.4	59.1	55.9	***	***	808.3	726.9	***	474.6
37	860.9	84.7	78.7	77.4	77.6	77.0	81.9	77.9	78.1	78.7	56.2	71.8	70.4	60.8	59.3	55.2	***	***	808.4	725.4	***	490.1
38	862.3	85.8	78.9	77.5	77.7	77.0	83.0	78.0	78.8	79.2	56.4	72.1	71.8	60.1	58.3	55.5	***	***	837.6	738.4	***	504.6
39	872.9	86.9	79.1	77.6	77.8	77.2	84.8	78.2	79.8	80.1	56.4	72.0	72.2	59.6	58.8	56.1	***	***	841.6	744.3	***	517.6
40	881.7	88.2	79.3	77.6	77.9	77.3	87.2	78.4	80.8	81.4	56.0	72.2	72.3	60.4	58.2	55.9	***	***	856.5	749.0	***	528.8
41	884.5	89.9	79.6	77.6	78.2	77.3	90.0	78.8	81.9	83.1	56.3	72.8	73.7	61.3	59.4	56.1	***	***	859.9	741.0	***	539.9
42	880.9	92.9	79.3	77.6	78.3	77.1	93.1	79.5	83.2	85.0	56.0	74.1	74.1	61.3	58.2	55.6	***	***	854.4	744.1	***	550.8

Table 2. Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation (Cont.)

Time	T(Fav)	Temperature at Thermocouple Number																				
(min)	(°C)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
43	880.1	96.2	79.3	77.6	79.0	79.4	96.0	80.4	84.7	87.0	57.3	74.4	75.6	62.8	59.6	55.3	***	***	846.6	750.7	***	560.8
44	880.7	98.8	83.6	77.8	81.9	84.1	98.8	81.6	86.6	89.1	59.2	76.3	78.3	63.7	60.9	55.8	***	***	828.7	754.3	***	570.6
45	887.8	100.8	88.6	77.9	86.4	88.3	101.3	83.0	88.9	91.2	60.2	76.2	78.2	63.3	62.0	56.4	***	***	822.0	763.6	***	581.1
46	896.7	102.6	92.8	78.5	90.9	91.8	103.6	84.4	91.7	93.6	61.7	77.3	78.9	64.5	62.2	56.4	***	***	804.9	763.7	***	590.8
47	902.4	104.3	96.5	80.1	94.3	95.0	105.5	86.0	94.6	96.7	64.1	77.8	81.3	66.5	63.0	58.3	***	***	778.0	762.6	***	601.0
48	898.4	105.8	99.8	83.6	97.4	97.8	107.1	87.7	96.9	99.3	66.2	78.0	80.3	69.5	66.2	59.3	***	***	756.1	753.6	***	614.8
49	893.7	107.0	102.6	88.0	100.0	100.3	108.4	89.8	98.7	101.2	68.5	79.4	81.9	71.4	70.2	61.3	***	***	745.4	745.7	***	625.9
50	896.9	108.0	104.8	91.9	102.1	102.4	109.6	92.1	100.4	102.6	70.2	79.4	83.3	72.4	71.1	63.9	***	***	746.9	753.1	***	640.8
51	907.7	108.7	106.7	95.0	103.9	104.2	110.5	94.4	102.1	103.7	70.8	79.5	85.4	74.0	73.7	66.2	***	***	757.9	772.0	***	667.1
52	913.3	109.4	108.3	97.9	105.6	105.6	111.4	97.0	103.4	104.7	71.4	80.3	84.9	74.5	76.5	67.1	***	***	784.7	852.5	***	780.6
53	912.5	110.0	109.6	100.1	106.8	106.8	112.0	99.5	104.7	105.9	72.3	81.1	88.5	75.4	75.1	68.4	***	***	841.2	863.3	***	810.2
54	912.2	110.6	110.6	101.9	107.9	107.7	112.8	101.4	105.7	106.9	73.7	82.1	89.3	76.1	75.0	68.5	***	***	949.0	840.9	***	904.7
55	918.1	111.3	111.5	103.4	108.8	108.4	113.7	102.6	106.5	107.7	74.2	83.0	91.8	77.0	77.1	70.0	***	***	947.6	798.1	***	897.2
56	918.3	112.1	112.3	104.7	109.5	109.1	114.7	103.5	107.1	108.3	74.0	84.6	94.9	77.8	76.6	70.4	***	***	939.0	846.7	***	899.3
57	918.1	113.0	113.2	105.9	110.1	109.7	115.9	104.3	107.9	108.7	74.9	87.0	98.2	79.5	78.6	71.9	***	***	937.0	862.0	***	910.3
58	918.9	114.1	113.9	107.0	110.8	110.3	117.4	105.2	108.7	109.1	76.4	90.2	102.6	79.6	81.6	74.2	***	***	937.1	868.9	***	911.3
59	919.6	115.2	114.6	107.7	111.3	110.7	119.4	106.2	109.7	109.4	76.1	92.0	104.6	80.6	81.9	74.7	***	***	937.6	854.4	***	923.1
60	920.2	116.5	115.4	108.5	111.9	111.2	123.0	107.0	110.6	109.7	77.4	94.7	107.7	83.4	83.8	76.2	***	***	936.4	847.0	***	934.9
61	920.8	118.3	116.3	109.2	112.2	111.6	129.9	107.6	111.5	110.0	79.3	97.5	109.6	84.3	86.0	75.9	***	***	942.1	857.0	***	965.3
62	933.0	121.3	117.5	109.8	112.5	112.0	142.5	108.1	112.5	110.3	78.6	97.7	114.2	82.7	86.2	77.4	***	***	948.1	869.2	***	1035.7
63	940.0	127.5	119.0	110.5	113.0	112.5	163.2	108.4	113.5	110.6	76.8	99.2	116.9	82.5	89.8	77.6	***	***	931.9	934.6	***	1001.0
64	933.3	138.1	121.4	111.4	113.7	113.2	197.1	108.7	114.7	111.0	81.5	102.8	120.8	83.5	92.9	80.9	***	***	914.5	932.5	***	962.0
65	926.3	160.9	126.5	112.4	114.5	114.1	234.9	108.9	116.3	111.5	83.0	105.6	122.6	85.6	93.8	81.2	***	***	905.4	932.1	***	962.1
66	931.4	198.2	134.6	113.4	116.0	115.5	280.1	109.1	119.2	112.1	83.2	107.7	127.6	87.8	96.1	81.5	***	***	907.2	945.4	***	997.4
67	939.6	250.1	152.0	114.3	117.8	117.6	339.0	109.3	125.4	112.8	83.5	110.1	130.2	89.7	98.5	82.7	***	***	908.7	944.3	***	1015.5
68	945.6	302.8	176.9	115.3	120.5	121.9	424.0	109.6	134.1	113.5	85.1	113.0	132.1	98.3	103.9	83.8	***	***	909.0	933.4	***	1034.0
69	947.8	364.7	216.5	116.4	125.8	128.1	486.3	109.8	154.0	114.3	84.9	116.0	136.9	107.4	114.0	86.0	***	***	903.6	939.0	***	989.7
70	943.3	430.7	256.1	117.7	134.2	139.9	537.6	110.1	195.0	115.4	86.7	117.9	139.6	122.5	135.9	87.8	***	***	894.1	938.8	***	981.5

Table 2. Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation (Cont.)

Time (min)	T(Fav) (°C)	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
0	26.3	25.9	***	26.0	25.6	26.0	25.6	25.8	25.8	25.8	25.5	26.1	25.7	26.0	25.6	26.0	25.5	25.9	25.5	***	***
1	36.8	25.9	***	27.8	26.7	26.0	25.6	26.8	27.6	26.0	25.8	28.4	27.4	26.2	25.8	27.0	26.3	26.2	25.6	***	***
2	177.0	29.6	***	62.8	52.0	30.5	26.4	66.9	65.1	42.0	32.0	61.6	43.4	42.6	33.4	59.2	54.0	40.6	30.4	***	***
3	407.6	63.7	***	95.8	91.7	71.0	47.3	86.3	85.9	72.1	60.5	82.0	67.6	73.1	62.4	80.8	72.4	70.9	59.6	***	***
4	437.1	68.0	***	89.4	87.1	74.6	54.9	81.5	78.9	71.6	60.8	79.1	66.3	72.5	62.9	76.8	68.9	70.9	60.7	***	***
5	454.3	66.6	***	89.7	86.9	72.5	54.4	84.2	83.5	69.9	59.2	77.4	64.3	70.4	61.5	75.7	66.8	68.8	59.0	***	***
6	596.4	74.7	***	99.2	95.7	80.2	61.6	98.2	99.8	78.9	69.7	93.8	77.2	79.3	70.6	91.6	76.7	77.2	68.0	***	***
7	612.3	79.5	***	105.0	94.8	84.4	66.9	107.9	110.6	81.7	73.7	105.5	87.5	83.2	75.2	102.6	91.5	81.5	72.7	***	***
8	612.8	80.5	***	108.8	94.0	84.7	67.8	112.4	113.5	83.7	77.6	109.2	91.4	87.0	77.3	106.3	96.3	85.2	75.1	***	***
9	671.9	82.9	***	114.7	96.4	86.5	70.1	115.3	115.4	89.0	83.0	113.4	96.1	90.9	82.6	108.7	101.1	88.8	80.2	***	***
10	713.8	85.5	***	125.3	103.9	88.0	72.8	118.4	118.5	93.0	88.4	122.7	101.3	95.4	87.3	112.6	106.6	92.5	84.7	***	***
11	720.4	87.0	***	141.8	113.1	88.6	74.7	125.5	124.8	98.0	92.5	146.3	110.2	101.9	92.2	121.1	110.3	97.0	88.3	***	***
12	714.3	88.0	***	201.0	126.9	94.7	76.8	157.5	129.1	109.5	98.2	208.4	129.4	124.5	99.8	143.8	114.4	105.5	91.5	***	***
13	727.0	101.2	***	267.8	148.5	109.9	79.2	214.3	165.8	136.8	112.0	259.6	168.0	157.9	115.3	194.5	121.6	125.7	95.8	***	***
14	751.7	124.6	***	325.6	195.0	135.2	82.8	255.1	215.9	172.8	134.5	303.3	216.3	198.3	141.4	233.5	138.5	154.9	103.7	***	***
15	765.7	150.7	***	372.2	245.6	162.0	94.4	292.8	255.0	207.1	172.9	339.4	268.2	232.3	181.2	276.7	183.0	192.2	119.6	***	***
16	764.8	179.3	***	412.2	297.7	181.6	110.2	325.7	284.2	239.8	201.1	364.0	320.8	254.3	206.7	311.5	224.5	228.1	140.8	***	***
17	763.6	197.2	***	437.6	335.6	194.9	128.6	343.9	304.7	259.3	220.7	375.8	346.2	269.6	230.3	336.2	256.9	252.0	177.3	***	***
18	772.2	209.9	***	456.6	368.2	205.0	147.0	362.6	327.8	278.4	238.4	386.1	357.8	282.6	246.6	356.7	284.5	267.9	207.7	***	***
19	789.3	222.8	***	469.3	390.7	206.3	162.1	376.6	346.6	290.9	257.0	396.6	371.2	298.2	263.9	377.1	307.4	284.3	231.1	***	***
20	800.1	235.6	***	484.4	410.4	208.7	175.2	393.4	373.3	303.3	277.5	410.6	382.5	311.3	280.5	393.6	322.5	295.1	247.9	***	***
21	798.4	246.7	***	493.1	429.4	214.3	188.0	411.7	396.9	315.6	293.4	426.5	395.7	326.1	295.9	407.6	341.6	309.9	269.4	***	***
22	795.5	251.6	***	500.1	445.7	218.3	201.2	426.7	417.0	329.1	307.6	438.0	407.9	340.9	312.2	418.5	365.5	323.8	284.2	***	***
23	803.0	276.5	***	508.1	458.7	222.3	214.1	436.1	430.2	344.3	320.5	447.5	418.3	353.7	325.1	429.6	371.6	338.2	293.3	***	***
24	816.8	296.5	***	513.5	461.2	224.0	226.1	447.9	440.4	359.3	334.0	457.8	429.8	365.6	340.0	439.7	380.1	352.0	304.4	***	***
25	826.6	312.6	***	522.2	469.5	228.9	237.6	459.6	453.3	374.7	348.5	468.2	441.4	379.3	354.4	451.3	387.5	368.9	313.9	***	***
26	825.5	326.1	***	533.5	480.5	237.2	247.9	472.0	464.9	390.0	361.8	481.6	453.2	395.6	370.6	464.0	399.0	383.2	323.5	***	***
27	821.8	339.8	***	543.9	489.6	244.1	256.7	482.7	476.4	400.5	375.2	492.6	463.2	410.0	385.1	476.6	407.8	401.1	332.0	***	***
28	825.7	350.3	***	552.3	496.4	250.4	263.9	490.7	485.7	409.3	390.1	499.1	475.8	422.5	397.5	486.7	416.0	412.7	338.7	***	***
29	839.6	362.6	***	559.2	504.0	259.4	270.3	497.9	497.1	421.3	407.3	510.5	491.1	438.3	415.9	494.7	425.1	424.6	349.7	***	***
30	845.1	397.4	***	566.6	514.0	274.2	275.2	507.7	509.0	433.4	425.7	520.8	504.9	450.6	433.0	504.9	438.5	437.7	363.8	***	***
31	846.1	417.0	***	573.1	524.6	279.8	273.5	517.7	519.8	446.8	437.7	521.9	518.2	456.8	448.3	515.1	450.9	448.5	378.6	***	***
32	842.2	445.5	***	579.5	536.4	286.4	263.6	527.0	529.5	462.0	452.3	529.9	533.2	468.9	465.0	523.9	464.0	460.8	394.4	***	***
33	845.1	471.3	***	584.4	547.5	294.8	246.1	535.5	538.3	475.3	467.2	539.3	544.1	482.0	483.6	534.1	477.9	475.5	408.8	***	***
34	858.1	495.1	***	589.9	556.4	303.8	230.1	544.4	547.5	487.4	480.7	551.1	554.6	497.0	497.3	544.6	487.0	490.2	420.5	***	***
35	866.0	519.9	***	596.2	565.6	314.1	220.6	554.6	557.5	500.4	492.9	568.7	564.8	516.0	512.7	558.0	497.3	506.5	430.8	***	***
36	865.7	543.8	***	603.5	575.2	320.0	214.0	566.5	564.6	515.4	502.1	582.5	576.4	533.9	526.8	573.3	516.0	521.9	444.9	***	***
37	860.9	564.1	***	609.7	583.3	316.6	207.3	576.6	571.1	528.5	507.0	593.4	584.4	548.5	538.3	589.3	528.3	536.9	457.5	***	***
38	862.3	584.6	***	613.8	586.4	316.6	199.9	585.2	573.6	540.1	511.6	607.6	589.6	565.9	545.4	601.9	526.0	551.9	463.6	***	***
39	872.9	603.3	***	620.0	588.1	326.3	196.7	594.9	575.1	552.8	516.5	614.1	596.2	576.6	554.4	612.9	526.6	565.3	470.9	***	***
40	881.7	620.7	***	628.7	592.0	345.7	190.8	607.1	576.1	566.7	524.4	631.0	609.4	595.7	566.5	625.4	525.8	582.7	474.4	***	***
41	884.5	645.4	***	640.2	597.0	358.4	195.2	622.5	579.3	584.5	534.1	647.6	619.6	613.5	578.0	641.9	522.7	610.0	485.3	***	***
42	880.9	661.5	***	648.3	603.7	370.2	204.8	638.8	582.9	605.9	542.1	660.8	628.1	629.2	589.0	660.4	529.0	636.0	490.8	***	***

Table 2. Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation (Cont.)

Time (min)	T(Fav) (°C)	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
43	880.1	676.6	***	656.5	607.3	385.3	218.9	658.4	589.6	630.0	549.8	672.6	635.6	643.2	600.6	675.4	535.5	656.4	494.4	***	***
44	880.7	689.9	***	664.2	611.9	405.5	238.5	677.8	597.5	654.7	558.1	683.3	640.3	656.0	611.4	688.7	534.3	679.6	497.7	***	***
45	887.8	704.0	***	669.8	615.0	431.4	258.6	696.5	603.6	678.0	565.8	694.6	655.2	668.4	620.9	701.6	536.2	693.0	504.8	***	***
46	896.7	715.1	***	677.5	619.1	452.4	271.2	713.1	611.9	699.1	573.4	706.2	666.8	681.3	632.3	716.7	543.5	711.5	512.4	***	***
47	902.4	722.1	***	682.6	624.4	464.9	279.3	724.0	620.2	714.7	583.7	715.9	684.8	693.6	645.1	735.2	551.9	732.2	522.2	***	***
48	898.4	726.5	***	688.4	630.4	484.4	288.3	734.5	627.8	728.5	592.2	721.6	708.0	704.1	662.7	752.6	558.3	753.8	530.2	***	***
49	893.7	731.9	***	698.3	637.5	526.2	302.1	739.8	634.6	735.0	597.8	728.1	714.5	713.5	679.5	777.1	565.3	785.1	538.3	***	***
50	896.9	740.0	***	712.0	646.8	553.7	323.6	745.5	641.7	742.1	605.0	740.7	724.6	728.1	702.0	807.1	571.1	811.2	544.0	***	***
51	907.7	752.5	***	727.6	658.7	607.7	357.2	753.3	656.1	753.9	613.4	757.3	758.9	746.5	740.8	830.6	576.8	828.8	550.4	***	***
52	913.3	779.8	***	749.4	711.9	678.5	385.2	771.8	685.3	771.7	633.2	788.3	888.7	779.9	866.7	875.0	585.5	865.0	556.9	***	***
53	912.5	841.0	***	802.2	745.8	757.2	437.4	841.4	691.6	840.3	655.1	871.9	866.4	852.1	874.6	939.6	600.7	911.3	585.5	***	***
54	912.2	948.7	***	958.2	924.8	957.2	545.8	949.9	757.2	948.1	758.9	953.6	976.4	946.6	911.0	951.8	622.6	920.4	617.0	***	***
55	916.1	946.7	***	953.4	922.3	952.5	552.6	947.1	746.1	945.5	749.4	949.5	980.1	943.9	916.5	936.2	657.0	912.3	662.5	***	***
56	918.3	938.5	***	943.0	920.6	943.1	597.0	939.2	878.9	937.1	762.7	943.2	975.6	935.4	938.7	933.0	695.8	907.1	693.9	***	***
57	918.1	938.0	***	940.5	918.6	941.5	694.9	938.5	905.5	935.9	781.6	943.7	957.0	934.8	938.6	930.3	717.0	911.4	713.6	***	***
58	918.9	939.1	***	942.4	918.8	944.0	680.0	940.5	914.2	936.7	794.9	944.9	976.8	935.1	943.4	935.1	739.9	914.2	740.7	***	***
59	919.8	940.1	***	942.1	921.0	943.9	722.0	941.7	921.4	937.6	813.1	947.5	1002.2	936.3	947.1	940.4	762.9	922.7	766.3	***	***
60	920.2	939.9	***	940.7	911.4	944.7	744.4	941.6	917.3	936.4	899.3	947.3	1005.2	935.3	955.1	938.4	796.1	921.8	795.5	***	***
61	920.8	948.0	***	946.9	926.5	952.2	773.7	948.6	1141.1	941.6	967.0	956.0	1051.5	940.6	959.0	942.1	865.7	929.9	881.9	***	***
62	933.0	958.7	***	951.7	926.3	959.0	816.4	956.5	1082.1	947.5	992.8	966.5	1086.2	947.1	959.3	953.8	883.9	946.6	879.1	***	***
63	940.0	946.7	***	935.4	922.5	943.1	805.9	941.1	1000.5	929.5	970.1	951.3	1043.0	930.3	947.9	928.7	858.7	929.5	858.6	***	***
64	933.3	933.5	***	920.6	915.7	928.1	790.0	924.8	973.7	911.3	959.3	938.4	1028.1	911.9	921.9	928.5	851.3	929.5	851.1	***	***
65	928.3	929.7	***	913.4	921.6	920.6	788.9	917.1	977.3	901.0	966.6	934.5	1020.0	901.1	933.3	926.4	848.7	926.8	851.6	***	***
66	931.4	940.0	***	919.2	940.7	924.0	815.9	919.8	972.9	900.4	1001.9	942.8	1050.9	901.8	946.6	939.0	863.6	938.3	867.9	***	***
67	939.6	947.5	***	926.7	946.3	926.4	833.9	920.4	980.7	901.3	1003.9	946.0	1065.7	905.2	957.6	941.4	876.0	945.3	878.6	***	***
68	945.6	951.4	***	932.2	948.2	926.5	850.0	917.9	984.1	901.0	986.2	946.8	1074.8	906.7	958.5	951.9	886.3	954.7	885.9	***	***
69	947.8	949.5	***	930.8	947.8	920.1	866.5	908.0	993.7	893.4	973.2	936.5	1054.6	901.0	956.0	936.4	882.2	948.7	881.6	***	***
70	943.3	942.0	***	924.9	947.1	909.1	863.9	894.1	993.6	882.3	962.4	923.8	1033.6	891.3	951.0	920.1	867.2	942.5	869.2	***	***

Table 2. Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation (Cont.)

Time (min)	T(Fav) (°C)	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
0	26.3	25.4	25.2	***	***	25.7	25.3	***	***	25.7	25.4	***	***	25.8	25.3	***	***	25.6	25.2
1	36.8	25.5	25.2	***	***	25.7	25.4	***	***	25.8	25.4	***	***	25.8	25.4	***	***	25.6	25.2
2	177.0	25.4	25.2	***	***	25.7	25.4	***	***	25.9	25.5	***	***	26.0	25.4	***	***	25.7	25.2
3	407.6	25.9	25.6	***	***	26.0	25.6	***	***	26.4	26.0	***	***	58.9	26.1	***	***	26.2	25.5
4	437.1	28.7	28.0	***	***	28.0	27.2	***	***	29.9	28.8	***	***	69.1	28.8	***	***	29.1	27.6
5	454.3	33.2	31.5	***	***	31.7	30.0	***	***	34.9	32.8	***	***	68.5	32.5	***	***	33.4	30.8
6	596.4	37.0	34.4	***	***	35.2	32.6	***	***	39.2	36.0	***	***	77.6	35.6	***	***	37.0	33.5
7	612.3	41.1	37.6	***	***	38.9	35.2	***	***	43.5	39.4	***	***	82.1	38.8	***	***	41.0	36.4
8	612.8	45.8	41.5	***	***	43.2	38.3	***	***	48.0	43.4	***	***	81.7	42.5	***	***	45.6	40.0
9	671.9	50.0	45.0	***	***	47.2	41.4	***	***	51.6	47.2	***	***	82.1	45.8	***	***	49.6	43.2
10	713.8	54.1	48.5	***	***	50.8	44.6	***	***	54.9	50.6	***	***	82.9	49.0	***	***	53.2	46.5
11	720.4	58.0	52.2	***	***	54.1	47.7	***	***	58.4	54.3	***	***	83.4	52.2	***	***	56.7	49.8
12	714.3	61.5	55.9	***	***	57.2	50.9	***	***	61.5	58.0	***	***	82.8	55.3	***	***	59.9	53.2
13	727.0	64.0	59.1	***	***	59.9	53.9	***	***	64.5	61.3	***	***	83.0	58.1	***	***	62.7	56.2
14	751.7	66.5	62.4	***	***	63.0	56.8	***	***	69.3	65.0	***	***	84.6	60.6	***	***	65.7	58.8
15	765.7	71.5	67.3	***	***	67.4	60.5	***	***	74.3	69.7	***	***	84.4	62.8	***	***	69.9	61.5
16	764.8	76.8	72.5	***	***	73.0	66.0	***	***	78.9	75.0	***	***	85.1	67.2	***	***	73.8	65.1
17	763.6	80.4	77.2	***	***	78.8	71.9	***	***	82.0	79.1	***	***	87.8	72.6	***	***	78.2	69.3
18	772.2	83.2	82.0	***	***	82.6	79.1	***	***	83.8	82.8	***	***	88.6	79.1	***	***	81.5	73.8
19	789.3	84.8	84.6	***	***	85.0	84.0	***	***	85.1	84.8	***	***	86.9	84.4	***	***	83.4	78.1
20	800.1	87.0	86.1	***	***	87.1	87.8	***	***	87.1	86.2	***	***	86.5	87.8	***	***	85.3	82.1
21	798.4	89.8	88.2	***	***	89.4	91.2	***	***	89.2	89.0	***	***	87.3	91.1	***	***	87.7	84.6
22	795.5	92.8	90.4	***	***	93.0	94.1	***	***	91.6	92.3	***	***	88.8	93.8	***	***	90.2	86.2
23	803.0	95.8	92.3	***	***	95.4	96.6	***	***	94.3	95.2	***	***	90.6	96.6	***	***	92.2	88.4
24	816.6	98.7	93.8	***	***	97.5	98.9	***	***	96.8	97.6	***	***	93.1	99.4	***	***	93.6	90.9
25	826.6	101.3	94.9	***	***	99.1	100.7	***	***	99.3	99.5	***	***	95.3	101.7	***	***	94.8	93.4
26	825.5	103.7	96.0	***	***	100.2	102.3	***	***	102.1	101.4	***	***	97.1	103.6	***	***	96.0	95.7
27	821.8	105.9	97.0	***	***	100.7	103.8	***	***	104.7	103.3	***	***	98.5	105.1	***	***	97.9	98.1
28	825.7	107.9	97.7	***	***	101.2	104.9	***	***	106.0	104.7	***	***	99.7	106.4	***	***	100.5	100.1
29	839.6	109.7	98.6	***	***	101.9	106.1	***	***	106.7	105.6	***	***	101.2	107.5	***	***	101.7	101.7
30	848.1	111.5	99.4	***	***	102.7	107.1	***	***	106.2	106.1	***	***	102.8	107.7	***	***	102.3	103.2
31	846.1	112.4	100.4	***	***	103.8	108.1	***	***	105.4	106.6	***	***	104.3	108.0	***	***	102.0	104.8
32	842.2	112.3	101.5	***	***	105.7	109.3	***	***	107.1	107.9	***	***	105.7	108.8	***	***	100.6	107.0
33	845.1	112.8	102.3	***	***	107.2	110.7	***	***	110.8	109.6	***	***	107.3	110.1	***	***	100.7	109.1
34	858.1	114.4	102.6	***	***	108.8	111.8	***	***	113.4	109.8	***	***	108.9	111.5	***	***	102.6	110.8
35	868.0	117.2	103.0	***	***	110.5	113.2	***	***	115.8	110.7	***	***	110.6	112.7	***	***	105.3	111.5
36	865.7	120.9	103.9	***	***	112.3	115.0	***	***	120.5	112.8	***	***	112.8	113.8	***	***	108.2	111.3
37	860.9	127.4	105.4	***	***	114.8	117.5	***	***	127.6	116.1	***	***	115.0	115.2	***	***	111.7	111.0
38	862.3	134.3	108.7	***	***	118.4	121.1	***	***	136.2	123.4	***	***	116.6	117.1	***	***	115.9	111.9
39	872.9	150.6	112.7	***	***	124.6	127.9	***	***	144.9	131.0	***	***	118.2	119.6	***	***	124.5	113.1
40	881.7	162.7	120.0	***	***	132.6	136.1	***	***	160.1	145.5	***	***	122.2	123.0	***	***	129.7	114.9
41	884.5	183.6	131.1	***	***	150.9	150.4	***	***	173.5	161.8	***	***	133.0	124.1	***	***	140.9	117.3
42	880.9	204.7	145.0	***	***	178.9	168.4	***	***	179.8	181.4	***	***	145.8	130.1	***	***	158.6	122.1

Table 2. Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation (Cont.)

Time (min)	T(Fav) (°C)	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
43	880.1	219.1	165.9	***	***	201.7	189.4	***	***	213.7	199.9	***	***	165.4	138.8	***	***	177.9	126.4
44	880.7	235.2	182.8	***	***	219.1	205.1	***	***	248.5	217.7	***	***	184.3	148.9	***	***	184.0	137.2
45	887.8	259.5	189.9	***	***	234.0	215.7	***	***	270.0	236.8	***	***	195.4	161.9	***	***	188.8	147.5
46	896.7	280.5	197.5	***	***	247.7	225.7	***	***	287.1	254.6	***	***	212.1	175.7	***	***	201.2	158.2
47	902.4	296.2	207.0	***	***	260.5	235.9	***	***	302.3	271.5	***	***	231.0	193.2	***	***	215.1	175.0
48	898.4	309.7	216.9	***	***	271.7	245.3	***	***	316.7	286.8	***	***	244.8	207.8	***	***	228.0	186.0
49	893.7	320.5	226.7	***	***	282.3	254.1	***	***	329.1	299.6	***	***	251.9	215.9	***	***	239.6	192.4
50	896.9	330.2	238.9	***	***	293.1	262.1	***	***	339.9	310.0	***	***	269.6	224.9	***	***	271.4	199.6
51	907.7	339.2	250.1	***	***	304.2	270.0	***	***	350.3	320.7	***	***	273.6	235.5	***	***	308.2	208.3
52	913.3	346.9	261.2	***	***	314.8	278.0	***	***	360.7	335.2	***	***	286.7	241.4	***	***	338.5	217.4
53	912.5	357.1	274.4	***	***	327.4	290.7	***	***	372.2	356.3	***	***	305.4	247.0	***	***	358.2	226.3
54	912.2	367.0	286.8	***	***	343.1	307.9	***	***	362.3	382.6	***	***	321.9	260.7	***	***	367.3	235.3
55	916.1	373.8	299.0	***	***	362.9	327.2	***	***	364.4	409.0	***	***	346.2	287.1	***	***	394.0	249.2
56	918.3	345.4	311.3	***	***	379.1	348.9	***	***	382.9	434.8	***	***	375.9	332.4	***	***	411.4	264.7
57	918.1	348.3	327.3	***	***	392.7	371.2	***	***	408.0	460.8	***	***	405.1	374.1	***	***	428.1	281.7
58	918.9	356.2	344.7	***	***	406.8	387.9	***	***	437.8	482.3	***	***	432.6	401.0	***	***	442.6	301.0
59	919.8	364.0	356.0	***	***	419.7	399.2	***	***	461.7	505.8	***	***	455.4	447.0	***	***	456.0	319.0
60	920.2	371.8	357.8	***	***	432.1	409.4	***	***	488.3	526.9	***	***	479.1	521.1	***	***	468.6	336.2
61	920.8	379.9	334.7	***	***	443.9	421.7	***	***	518.1	547.8	***	***	505.3	595.3	***	***	481.6	361.0
62	933.0	391.8	345.7	***	***	456.2	435.5	***	***	542.2	564.8	***	***	532.6	621.3	***	***	497.7	380.5
63	940.0	406.2	368.1	***	***	469.6	449.2	***	***	564.2	584.8	***	***	559.6	633.2	***	***	514.1	405.0
64	933.3	420.5	397.8	***	***	482.3	461.3	***	***	584.8	600.9	***	***	585.8	641.7	***	***	528.9	430.1
65	928.3	434.9	434.1	***	***	493.2	472.0	***	***	602.3	615.5	***	***	611.9	653.9	***	***	543.8	445.1
66	931.4	450.7	463.0	***	***	502.9	482.5	***	***	617.8	628.7	***	***	640.8	672.0	***	***	557.9	460.3
67	939.6	467.1	492.1	***	***	513.1	493.7	***	***	633.7	642.2	***	***	680.8	692.0	***	***	571.3	477.2
68	945.6	483.3	517.2	***	***	523.8	505.5	***	***	650.6	655.4	***	***	727.2	713.2	***	***	586.1	495.3
69	947.8	498.6	539.1	***	***	535.5	516.9	***	***	669.1	669.8	***	***	780.9	730.5	***	***	600.3	515.4
70	943.3	514.5	553.8	***	***	547.6	528.2	***	***	689.6	686.6	***	***	833.4	749.7	***	***	615.9	532.7

Table 3. Average Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(18,19,24,25)	BL/Cav. (Exp.) Av(28,29,32, 33,36,37)	Mid. SStd. Av(16,17,22,23)	BL/Cav. (UnExp.) Av(30,31,34, 35,38,39)	BL/SStd. (UnExp.) Av(20,21,26,27)	BL/FL (UnExp.) Av(42,43,46,47,50, 51,54,55,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
0	26.3	25.8	25.9	25.9	25.7	25.7	25.5	25.6
1	36.8	27.1	27.4	25.9	25.9	25.8	25.5	25.6
2	177.0	63.5	61.4	29.6	36.9	28.1	25.5	25.6
3	407.6	96.4	81.5	63.7	66.4	56.4	29.2	25.7
4	437.1	91.6	77.4	68.0	66.6	62.3	32.5	25.7
5	454.3	92.3	77.5	66.6	64.8	61.2	35.9	25.9
6	596.4	97.9	92.3	74.7	74.0	68.9	39.8	26.5
7	612.3	98.6	103.9	79.5	78.0	74.3	43.4	27.4
8	612.8	100.6	107.8	80.5	81.0	75.2	47.0	28.9
9	671.9	105.5	111.2	82.9	85.8	77.7	50.3	30.9
10	713.8	116.9	116.9	85.5	90.2	80.3	53.5	33.2
11	720.4	135.9	129.0	87.0	95.0	82.1	56.7	35.7
12	714.3	174.2	160.3	88.0	104.8	85.4	59.6	38.3
13	727.0	222.3	202.6	101.2	123.9	91.7	62.3	40.9
14	751.7	276.9	241.6	124.6	150.9	103.6	65.3	43.5
15	765.7	320.5	281.0	150.7	184.2	125.2	68.9	46.2
16	784.8	356.1	312.3	179.3	211.8	145.1	73.3	49.1
17	763.8	396.5	332.2	197.2	234.9	162.3	77.7	52.1
18	772.2	425.6	350.6	209.9	253.6	175.8	81.6	55.5
19	789.3	451.5	366.8	222.8	270.9	185.6	84.1	59.1
20	800.1	471.6	384.0	235.6	285.9	196.1	86.3	62.4
21	798.4	486.4	401.8	246.7	301.7	207.2	88.7	65.5
22	795.5	502.0	417.3	251.6	316.3	217.6	91.3	68.2
23	803.0	522.5	427.1	276.5	329.2	227.9	93.7	70.5
24	816.8	532.9	437.3	296.5	342.6	237.4	96.0	72.3
25	826.6	543.2	448.0	312.6	356.6	247.6	98.0	73.8
26	825.5	550.2	460.5	326.1	370.8	258.5	99.8	74.9
27	821.8	560.3	471.4	339.8	384.0	268.5	101.5	75.8
28	825.7	576.3	479.5	350.3	395.1	278.6	102.9	76.4
29	839.6	594.7	489.3	362.6	409.5	289.2	104.1	76.9
30	848.1	614.9	500.2	397.4	424.0	301.2	104.9	77.2
31	846.1	624.8	507.9	417.0	436.1	308.5	105.6	77.5
32	842.2	634.2	517.4	445.5	450.5	311.8	106.6	77.8
33	845.1	649.0	527.4	471.3	465.4	314.3	108.1	78.1
34	858.1	660.2	537.6	495.1	478.9	323.6	109.5	78.4
35	868.0	671.7	550.8	519.9	493.2	330.6	111.1	78.6
36	865.7	678.5	564.2	543.8	507.5	336.2	113.2	78.8
37	860.9	681.7	575.3	564.1	519.4	338.0	116.2	79.1
38	862.3	694.1	583.7	584.6	529.7	340.4	120.4	79.5
39	872.9	698.5	589.6	603.3	539.4	346.9	126.7	80.1
40	881.7	706.6	599.4	620.7	551.7	355.1	134.7	80.9
41	884.5	709.5	610.2	645.4	567.6	364.5	146.7	81.8
42	880.9	712.6	622.1	661.5	582.2	375.3	161.5	82.9

Table 3. Average Temperatures Measured in Full Scale Assembly F-07, Steel Stud, 1x2 Gypsum Board Layers, No Insulation (Cont.)

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(26,27,36,37)	BL/Cav. (Exp.) Av(18,19,46,47)	Mid. SStd. Av(28,29,38,39)	BL/Cav. (UnExp.) Av(20,21,48,49)	BL/SStd. (UnExp.) Av(30,31,40, 41,48,49)	BL/FL (UnExp.) Av(22,23,32,33, 42,43,50,51)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
43	880.1	715.3	634.0	676.6	595.7	388.3	179.8	84.4
44	880.7	714.8	644.1	689.9	609.6	404.9	196.3	86.9
45	887.8	717.6	654.5	704.0	621.8	423.7	209.9	89.6
46	896.7	716.3	666.3	715.1	635.0	438.2	224.1	92.2
47	902.4	711.9	677.2	722.1	648.6	448.4	238.8	94.8
48	898.4	707.1	686.1	726.5	661.9	462.5	251.4	97.3
49	893.7	706.7	695.5	731.9	674.9	485.4	261.2	99.5
50	896.9	714.7	707.8	740.0	688.7	506.0	274.0	101.5
51	907.7	729.0	721.9	752.5	705.6	544.0	286.0	103.2
52	913.3	774.6	749.0	779.8	745.6	614.1	298.1	104.8
53	912.5	813.1	802.8	841.0	786.5	668.3	311.3	106.2
54	912.2	918.2	864.8	948.7	850.4	802.6	323.5	107.3
55	916.1	905.4	864.2	946.7	855.0	800.8	341.3	108.2
56	918.3	912.3	888.9	936.5	862.5	813.2	358.7	109.0
57	918.1	914.5	896.4	938.0	869.3	848.9	379.7	109.9
58	918.9	916.8	903.3	939.1	877.5	845.1	399.3	110.7
59	919.6	913.8	910.2	940.1	887.2	863.0	418.4	111.6
60	920.2	908.9	914.7	939.9	907.2	874.7	439.1	112.6
61	920.6	918.1	968.3	948.0	936.7	897.1	458.9	114.1
62	933.0	923.8	968.2	958.7	945.4	937.0	476.8	116.3
63	940.0	931.1	938.6	946.7	927.6	916.6	495.4	119.8
64	933.3	920.8	925.8	933.5	914.2	893.4	513.4	125.5
65	928.3	918.1	923.1	929.7	913.4	890.6	530.7	133.3
66	931.4	928.1	930.1	940.0	926.1	912.5	547.7	144.2
67	939.6	931.5	935.1	947.5	932.0	925.3	566.3	159.8
68	945.6	930.7	939.0	951.4	932.2	936.8	585.8	179.8
69	947.6	930.3	932.2	949.5	925.6	925.5	605.6	201.8
70	943.3	928.2	920.4	942.0	916.5	918.2	625.2	226.3

Table 4. Temperatures Measured in Full Scale Assembly F-09, Steel Stud, 1x2 Gypsum Board Layers, Glass Fibre Insulation

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0	19.0	22.0	22.9	21.7	21.6	22.5	22.5	22.2	21.4	22.0	23.9	23.9	22.6	24.3	23.3	25.2	21.5	20.9	20.8	20.5	22.4	21.5
1	30.7	22.0	22.9	21.7	21.5	22.5	22.5	22.2	21.2	21.9	24.0	23.8	22.5	24.2	23.1	25.2	21.5	20.9	21.2	20.9	22.4	21.5
2	171.2	22.0	22.9	21.7	21.5	22.5	22.5	22.2	21.0	22.0	23.9	23.8	22.6	24.2	23.0	25.2	23.9	37.9	86.7	73.9	28.6	21.6
3	406.3	22.0	22.9	21.7	21.5	22.5	22.5	22.2	21.1	22.0	23.9	23.9	22.5	24.2	23.0	25.1	76.4	96.0	98.6	97.8	80.3	47.9
4	441.4	22.0	22.9	21.7	21.5	22.5	22.5	22.2	21.0	21.9	23.9	23.9	22.7	24.2	22.9	25.2	87.4	92.6	96.1	96.1	80.5	82.7
5	458.4	22.0	22.9	21.7	21.5	22.5	22.6	22.2	20.9	22.0	24.0	24.2	23.1	24.2	22.9	25.2	84.1	89.7	96.5	94.4	81.6	79.0
6	591.9	22.3	23.0	21.7	21.7	22.6	22.9	22.3	21.1	22.0	24.2	24.8	23.9	24.3	23.0	25.3	88.4	94.7	97.2	97.0	85.1	73.2
7	614.0	22.7	23.2	21.8	22.1	22.8	23.4	22.4	21.2	22.2	24.7	25.6	25.2	24.5	23.0	25.5	90.3	94.6	98.8	95.8	86.3	86.6
8	621.1	23.4	23.5	21.9	22.7	23.2	24.3	22.7	21.4	22.6	25.6	26.9	26.2	24.6	23.2	25.8	89.4	93.3	106.4	97.0	85.1	87.2
9	670.3	24.4	24.0	22.1	23.5	23.7	25.4	23.0	21.6	23.1	26.6	28.4	27.6	25.0	23.4	26.2	90.0	94.5	120.0	102.7	84.2	80.8
10	705.2	25.7	24.7	22.4	24.6	24.5	26.7	23.5	21.8	23.9	27.8	30.0	29.3	25.2	23.6	26.8	91.0	94.5	133.4	116.1	83.8	78.5
11	717.2	27.0	25.7	22.8	25.9	25.4	28.2	24.1	22.2	24.7	29.1	31.8	30.9	25.9	23.9	27.4	91.6	94.2	141.3	130.5	83.3	78.3
12	720.7	28.6	27.0	23.4	27.5	26.5	29.8	24.9	22.4	25.8	30.4	33.5	32.7	26.4	24.3	28.1	91.5	93.8	153.1	146.7	83.6	85.1
13	732.3	30.1	28.5	24.0	29.2	27.9	31.5	25.7	23.1	27.0	31.9	35.2	34.3	26.8	24.7	28.8	92.7	95.3	172.8	173.7	81.9	82.6
14	746.0	31.8	30.3	24.8	31.1	29.5	33.2	26.7	23.5	28.4	33.1	36.9	35.8	27.6	25.3	29.8	102.7	111.8	221.0	215.2	80.3	75.8
15	758.9	33.5	32.2	25.8	33.1	31.3	35.0	27.8	24.3	30.0	34.4	38.5	37.2	28.1	25.8	30.8	126.1	127.9	238.6	238.9	85.8	73.7
16	766.2	35.0	34.0	26.8	35.1	33.3	36.6	28.9	24.5	31.7	35.5	40.2	38.3	28.8	26.4	31.8	159.9	140.3	295.1	292.8	89.8	74.2
17	770.7	36.5	35.8	28.0	37.2	35.3	38.3	30.1	25.2	33.3	36.8	41.7	39.1	29.5	27.1	32.8	192.7	164.5	345.3	363.8	91.9	77.0
18	777.8	37.9	37.6	29.3	39.2	37.3	39.9	31.3	25.7	35.0	37.6	43.1	40.1	30.1	27.8	33.8	228.6	193.8	408.4	486.4	97.5	82.3
19	785.1	39.1	39.2	30.6	41.1	39.1	41.6	32.4	26.1	36.6	38.6	44.4	40.7	30.9	28.5	34.6	263.9	229.3	466.2	499.9	106.5	89.3
20	790.8	40.5	40.8	32.0	42.8	40.9	43.5	33.6	26.0	38.2	39.4	45.6	41.4	31.8	29.5	35.4	303.8	273.4	514.5	528.7	119.3	98.5
21	798.0	42.2	42.4	33.3	44.4	42.7	45.7	34.9	26.9	39.9	40.4	46.8	42.0	32.4	30.5	36.3	347.0	329.1	554.9	594.1	148.3	109.0
22	803.9	44.2	44.2	34.6	46.2	44.8	48.3	36.1	27.1	41.9	41.3	48.2	42.5	33.7	31.6	37.0	385.0	377.3	592.4	637.0	204.2	121.0
23	808.2	46.8	46.2	36.0	48.1	47.1	51.6	37.6	27.6	44.3	43.4	49.9	43.7	35.1	33.7	38.1	418.7	415.1	627.6	672.8	286.4	135.3
24	812.3	50.2	48.4	37.7	50.4	49.8	55.4	39.2	28.5	47.1	45.1	52.2	44.8	36.4	35.3	39.5	454.4	455.5	659.4	703.1	382.2	157.1
25	818.3	54.5	50.6	39.7	52.9	52.5	59.6	41.3	29.4	50.0	46.3	54.1	46.0	37.9	37.2	41.0	494.7	493.7	683.1	732.7	472.5	180.0
26	823.5	59.2	52.6	42.3	55.4	55.0	63.6	43.8	30.3	52.8	47.8	55.8	47.7	39.3	38.7	42.9	535.7	531.2	697.1	743.1	542.7	222.1
27	827.1	63.4	54.7	45.2	57.9	57.4	67.2	46.4	31.2	55.3	49.0	56.8	49.3	40.5	40.8	44.5	573.7	574.7	702.7	744.7	602.6	326.4
28	832.8	66.8	57.0	48.3	60.4	60.1	70.4	49.2	31.7	58.1	50.5	57.7	51.2	41.9	42.8	45.5	606.3	629.8	704.3	747.0	638.1	398.9
29	837.7	69.6	59.4	51.5	62.8	62.9	73.1	51.9	32.4	61.3	51.8	59.0	52.8	43.7	43.8	47.1	632.5	660.3	706.4	741.0	657.4	489.3
30	839.6	71.9	62.1	54.6	64.9	65.4	75.2	54.8	33.4	64.2	52.6	60.4	55.1	45.0	45.5	49.0	653.6	718.3	708.7	753.0	668.2	587.7
31	843.3	74.0	64.7	57.7	66.6	67.4	76.7	57.9	33.7	66.5	53.6	61.8	57.4	46.9	47.0	50.4	665.6	724.3	706.3	753.1	674.4	666.8
32	848.4	75.6	66.8	61.0	68.1	69.1	77.9	60.8	34.2	68.3	54.5	62.9	58.6	47.2	48.1	52.1	672.8	730.8	703.3	737.5	677.4	664.5
33	851.4	76.9	68.2	64.0	69.3	70.5	78.8	63.3	34.6	69.9	55.5	64.1	59.9	47.3	49.1	54.1	678.6	736.7	702.4	744.1	679.6	677.0
34	855.8	78.0	69.2	66.6	70.4	71.8	79.5	65.4	35.7	71.2	56.0	65.1	62.5	48.4	50.4	54.4	683.6	734.0	704.5	744.4	681.4	667.7
35	859.4	79.1	70.1	68.7	71.3	73.0	80.2	67.3	35.8	72.3	56.9	66.3	64.0	49.2	51.4	55.0	689.4	727.1	707.7	739.0	681.4	650.4
36	863.5	80.3	70.8	70.5	72.1	74.1	80.9	68.9	36.3	73.3	57.1	67.1	66.6	50.8	51.9	54.8	694.9	719.2	706.1	742.7	680.0	626.5
37	865.2	81.5	71.4	71.9	72.6	75.0	81.6	70.1	36.3	74.0	58.6	68.1	67.4	51.1	52.4	55.6	696.6	718.7	701.9	757.2	676.9	612.9
38	869.2	82.9	72.1	73.2	73.2	75.5	82.3	71.2	36.3	74.6	60.0	69.1	69.7	52.2	53.8	56.6	694.0	728.2	699.1	783.1	669.8	618.7
39	871.2	84.4	72.7	74.2	73.7	75.9	83.0	72.0	36.3	75.1	59.9	69.2	73.2	52.7	54.3	56.6	691.6	731.4	694.4	791.9	663.9	632.5
40	875.6	85.9	73.3	74.8	74.1	76.1	83.7	72.6	37.1	75.3	60.1	69.9	72.2	53.0	54.6	56.5	689.6	743.3	692.2	802.4	664.5	689.4
41	877.6	87.4	73.8	75.2	74.4	76.2	84.6	72.7	37.8	75.5	60.2	70.7	73.7	53.1	54.4	57.2	695.2	747.7	695.0	804.5	672.7	721.4
42	881.6	89.0	74.2	75.5	74.7	76.2	85.7	72.8	37.7	75.8	60.6	71.4	74.2	53.0	54.8	58.5	700.7	761.3	694.1	817.4	681.0	736.0

Table 4. Temperatures Measured in Full Scale Assembly F-09, Steel Stud, 1x2 Gypsum Board Layers, Glass Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
43	882.7	90.6	74.4	75.8	74.8	76.2	87.1	72.8	37.5	76.1	61.1	72.6	74.7	53.1	54.5	59.1	708.8	759.0	694.3	829.8	685.0	743.8
44	887.4	92.3	74.3	75.9	74.9	76.2	88.7	72.8	37.7	76.6	61.4	73.7	76.8	52.6	55.6	59.3	714.8	755.6	696.5	850.3	692.3	754.8
45	888.6	94.1	74.3	76.1	74.9	76.2	90.5	73.0	37.6	77.2	60.8	74.7	74.7	52.8	54.9	59.9	717.8	758.8	701.1	878.5	697.1	778.3
46	892.0	95.9	74.4	76.5	74.9	76.4	92.6	73.4	37.6	77.9	60.1	76.6	76.3	53.1	54.0	59.1	718.1	763.3	705.8	881.2	704.3	782.8
47	896.4	97.7	74.7	76.3	75.0	76.7	94.9	74.2	37.4	78.7	60.6	78.3	79.2	52.5	54.4	59.5	721.1	776.8	710.8	883.3	710.0	792.1
48	898.5	99.6	75.1	75.7	75.1	77.0	97.2	75.1	38.1	79.7	60.6	80.2	79.6	53.1	53.4	58.8	728.0	777.9	719.3	893.0	706.6	797.0
49	898.5	101.3	75.2	75.6	75.3	77.2	99.2	76.1	37.8	80.7	60.2	81.5	81.0	56.4	53.9	58.5	736.4	782.3	734.5	897.5	711.3	804.6
50	902.6	102.9	75.5	75.7	75.7	77.3	101.2	77.2	-273.2	81.7	60.7	82.5	80.7	58.0	56.1	59.1	743.7	790.5	749.5	898.9	712.4	816.4
51	903.8	104.7	75.8	75.9	76.4	77.6	103.1	78.3	39.0	82.8	60.0	83.6	81.3	58.8	61.9	58.6	752.3	805.5	774.0	900.9	714.8	835.9
52	905.9	106.4	75.8	76.0	77.3	78.2	104.9	79.3	39.8	83.9	60.3	84.4	82.1	59.7	62.8	59.3	760.9	858.6	793.0	918.0	717.2	898.2
53	909.2	108.3	76.0	76.1	78.3	79.0	106.7	80.4	40.0	84.9	60.4	85.2	82.4	60.3	63.2	58.7	772.7	875.0	807.9	925.6	722.3	912.2
54	912.7	110.1	76.5	76.1	79.6	80.1	108.4	81.6	39.5	86.2	60.5	86.5	85.2	61.4	63.9	58.7	788.2	881.7	820.9	928.1	729.4	916.7
55	913.8	111.8	77.3	76.0	81.3	81.4	110.0	82.7	39.6	87.5	62.9	87.4	84.7	62.4	63.8	59.1	808.9	889.3	838.1	932.0	737.1	926.6
56	916.7	113.7	78.7	76.2	84.2	83.0	111.7	83.9	39.4	88.9	65.9	89.0	87.2	62.1	64.4	61.1	829.9	903.0	870.7	943.4	745.3	938.5
57	917.8	115.5	81.5	76.7	88.6	85.0	113.2	85.0	39.1	90.4	67.3	90.6	87.8	63.4	65.5	65.8	835.9	904.3	885.6	941.7	755.7	937.8
58	918.9	117.4	86.8	77.7	92.7	87.2	114.8	86.1	39.5	92.2	68.8	92.3	90.0	64.7	67.2	68.9	872.3	912.5	932.8	948.8	768.1	946.0
59	922.9	119.5	90.8	79.6	95.8	89.8	116.5	87.1	39.5	94.1	71.0	93.8	89.7	67.3	68.3	70.8	890.6	918.1	947.1	954.9	782.2	957.3
60	926.4	122.3	93.9	83.3	98.7	93.3	118.5	88.2	40.4	95.9	72.7	95.5	92.7	68.1	72.2	72.9	911.7	923.5	950.4	958.7	812.4	959.9
61	927.5	126.4	97.0	88.3	101.0	96.7	120.8	89.2	40.6	98.0	76.3	97.6	94.3	67.3	75.3	74.6	925.6	924.4	949.9	961.1	823.7	962.6
62	927.0	133.0	99.8	92.6	103.0	99.6	123.6	90.2	40.4	100.4	78.1	100.0	99.9	70.1	78.0	76.5	952.7	922.5	969.3	962.5	854.4	962.8
63	928.7	144.2	102.2	95.9	104.7	102.2	126.7	91.3	42.9	102.8	80.1	103.0	100.0	70.7	79.7	77.2	1084.6	950.6	1023.3	1012.6	979.2	964.0
64	931.5	169.2	104.2	98.9	106.1	104.3	130.4	92.3	43.7	104.6	82.3	105.7	102.0	71.6	81.8	79.5	1276.1	1093.3	-273.2	866.5	1329.4	946.9
65	934.7	205.6	105.8	101.5	107.1	106.0	135.4	93.4	44.6	105.7	82.3	108.6	101.9	73.2	83.2	79.8	1182.7	884.4	1298.5	922.9	1263.6	860.3
66	937.0	243.5	107.1	103.7	107.9	107.5	142.6	94.7	45.8	106.5	84.7	112.1	104.8	75.7	84.7	81.8	1108.6	855.8	970.3	941.5	1090.3	816.1
67	937.7	288.2	108.2	105.5	108.7	108.7	152.6	96.2	47.0	107.5	86.1	115.0	106.8	76.6	86.7	82.8	1150.0	915.3	895.8	959.8	1099.7	840.3
68	939.8	360.5	109.1	106.9	109.5	109.6	165.9	97.9	48.4	108.4	87.1	118.6	106.9	78.9	89.1	83.3	1093.7	938.9	1062.7	981.7	1130.8	875.8
69	941.7	433.8	110.1	108.2	110.4	110.4	184.0	99.5	49.5	109.1	87.4	123.3	110.6	80.4	94.0	84.5	1035.0	948.4	1112.7	986.0	1083.9	975.9
70	942.3	493.0	111.1	109.2	111.5	111.2	207.6	100.8	51.5	109.7	89.4	126.8	112.2	83.9	97.5	84.8	958.3	956.8	1164.1	979.0	1033.0	1055.0
71	944.7	530.6	112.4	110.2	112.6	112.1	238.2	101.7	54.3	110.3	89.7	131.3	116.5	88.7	104.9	87.3	933.6	979.5	1235.9	971.4	1045.4	1097.4
72	857.8	569.7	114.0	111.0	113.7	113.1	276.7	102.2	57.7	110.7	91.1	136.7	121.8	94.5	126.3	88.5	652.9	638.3	493.5	309.6	542.2	443.7
73	889.6	600.9	115.8	111.9	114.8	114.2	316.1	102.5	57.3	111.3	92.9	142.9	122.6	102.0	145.5	90.5	500.3	415.2	262.4	174.1	268.1	208.7

Table 4. Temperatures Measured in Full Scale Assembly F-09, Steel Stud, 1x2 Gypsum Board Layers, Glass Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
0	19.0	21.7	21.0	***	20.5	22.4	21.5	20.1	20.0	22.3	21.4	20.9	20.1	22.7	21.8	21.1	20.1	22.5	21.5	***	***	22.4
1	30.7	21.8	21.0	***	21.4	22.4	21.5	21.8	21.9	22.3	21.4	23.1	21.2	22.8	21.8	22.2	21.2	22.7	21.5	***	***	22.4
2	171.2	24.5	36.7	***	69.7	23.5	21.9	91.6	73.9	22.4	21.5	80.9	76.2	22.9	21.7	71.4	67.8	22.8	21.4	***	***	22.4
3	406.3	64.3	82.7	***	89.9	65.8	50.3	95.3	91.9	41.2	57.8	89.6	88.7	40.0	22.5	92.4	89.7	35.4	31.5	***	***	22.4
4	441.4	78.3	83.0	***	86.0	76.1	75.0	88.0	85.0	58.7	60.3	84.5	82.4	50.3	30.3	87.2	81.9	54.4	43.4	***	***	23.0
5	455.4	76.1	81.5	***	84.8	73.0	66.9	94.7	85.7	55.9	58.9	87.0	82.6	50.9	38.6	87.0	82.1	55.7	47.3	***	***	24.8
6	591.9	81.5	85.5	***	90.2	79.3	68.0	108.0	98.2	58.9	64.6	100.2	88.8	56.1	40.9	92.3	90.8	63.1	54.7	***	***	27.3
7	614.0	84.8	89.2	***	90.2	80.3	76.9	117.2	109.5	65.6	68.6	110.4	92.3	61.1	44.2	91.8	99.7	70.2	59.0	***	***	29.6
8	621.1	83.2	86.9	***	98.2	78.1	73.6	122.3	116.0	65.8	68.1	115.3	99.2	61.7	47.1	99.0	107.8	71.3	58.4	***	***	32.4
9	670.3	83.9	86.6	***	106.5	77.0	71.9	127.0	119.4	70.4	69.3	119.6	105.7	63.1	48.4	106.2	113.9	72.5	59.7	***	***	35.3
10	705.2	86.7	88.1	***	113.0	77.8	72.7	132.6	123.5	77.4	72.3	125.5	111.2	64.8	49.7	111.1	117.7	73.9	61.5	***	***	38.0
11	717.2	90.2	89.0	***	118.7	78.2	74.3	143.8	126.5	80.8	73.8	137.3	117.4	65.4	51.4	116.2	120.4	75.6	62.5	***	***	40.8
12	720.7	93.2	88.7	***	119.9	78.6	78.1	153.5	133.0	81.1	74.0	171.5	131.1	66.1	53.1	126.4	123.7	76.8	63.1	***	***	43.8
13	732.3	95.6	86.6	***	128.0	74.2	77.3	207.4	159.9	79.6	72.0	271.9	186.8	65.6	55.1	161.3	131.0	76.5	63.8	***	***	46.5
14	746.0	123.6	86.8	***	173.9	75.1	72.6	275.1	253.0	79.2	73.3	380.2	295.0	66.7	53.6	240.3	145.1	76.5	62.3	***	***	48.6
15	758.9	155.6	121.8	***	248.8	77.5	74.2	368.9	363.0	77.4	73.6	458.3	408.4	67.1	60.6	343.8	187.8	77.8	61.6	***	***	50.4
16	766.2	186.1	160.4	***	332.4	82.4	76.4	452.8	453.1	75.3	71.9	515.4	483.5	68.3	67.2	432.4	275.2	89.6	61.7	***	***	52.0
17	770.7	216.1	198.7	***	394.4	90.4	86.4	510.3	507.4	84.1	80.5	563.4	540.2	81.7	98.2	473.8	365.8	102.6	70.8	***	***	53.1
18	777.8	251.9	237.6	***	438.8	101.9	96.5	565.8	562.0	146.5	120.8	609.2	589.7	95.0	136.7	511.8	453.6	109.0	83.5	***	***	54.4
19	785.1	290.5	279.2	***	478.8	119.8	114.9	617.2	610.5	203.1	173.0	645.2	629.4	111.7	171.4	546.7	504.7	119.3	120.3	***	***	56.2
20	790.8	332.4	327.4	***	517.0	156.3	142.2	652.9	649.4	252.3	219.3	673.7	658.7	131.5	199.0	574.7	551.1	131.3	175.1	***	***	58.8
21	798.0	383.8	374.9	***	552.2	187.7	172.1	678.7	679.0	304.2	257.7	694.9	678.4	157.5	220.8	597.0	594.2	144.1	223.5	***	***	62.1
22	803.9	442.5	416.2	***	584.6	222.2	197.5	697.6	703.6	370.5	290.1	713.4	698.4	198.6	242.8	608.5	627.6	154.7	251.3	***	***	65.8
23	808.2	510.4	451.6	***	614.7	268.9	214.3	711.6	725.5	451.8	315.5	726.5	716.4	263.3	271.6	615.2	649.5	161.4	264.2	***	***	68.9
24	812.3	577.4	479.2	***	640.9	333.1	228.0	722.1	739.1	535.2	340.6	732.0	730.7	350.1	311.1	633.3	670.1	172.7	279.0	***	***	71.0
25	818.3	628.6	503.9	***	662.1	408.8	246.0	727.4	744.0	600.3	374.1	730.7	740.7	441.0	364.9	654.0	691.5	192.9	301.3	***	***	72.5
26	823.5	662.4	529.8	***	678.8	483.9	274.9	728.6	737.2	643.0	418.8	724.5	745.0	519.3	434.6	669.7	708.5	222.4	329.5	***	***	75.5
27	827.1	681.5	568.9	***	694.0	552.7	357.5	726.3	724.6	676.3	492.4	719.5	740.0	579.6	532.5	683.2	719.4	261.5	363.8	***	***	79.5
28	832.8	691.1	621.9	***	708.2	602.5	456.5	723.2	721.2	685.1	595.8	715.1	735.3	619.8	600.4	692.8	724.1	306.0	410.2	***	***	82.9
29	837.7	695.5	699.5	***	725.8	634.2	506.0	718.8	750.4	685.0	684.5	710.3	741.7	643.8	723.6	699.5	731.2	350.0	569.0	***	***	85.6
30	839.6	696.9	743.2	***	762.0	653.6	613.0	715.5	757.8	686.0	752.5	708.2	778.4	658.4	742.6	704.3	758.5	393.0	674.2	***	***	87.9
31	843.3	695.8	734.1	***	740.6	665.3	658.5	712.2	748.1	686.8	745.8	706.9	755.3	667.5	715.5	707.3	760.9	433.6	669.6	***	***	89.9
32	848.4	694.5	719.7	***	727.1	671.9	679.7	710.2	736.5	682.2	719.6	706.5	743.4	672.4	716.1	709.4	755.3	471.2	638.9	***	***	91.8
33	851.4	693.1	710.7	***	716.8	677.1	658.8	706.3	738.4	674.4	710.4	706.4	744.0	674.1	713.6	711.5	776.5	502.5	591.2	***	***	93.5
34	855.8	694.9	698.3	***	710.4	682.0	623.2	703.3	741.5	678.0	695.5	705.8	742.1	678.6	695.0	713.0	759.4	528.2	546.4	***	***	95.0
35	859.4	699.8	689.4	***	713.3	688.0	580.8	702.7	729.9	682.7	683.8	707.6	733.1	685.3	654.2	716.6	736.6	556.7	490.3	***	***	96.3
36	863.5	700.2	682.9	***	714.7	688.0	528.7	704.5	716.2	687.0	671.8	700.1	726.4	680.8	613.9	717.9	718.5	588.1	501.7	***	***	97.5
37	865.2	690.8	670.7	***	709.5	683.3	467.0	699.8	708.3	689.0	656.8	692.6	729.4	668.4	543.5	717.2	704.4	600.1	510.9	***	***	98.5
38	869.2	682.9	650.9	***	702.8	678.5	435.3	692.0	706.9	683.9	645.6	688.3	739.1	661.3	552.9	715.6	691.9	590.1	516.9	***	***	99.3
39	871.2	673.5	643.5	***	694.2	671.7	460.9	685.5	702.7	675.5	636.5	685.2	764.1	656.0	631.2	714.5	693.3	563.8	496.6	***	***	99.9
40	875.6	670.1	663.5	***	718.8	669.6	475.8	684.7	705.0	673.5	636.6	686.2	736.1	657.0	678.4	711.8	695.3	543.9	501.7	***	***	100.6
41	877.8	675.2	679.7	***	721.9	673.9	492.3	688.9	702.8	674.2	622.3	691.2	733.4	666.4	677.5	711.7	687.2	547.1	497.8	***	***	101.3
42	881.6	677.2	687.8	***	724.6	680.0	495.1	690.4	705.3	681.7	623.1	695.2	730.3	675.1	705.6	714.2	695.5	561.4	506.2	***	***	102.1

Table 4. Temperatures Measured in Full Scale Assembly F-09, Steel Stud, 1x2 Gypsum Board Layers, Glass Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	882.7	679.3	698.5	***	731.0	687.6	471.8	692.2	704.1	690.6	610.9	698.6	734.6	685.5	727.3	717.0	681.2	578.9	510.6	***	***	102.9
44	887.4	683.5	696.7	***	731.1	691.5	398.9	693.9	696.2	695.4	599.0	701.3	740.5	694.6	734.4	712.6	671.5	593.1	511.8	***	***	103.7
45	888.6	688.6	691.2	***	728.9	696.0	333.9	698.4	685.9	701.1	574.3	703.3	762.2	701.4	767.7	710.9	665.6	597.9	515.8	***	***	104.9
46	892.0	692.4	693.0	***	727.1	694.7	294.2	700.5	681.7	705.9	561.1	706.3	773.7	705.3	770.4	707.8	661.6	602.7	514.3	***	***	106.1
47	896.4	696.3	698.0	***	723.7	691.3	273.1	704.4	689.1	711.8	551.6	709.9	778.6	710.8	771.3	705.9	657.6	609.3	513.3	***	***	107.0
48	898.5	701.1	695.0	***	714.2	681.6	267.3	714.2	685.2	721.4	533.2	716.2	779.2	717.5	780.9	706.5	656.7	683.6	513.2	***	***	108.5
49	898.5	714.1	693.6	***	709.4	652.6	288.4	722.9	680.9	725.1	518.2	732.3	785.4	733.5	790.1	710.3	657.0	695.2	514.2	***	***	109.9
50	902.6	714.7	694.1	***	702.7	644.6	300.8	722.5	679.2	707.5	510.0	736.9	789.3	735.3	791.0	711.4	655.5	692.0	516.3	***	***	111.1
51	903.8	715.9	698.0	***	691.0	651.4	301.0	728.0	678.4	702.2	512.9	742.8	796.1	736.7	795.8	712.8	651.8	694.4	516.5	***	***	112.5
52	905.9	722.6	710.8	***	698.1	663.3	371.4	733.6	680.8	701.4	525.7	755.1	850.9	740.7	855.2	715.1	649.9	698.3	521.0	***	***	114.1
53	909.2	727.4	747.9	***	724.1	675.7	472.2	745.9	685.0	705.0	544.5	764.3	893.5	737.4	886.1	717.8	649.7	710.1	527.7	***	***	115.7
54	912.7	735.9	773.3	***	741.1	682.8	567.0	758.3	690.6	706.6	571.0	772.0	909.6	735.3	908.4	717.5	650.7	715.6	536.5	***	***	117.6
55	913.8	747.9	792.2	***	759.7	690.3	632.0	764.4	693.0	701.8	595.5	781.4	916.1	739.9	920.3	720.5	652.3	722.7	546.1	***	***	120.8
56	916.7	759.1	814.3	***	785.3	700.3	713.2	735.9	697.8	700.2	617.5	789.0	930.3	746.5	941.2	724.1	654.9	730.4	559.5	***	***	126.3
57	917.8	743.1	824.6	***	808.5	713.1	754.3	737.3	700.8	699.6	633.9	787.4	939.8	765.1	931.6	729.0	658.6	739.9	578.1	***	***	133.1
58	918.9	751.2	837.1	***	829.2	736.0	779.4	741.8	704.9	686.1	647.9	808.0	943.2	779.1	943.9	735.3	662.5	748.5	599.3	***	***	145.4
59	922.9	762.6	846.7	***	844.0	753.1	805.5	752.8	709.3	678.1	659.8	820.4	947.4	826.1	950.9	741.4	666.8	758.0	623.9	***	***	175.3
60	926.4	785.3	853.5	***	860.2	770.6	818.2	751.4	720.1	706.4	664.7	838.0	943.0	796.2	956.9	750.7	673.1	772.9	647.8	***	***	207.7
61	927.5	1067.7	859.0	***	869.3	788.5	823.8	760.0	726.9	840.0	683.5	840.2	942.3	802.5	954.2	763.1	679.2	789.2	672.5	***	***	224.0
62	927.0	1018.4	866.3	***	897.7	806.3	826.0	769.7	728.4	886.5	690.6	833.0	949.1	795.7	963.0	771.1	682.7	801.3	694.1	***	***	241.0
63	928.7	957.7	939.9	***	1002.8	872.2	878.9	723.7	787.9	1021.4	761.4	977.1	1023.5	966.6	1041.7	775.4	688.1	806.7	708.3	***	***	259.4
64	931.5	977.8	970.6	***	1003.3	935.9	971.8	415.1	851.0	997.9	882.5	1107.8	989.8	1117.8	1015.0	784.1	699.6	811.8	723.8	***	***	273.4
65	934.7	946.2	984.6	***	1022.8	935.6	986.7	1081.7	839.1	1033.5	889.2	1080.9	992.8	1110.7	1001.9	791.0	706.5	818.9	745.1	***	***	289.3
66	937.0	813.3	984.5	***	974.6	896.1	998.0	689.3	778.6	1016.6	895.9	1010.1	944.1	1063.7	1026.3	799.3	709.8	833.5	758.4	***	***	316.3
67	937.7	928.9	987.0	***	983.9	906.3	1004.5	1080.3	789.8	1043.1	798.6	1025.4	956.6	1072.2	963.7	914.1	718.9	922.2	764.9	***	***	342.1
68	939.8	927.6	989.5	***	1029.7	944.8	1011.6	1024.7	836.3	878.6	806.5	990.8	974.7	1093.7	1013.1	939.8	767.0	943.6	781.8	***	***	364.7
69	941.7	932.1	1000.3	***	1027.3	963.1	996.3	950.5	853.3	919.7	845.7	981.8	974.7	1056.4	1019.9	958.0	786.4	976.4	798.2	***	***	384.4
70	942.3	945.3	1000.7	***	992.6	1033.3	992.1	899.4	895.5	960.9	878.2	956.7	982.3	1015.2	1022.6	1002.4	800.2	994.6	810.6	***	***	402.5
71	944.7	956.0	1012.7	***	996.5	1089.9	995.7	898.7	945.9	971.7	919.9	943.5	989.3	959.7	1033.8	998.7	805.6	1001.6	819.5	***	***	420.5
72	857.8	626.3	621.8	***	343.1	680.7	448.5	651.1	585.5	619.6	661.3	636.2	485.6	638.8	303.1	418.4	405.8	335.4	439.9	***	***	441.6
73	889.6	400.9	348.1	***	195.6	493.1	237.4	346.0	435.1	607.9	409.7	272.7	259.8	491.1	151.6	201.0	285.2	233.6	301.2	***	***	477.8

Table 4. Temperatures Measured in Full Scale Assembly F-09, Steel Stud, 1x2 Gypsum Board Layers, Glass Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
0	19.0	21.3	***	***	22.5	21.8	***	***	23.3	22.3	***	***	22.7	21.0	***	***	21.9	22.5
1	30.7	21.2	***	***	22.5	21.8	***	***	23.3	22.3	***	***	22.8	22.7	***	***	21.9	22.5
2	171.2	21.2	***	***	22.5	21.8	***	***	23.4	22.3	***	***	22.9	82.8	***	***	22.7	22.5
3	406.3	21.3	***	***	24.6	21.8	***	***	23.4	22.3	***	***	29.6	91.3	***	***	50.9	22.6
4	441.4	22.1	***	***	35.1	22.9	***	***	23.9	22.4	***	***	34.3	86.8	***	***	42.7	23.2
5	458.4	24.6	***	***	45.0	29.4	***	***	25.2	22.7	***	***	38.7	87.8	***	***	55.1	25.6
6	591.9	27.4	***	***	52.0	36.6	***	***	27.1	23.5	***	***	44.7	94.3	***	***	63.7	28.7
7	614.0	30.1	***	***	59.0	40.8	***	***	29.1	24.5	***	***	47.2	103.5	***	***	52.9	33.2
8	621.1	33.2	***	***	63.5	45.4	***	***	31.5	25.7	***	***	50.1	114.4	***	***	48.4	38.7
9	670.3	36.3	***	***	65.9	50.7	***	***	34.1	27.0	***	***	52.3	123.5	***	***	47.1	43.2
10	705.2	38.6	***	***	67.6	53.8	***	***	36.5	28.5	***	***	54.2	128.8	***	***	46.7	47.0
11	717.2	41.1	***	***	68.2	55.6	***	***	38.6	30.0	***	***	55.9	137.1	***	***	47.2	50.4
12	720.7	44.0	***	***	68.2	57.0	***	***	41.1	31.5	***	***	57.4	159.0	***	***	48.7	53.6
13	732.3	46.9	***	***	68.5	60.0	***	***	43.1	33.2	***	***	58.3	231.3	***	***	50.6	56.3
14	746.0	49.4	***	***	67.7	61.7	***	***	44.7	34.8	***	***	58.6	318.1	***	***	52.2	57.8
15	758.9	51.6	***	***	67.9	61.5	***	***	45.9	36.7	***	***	59.0	381.5	***	***	53.0	59.2
16	766.2	53.5	***	***	69.3	61.1	***	***	47.0	38.8	***	***	59.4	433.1	***	***	53.4	60.2
17	770.7	54.7	***	***	70.2	61.1	***	***	47.9	41.1	***	***	60.3	471.0	***	***	54.0	60.5
18	777.8	55.5	***	***	70.7	61.7	***	***	48.9	43.5	***	***	62.1	511.4	***	***	55.1	60.8
19	785.1	56.4	***	***	71.6	63.0	***	***	50.6	46.4	***	***	65.2	552.2	***	***	56.8	61.7
20	790.8	57.7	***	***	73.4	65.0	***	***	53.1	49.8	***	***	69.8	595.5	***	***	58.6	63.9
21	798.0	59.9	***	***	75.7	66.8	***	***	56.4	53.8	***	***	74.6	628.1	***	***	60.7	66.0
22	803.9	63.0	***	***	78.1	68.9	***	***	59.9	57.6	***	***	79.8	651.5	***	***	63.6	68.1
23	808.2	66.4	***	***	80.5	71.7	***	***	62.9	60.8	***	***	86.0	672.2	***	***	68.4	70.2
24	812.3	69.3	***	***	80.6	75.8	***	***	64.8	63.4	***	***	91.7	689.6	***	***	73.2	71.8
25	818.3	71.6	***	***	81.6	79.9	***	***	66.3	66.6	***	***	96.4	702.5	***	***	75.1	73.1
26	823.5	74.2	***	***	84.3	83.2	***	***	70.3	71.2	***	***	101.1	709.6	***	***	77.2	74.6
27	827.1	77.7	***	***	88.4	86.0	***	***	74.9	75.4	***	***	106.0	710.5	***	***	79.8	76.5
28	832.8	81.2	***	***	92.9	88.5	***	***	78.8	78.9	***	***	110.7	708.1	***	***	82.7	79.5
29	837.7	84.6	***	***	97.3	90.8	***	***	81.9	81.8	***	***	115.5	705.5	***	***	85.7	83.2
30	839.6	87.6	***	***	101.2	93.1	***	***	84.6	84.3	***	***	120.1	703.1	***	***	88.4	86.7
31	843.3	90.2	***	***	104.8	95.5	***	***	86.7	86.5	***	***	124.2	701.1	***	***	90.8	89.4
32	848.4	92.3	***	***	108.1	97.9	***	***	88.5	88.3	***	***	128.2	699.5	***	***	92.9	91.6
33	851.4	94.0	***	***	111.1	100.4	***	***	90.1	89.8	***	***	132.0	698.2	***	***	94.8	93.3
34	855.8	95.4	***	***	114.0	103.3	***	***	91.6	91.2	***	***	135.7	697.9	***	***	96.8	94.7
35	859.4	96.3	***	***	116.7	106.3	***	***	92.8	92.3	***	***	138.3	700.8	***	***	99.4	95.9
36	863.5	97.0	***	***	119.2	109.5	***	***	94.3	93.9	***	***	141.9	702.3	***	***	102.9	97.0
37	865.2	97.6	***	***	121.9	112.4	***	***	95.3	95.8	***	***	145.3	696.0	***	***	106.2	98.1
38	869.2	98.0	***	***	124.7	115.3	***	***	95.7	96.8	***	***	148.8	691.4	***	***	108.4	99.3
39	871.2	98.5	***	***	127.4	118.5	***	***	96.2	97.1	***	***	152.6	686.4	***	***	109.9	100.4
40	875.8	99.0	***	***	130.6	121.7	***	***	96.4	97.1	***	***	155.9	683.4	***	***	111.0	101.3
41	877.8	99.4	***	***	134.7	125.4	***	***	96.9	98.2	***	***	158.1	686.6	***	***	112.5	102.0
42	881.6	100.1	***	***	140.4	129.8	***	***	97.7	99.4	***	***	159.6	690.7	***	***	115.1	102.7

Table 5. Average Temperatures Measured in Full Scale Assembly F-09, Steel Stud, 1x2 Gypsum Board Layers, No Insulation

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(18,19,24,25)	BL/Cav. (Exp.) Av(28,29,32, 33,36,37)	Mid. SStd. Av(16,17,22,23)	BL/Cav. (UnExp.) Av(30,31,34, 35,38,39)	BL/SStd. (UnExp.) Av(20,21,26,27)	BL/FL (UnExp.) Av(42,43,46,47,50, 51,54,55,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
0	19.0	20.6	20.4	21.3	22.0	22.0	22.2	22.1
1	30.7	21.2	21.9	21.3	22.1	22.0	22.3	22.1
2	171.2	76.7	77.0	30.7	22.1	23.9	28.5	22.0
3	406.3	95.5	91.3	79.9	38.1	61.1	33.0	22.1
4	441.4	92.7	84.9	85.3	49.6	78.6	33.6	22.0
5	458.4	91.9	86.5	82.8	51.2	75.1	37.9	22.0
6	591.9	94.8	96.4	87.5	56.4	76.4	42.5	22.2
7	614.0	95.0	103.5	89.7	61.4	82.5	45.0	22.4
8	621.1	100.5	109.9	88.2	62.1	81.0	48.3	22.8
9	670.3	109.7	115.3	88.8	63.9	78.5	51.5	23.4
10	705.2	120.8	120.3	90.1	66.6	78.2	54.0	24.2
11	717.2	130.2	126.9	91.2	68.3	78.5	56.5	25.1
12	720.7	139.9	139.9	91.8	69.0	81.4	60.4	26.2
13	732.3	158.2	186.4	92.5	68.6	79.0	69.5	27.4
14	746.0	203.4	264.8	106.2	68.6	75.9	79.4	28.8
15	758.9	242.1	355.0	132.9	69.7	77.8	86.7	30.3
16	766.2	306.8	435.4	161.7	72.3	80.7	92.8	31.8
17	770.7	367.8	493.5	193.0	86.3	86.4	97.4	33.3
18	777.6	444.5	548.7	227.9	115.2	94.6	102.4	34.8
19	785.1	481.6	592.3	265.7	149.8	107.6	108.0	36.2
20	790.8	520.0	626.7	309.2	184.7	129.1	114.6	37.6
21	798.0	567.1	653.7	358.7	218.0	154.3	120.4	39.2
22	803.9	604.6	674.9	405.2	251.4	186.2	125.6	40.8
23	808.2	638.4	690.8	448.9	288.0	226.2	130.8	42.8
24	812.3	667.8	704.6	491.6	331.5	275.1	135.1	45.2
25	818.3	692.8	714.7	530.2	379.1	326.8	138.6	47.8
26	823.5	706.4	718.9	564.8	427.9	380.9	142.1	50.5
27	827.1	713.8	718.8	599.7	484.3	459.8	145.5	53.2
28	832.6	719.9	718.6	637.3	536.2	524.0	148.4	55.8
29	837.7	724.4	725.3	671.9	609.3	571.7	151.2	58.3
30	839.6	741.2	737.1	703.0	651.1	630.6	153.7	60.7
31	843.3	733.3	731.8	705.0	653.1	666.3	155.9	62.8
32	848.4	722.6	726.9	704.4	650.1	673.4	157.9	64.6
33	851.4	721.1	730.5	704.8	644.4	673.1	159.7	66.2
34	855.8	719.7	727.5	702.7	636.9	663.6	161.6	67.5
35	859.4	720.0	721.1	701.4	625.5	650.2	163.5	68.7
36	863.5	721.2	713.9	699.3	623.9	630.8	165.5	69.7
37	865.2	722.8	708.6	694.2	611.4	610.0	166.7	70.5
38	869.2	728.3	705.6	689.0	608.4	600.6	167.8	71.3
39	871.2	726.8	707.5	685.0	609.9	607.2	168.7	71.9
40	875.6	737.8	703.2	691.6	615.2	624.8	169.7	72.5
41	877.8	740.5	702.5	699.4	614.2	640.1	171.5	73.1
42	881.6	745.4	705.2	706.7	625.5	648.0	173.7	73.5

Table 5. Average Temperatures Measured in Full Scale Assembly F-09, Steel Stud, 1x2 Gypsum Board Layers, No Insulation (Cont.)

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(18,19,24,25)	BL/Cav. (Exp.) Av(28,29,32, 33,36,37)	Mid. SStd. Av(16,17,22,23)	BL/Cav. (UnExp.) Av(30,31,34, 35,38,39)	BL/SStd. (UnExp.) Av(20,21,26,27)	BL/FL (UnExp.) Av(42,43,46,47,50, 51,54,55,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
43	882.7	751.7	704.6	711.4	634.0	647.1	176.7	73.9
44	887.4	759.3	702.6	712.7	638.1	634.4	180.4	74.4
45	888.6	769.5	704.4	714.1	643.0	626.3	186.4	74.9
46	892.0	771.4	705.2	716.7	643.3	619.0	192.3	75.5
47	896.4	772.6	707.6	723.0	644.7	616.6	197.7	76.2
48	898.5	775.5	709.7	725.5	658.3	613.1	204.7	77.0
49	898.5	780.4	714.8	731.6	662.7	614.2	214.6	77.6
50	902.8	783.7	715.8	735.8	658.7	618.5	222.4	43.8
51	903.8	788.6	718.3	742.9	659.7	625.7	229.0	79.3
52	905.9	803.0	730.9	763.2	673.7	662.5	239.5	80.2
53	909.2	819.2	742.7	780.7	685.1	695.6	254.2	81.1
54	912.7	830.1	749.8	794.8	695.6	724.0	274.0	82.0
55	913.8	843.3	754.6	809.6	704.4	746.5	287.4	83.1
56	916.7	866.5	755.3	826.6	715.9	774.3	295.2	84.4
57	917.6	878.6	758.8	827.0	724.7	790.2	310.6	86.1
58	918.9	903.6	766.0	843.3	734.2	807.4	330.2	88.3
59	922.9	915.3	773.0	854.5	749.5	824.5	350.5	90.3
60	926.4	923.1	779.4	868.5	757.5	840.3	370.2	92.7
61	927.5	926.8	785.3	944.2	790.3	849.7	388.6	95.3
62	927.0	943.2	789.0	940.0	805.2	862.4	407.8	98.1
63	928.7	1012.9	829.3	983.2	884.4	923.5	428.7	101.4
64	931.5	532.2	807.9	1079.5	924.8	1046.0	453.1	106.0
65	934.7	1081.4	915.3	999.5	933.2	1011.5	477.3	111.7
66	937.0	962.1	921.9	940.6	932.4	950.1	500.2	117.7
67	937.7	946.5	914.2	995.3	927.5	962.7	524.5	124.7
68	939.8	1024.7	922.2	987.4	919.5	990.8	544.8	135.1
69	941.7	1042.0	917.4	978.9	936.0	1004.8	567.4	146.1
70	942.3	1045.3	922.7	965.3	947.0	1028.3	588.4	156.2
71	944.7	1067.9	930.3	970.4	951.0	1057.1	609.3	164.7
72	857.8	382.0	530.4	634.8	499.7	528.8	545.3	174.3
73	689.6	210.7	300.0	416.1	365.8	301.8	544.7	182.8

Table 6. Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0	21.5	21.4	22.3	20.8	20.5	22.0	22.2	21.3	20.3	21.2	23.8	24.1	22.3	25.1	22.9	24.7	21.4	20.5	21.3	20.8	22.0	20.8
1	31.3	21.3	22.3	20.8	20.5	22.0	22.1	21.3	20.3	21.2	23.6	23.9	22.2	25.0	22.8	24.6	21.5	20.6	22.1	21.6	22.0	20.8
2	158.7	21.3	22.3	20.8	20.5	22.0	22.2	21.3	20.3	21.2	23.4	23.8	22.3	24.8	22.8	24.6	28.7	22.4	82.4	66.4	23.6	21.3
3	404.9	21.3	22.3	20.8	20.5	22.1	22.2	21.3	20.3	21.2	23.1	23.6	22.1	24.6	22.7	24.5	78.0	63.7	91.5	92.4	52.5	36.3
4	455.4	21.4	22.3	20.8	20.5	22.0	22.1	21.3	20.3	21.2	22.8	23.5	22.1	24.5	22.6	24.3	81.8	76.4	90.3	92.6	66.3	53.0
5	461.3	21.8	22.3	20.7	20.5	22.0	22.1	21.3	20.3	21.1	22.8	23.7	22.5	24.4	22.6	24.3	79.0	73.2	88.4	89.4	66.5	55.5
6	576.7	22.7	22.3	20.7	20.5	22.0	22.3	21.3	20.5	21.1	22.9	24.2	22.8	24.5	22.5	24.4	83.9	79.9	92.3	92.3	71.4	59.8
7	629.5	24.1	22.3	20.7	20.5	22.0	22.7	21.3	20.9	21.2	23.2	24.7	23.7	24.7	22.8	24.6	86.3	87.5	93.3	92.3	76.1	68.5
8	623.2	25.8	22.5	20.8	20.7	22.1	23.4	21.3	21.6	21.3	23.3	25.2	24.1	24.8	22.9	24.8	86.7	86.3	102.6	92.5	77.7	71.4
9	663.8	28.2	22.7	20.9	21.0	22.5	24.4	21.3	22.4	21.6	23.7	26.0	24.9	25.2	23.2	25.2	87.9	83.9	122.0	102.6	78.8	71.0
10	701.9	30.8	23.1	21.1	21.5	22.9	25.7	21.4	23.6	21.9	24.1	26.8	25.8	25.6	23.8	25.8	90.4	82.7	141.5	113.3	80.0	72.0
11	721.8	33.7	23.6	21.4	22.1	23.7	27.1	21.5	24.9	22.3	24.9	28.0	26.7	26.2	24.2	26.3	98.8	84.9	166.5	128.5	81.0	73.8
12	723.6	36.8	24.3	21.9	22.9	24.7	28.8	21.8	26.4	22.9	25.3	29.2	27.6	26.9	25.1	27.1	109.2	85.6	194.5	162.9	80.4	72.5
13	732.6	39.6	25.2	22.4	23.8	26.1	30.6	22.0	28.0	23.7	26.2	30.2	28.7	27.6	26.1	28.1	121.6	76.6	237.9	203.6	77.9	73.9
14	746.6	42.2	26.2	23.1	24.9	27.8	32.3	22.4	29.7	24.7	26.8	31.1	29.4	28.4	27.0	29.2	132.4	88.3	283.8	261.0	77.9	73.6
15	757.3	44.3	27.5	23.9	26.2	29.6	34.1	22.9	31.5	25.8	27.5	32.3	30.5	29.3	28.0	30.2	156.9	121.6	314.5	312.6	81.1	71.6
16	765.9	45.9	28.9	24.9	27.4	31.4	35.8	23.6	33.2	27.1	28.2	33.0	31.2	29.9	28.9	31.2	179.6	156.8	376.9	391.2	87.7	79.0
17	771.4	47.5	30.3	25.9	28.7	33.2	37.4	24.2	34.8	28.5	29.0	34.1	31.9	30.8	29.8	32.3	201.8	177.7	446.8	439.2	98.2	90.7
18	777.9	49.2	31.8	27.0	29.9	34.9	39.1	25.1	36.5	29.8	29.4	35.0	33.0	31.4	30.5	33.2	211.5	200.8	519.0	468.1	113.0	99.7
19	785.0	51.0	33.3	28.1	31.1	36.5	40.9	25.9	38.3	31.2	30.3	36.0	34.4	32.0	31.6	34.1	230.4	228.9	577.6	503.1	132.8	115.7
20	791.2	53.3	34.8	29.3	32.2	37.9	43.1	26.9	40.2	32.5	30.7	37.2	35.5	32.5	32.3	34.8	269.2	259.2	622.2	550.7	154.2	133.1
21	797.8	56.2	36.2	30.4	33.2	39.0	45.8	27.8	42.4	33.7	31.4	38.7	37.1	33.2	33.0	35.4	313.2	290.1	654.9	579.7	174.4	149.4
22	803.2	60.1	37.6	31.5	34.2	40.0	49.1	28.8	45.0	34.8	31.8	40.7	39.0	33.7	33.7	35.8	361.8	345.6	673.4	610.4	194.5	171.6
23	808.4	64.6	39.0	32.5	35.2	40.8	52.8	29.8	48.7	36.0	32.2	42.6	40.8	34.4	34.3	36.3	426.3	398.2	695.2	640.4	221.5	210.5
24	813.8	68.8	40.5	33.5	36.2	41.6	56.6	30.8	53.5	37.2	32.2	43.7	42.4	34.9	34.6	36.6	512.6	471.4	706.7	665.6	275.6	274.7
25	817.9	72.4	42.1	34.4	37.4	42.3	60.3	31.7	59.2	38.6	33.5	46.6	46.1	36.0	35.5	37.0	602.8	551.1	708.7	693.4	379.2	384.1
26	823.2	75.0	44.0	35.4	38.8	43.1	63.8	32.6	64.7	40.3	33.9	49.2	48.9	36.8	36.3	37.3	665.7	618.0	710.3	706.1	510.8	487.0
27	827.6	76.7	46.1	36.5	40.5	44.2	67.0	33.5	69.7	42.4	35.5	52.2	52.6	37.9	37.9	37.9	699.3	668.6	715.3	717.3	611.9	551.7
28	831.8	77.8	48.2	38.0	42.6	45.5	69.8	34.4	73.9	44.8	36.2	52.6	54.7	39.0	39.3	38.8	719.3	703.7	725.8	721.9	673.5	591.8
29	836.8	78.6	50.4	39.7	45.0	47.1	72.1	35.4	77.1	47.3	37.5	53.9	57.7	40.2	40.4	39.6	733.4	724.4	736.0	723.1	709.9	638.2
30	840.5	79.5	52.4	41.7	47.6	48.9	73.8	36.5	78.8	49.9	38.4	55.6	61.0	41.5	41.7	41.0	744.3	738.5	746.0	727.1	732.6	679.8
31	843.8	80.8	54.4	43.9	50.3	50.8	75.2	37.8	79.6	52.6	39.4	57.1	64.2	42.9	43.4	42.3	753.4	749.4	755.3	736.3	748.4	709.8
32	846.2	82.4	56.7	46.2	53.1	52.6	76.1	39.5	80.0	55.4	40.5	58.9	67.1	44.4	44.8	43.5	761.6	763.3	764.7	748.3	762.2	736.0
33	852.5	84.1	59.1	48.5	56.3	54.2	76.7	41.4	80.2	58.2	41.8	60.0	69.4	45.2	45.9	44.8	770.5	779.3	775.9	770.0	779.5	769.5
34	855.8	86.0	61.3	50.7	59.3	55.9	77.0	43.5	80.2	61.0	43.1	60.4	71.7	46.6	47.4	45.7	781.4	821.8	787.8	785.4	788.6	756.2
35	859.7	88.1	63.4	53.1	62.1	57.8	77.2	45.7	80.4	63.4	44.7	62.3	74.7	47.7	49.5	46.9	792.1	789.0	798.1	777.7	787.7	757.9
36	861.9	90.3	65.2	55.6	64.5	59.8	77.5	48.1	80.9	65.5	45.7	63.3	77.0	48.6	51.2	48.3	785.8	776.9	801.9	780.0	765.6	756.3
37	865.6	92.7	66.7	58.2	66.4	62.1	77.7	50.4	82.3	67.4	46.5	63.8	78.5	48.9	52.9	50.0	771.8	777.9	801.0	784.9	768.0	746.9
38	869.1	95.0	67.9	60.3	67.6	64.2	78.0	52.6	84.7	68.8	46.5	64.2	79.4	49.4	55.0	51.3	768.5	784.5	797.6	796.4	772.7	746.4
39	871.7	97.2	68.9	62.0	68.6	66.2	78.6	54.9	87.5	70.0	46.5	64.4	79.6	49.3	58.4	52.4	768.4	785.9	794.7	823.0	768.8	734.9
40	876.1	99.4	69.8	63.6	69.4	68.0	79.6	57.4	89.9	71.0	47.9	65.3	80.2	50.2	60.9	53.1	763.2	788.0	791.4	845.2	759.2	717.0
41	876.8	101.2	70.5	65.0	69.9	69.5	81.5	59.8	92.0	71.6	47.8	63.8	80.6	51.2	63.4	53.8	759.7	844.2	787.2	892.9	746.6	799.0
42	879.3	102.9	71.1	66.4	70.3	70.7	83.9	62.5	93.9	72.1	48.3	65.5	81.3	52.7	65.7	54.5	767.1	879.7	810.2	917.6	748.9	833.5

Table 6. Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
43	884.0	104.5	71.7	67.6	70.7	71.6	86.5	65.1	95.8	72.3	49.0	65.9	82.5	52.8	65.9	53.9	803.0	894.0	840.6	923.4	790.0	856.5
44	886.3	106.0	72.2	68.8	70.9	72.3	89.3	67.2	97.7	72.4	48.3	66.1	83.5	53.3	66.1	52.9	825.5	900.8	865.7	919.3	766.8	867.4
45	889.8	107.5	72.7	69.9	71.2	72.8	91.9	68.8	99.4	72.4	49.4	67.1	84.9	53.7	65.7	52.2	828.2	906.7	880.0	923.0	788.2	876.1
46	892.3	109.1	73.1	70.4	71.8	73.2	94.4	69.6	101.2	72.3	50.0	68.7	87.4	53.4	65.3	52.4	857.7	908.8	892.3	922.2	828.9	880.7
47	893.6	110.9	73.2	70.5	72.3	73.4	96.8	70.0	102.8	72.3	49.6	70.7	88.7	54.0	65.1	51.7	879.9	919.2	907.9	937.2	843.3	891.1
48	897.7	112.6	73.5	70.4	72.6	73.3	98.9	70.1	104.5	72.4	49.9	72.4	90.1	54.0	66.1	51.8	890.3	929.7	927.9	945.6	854.7	904.1
49	900.6	114.2	73.7	70.2	72.8	73.1	100.9	69.9	106.1	72.8	49.6	73.0	91.6	54.0	69.5	51.3	886.2	932.0	936.1	942.0	852.5	908.2
50	902.6	116.0	73.9	70.7	72.9	72.9	102.6	69.8	107.5	73.5	50.4	75.1	92.7	54.0	73.3	51.5	884.4	941.6	942.4	954.3	833.9	921.3
51	905.3	117.8	74.1	70.9	73.0	72.8	104.1	69.7	108.8	74.3	49.2	74.5	93.6	53.6	74.0	50.4	888.7	949.2	949.8	958.8	836.0	929.9
52	906.4	119.6	74.3	70.6	73.2	72.9	105.4	70.0	110.4	75.3	49.6	75.9	94.5	55.1	75.1	50.4	897.3	955.4	962.6	960.0	870.6	926.9
53	909.3	121.7	74.6	70.2	73.2	72.9	106.5	70.6	111.8	76.3	48.1	75.5	94.7	53.8	73.9	50.3	901.8	964.7	964.9	969.7	878.6	937.0
54	911.9	124.8	75.0	69.8	73.2	73.2	107.4	71.5	113.6	77.2	48.3	76.3	95.4	54.3	74.8	50.6	898.8	950.9	954.9	977.2	897.9	945.8
55	915.5	129.5	75.5	69.7	73.5	73.6	108.3	72.5	115.5	78.3	47.9	76.8	96.6	54.4	76.4	50.8	893.8	933.7	949.0	948.2	874.8	922.4
56	908.4	136.3	75.9	70.0	73.8	74.2	109.2	73.5	117.4	79.3	48.9	76.4	97.6	55.3	79.1	51.1	898.0	969.9	977.1	983.7	895.6	947.9
57	917.4	149.3	76.2	70.2	74.2	74.8	110.1	74.5	119.5	80.4	51.2	76.2	98.4	55.0	85.2	50.9	910.7	980.5	981.6	995.5	908.6	966.3
58	920.8	171.0	76.5	70.4	74.6	75.5	111.2	75.4	121.5	81.4	53.9	77.4	100.5	54.9	90.1	51.2	919.7	980.4	964.7	995.0	918.8	968.2
59	922.2	198.2	77.0	70.8	75.1	76.2	112.3	76.4	123.5	82.5	54.7	77.9	102.8	55.5	93.8	51.7	928.0	980.3	967.2	1001.7	927.3	972.0
60	924.9	231.6	77.5	71.3	76.1	77.2	113.6	77.4	125.9	83.6	56.6	78.7	106.7	59.6	97.7	52.2	930.3	982.7	959.1	1008.8	930.7	978.5
61	927.3	276.6	78.3	71.7	77.1	78.3	115.1	78.4	129.2	84.7	57.1	80.0	108.8	60.3	101.8	52.4	934.5	976.9	949.3	1015.7	933.0	980.6
62	929.3	338.1	79.1	72.1	78.4	79.6	116.7	79.3	134.5	85.7	59.8	83.0	113.3	61.6	104.2	53.3	937.2	980.3	949.1	1024.9	934.6	984.7
63	931.2	406.6	80.1	72.6	79.7	81.0	118.4	80.3	140.9	86.7	60.8	86.0	116.6	61.8	108.4	53.1	943.7	978.2	950.9	1031.4	939.0	988.6
64	932.2	463.7	81.1	73.1	81.0	81.9	120.3	81.2	152.0	87.6	63.0	89.9	119.8	64.5	111.8	53.3	950.5	980.6	953.1	1025.7	941.8	994.6
65	933.5	514.0	82.0	73.7	84.5	83.0	122.6	82.1	166.1	88.4	63.5	92.7	121.4	64.6	115.1	54.3	954.9	989.0	958.4	1020.2	946.9	997.3
66	935.6	559.6	83.2	74.2	89.4	84.3	125.7	83.0	191.0	89.2	64.8	94.8	123.6	66.5	119.9	54.3	961.2	990.8	961.9	1018.5	948.2	989.0
67	938.2	600.2	84.8	74.8	93.5	85.9	130.4	83.7	216.6	90.1	65.8	97.2	125.8	67.2	127.3	54.4	961.9	991.5	965.5	1019.7	946.6	992.1
68	940.8	630.3	87.0	75.3	96.9	87.9	136.9	84.5	242.5	91.2	67.7	98.8	127.8	71.4	133.0	55.2	958.9	993.7	965.9	1013.5	947.8	987.2
69	940.8	645.7	89.9	76.0	99.9	90.4	146.8	85.2	271.8	92.4	69.7	102.3	130.4	72.9	150.3	55.7	962.9	991.0	968.4	1004.8	947.7	990.7
70	942.6	652.2	93.4	76.6	102.7	93.4	163.2	85.9	309.8	94.0	70.5	103.9	133.1	74.4	177.0	56.6	962.8	996.1	973.6	1006.0	948.5	994.3

Table 6. Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time	T(Fav)	Temperature at Thermocouple Number																				
(min)	(°C)	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
0	21.5	21.6	20.5	21.9	20.7	21.7	20.7	21.0	20.9	21.9	20.5	21.4	20.6	21.9	21.0	21.8	20.5	21.9	20.6	***	***	21.8
1	31.3	21.7	20.6	22.0	21.7	23.1	20.8	21.9	22.8	21.9	20.5	22.6	21.9	21.9	21.0	23.8	21.9	21.9	20.6	***	***	21.8
2	158.7	37.0	25.0	28.6	54.9	59.2	21.3	65.0	75.1	22.3	20.6	80.2	82.5	22.0	21.2	85.5	65.6	21.9	20.7	***	***	21.8
3	404.9	73.8	80.9	74.5	73.6	88.2	58.0	82.4	91.0	29.9	21.4	90.3	91.8	22.9	22.2	93.2	88.3	22.7	20.8	***	***	21.8
4	455.4	69.9	78.2	77.3	69.5	84.1	68.4	80.3	85.4	32.5	31.0	84.8	86.2	38.8	33.9	89.2	85.4	34.3	21.4	***	***	22.6
5	461.3	75.9	76.1	74.9	68.5	85.8	67.3	80.9	87.0	39.1	38.6	84.8	91.4	46.6	42.2	94.3	88.4	43.0	29.5	***	***	24.5
6	576.7	88.6	85.1	78.6	73.6	88.3	77.6	89.4	95.3	50.7	43.2	98.6	105.6	49.9	47.3	104.4	99.5	43.5	35.2	***	***	27.0
7	629.5	90.4	87.7	83.1	73.6	89.8	82.6	89.8	103.4	57.2	49.6	110.0	114.6	55.2	52.5	111.0	108.8	48.2	40.5	***	***	30.4
8	623.2	89.5	86.2	82.3	72.7	90.1	82.0	88.9	108.6	62.2	53.3	113.4	117.8	58.2	55.3	115.9	114.1	53.1	45.9	***	***	34.6
9	663.8	89.5	87.0	81.0	78.3	93.6	82.8	89.5	110.8	68.2	55.8	114.3	120.9	59.5	58.4	118.9	116.2	56.8	48.4	***	***	39.2
10	701.9	90.6	88.7	81.3	89.5	96.7	84.7	89.9	114.1	73.4	58.7	116.7	119.9	60.5	61.2	122.5	118.3	62.1	51.2	***	***	44.1
11	721.8	79.0	89.1	81.3	93.0	101.8	85.3	95.1	119.4	76.5	61.4	128.4	125.6	61.2	62.7	129.4	121.4	66.4	55.8	***	***	48.8
12	723.6	77.2	87.4	81.2	97.5	118.3	83.3	104.8	131.5	72.8	62.8	175.3	153.8	60.1	64.0	149.0	128.4	66.3	60.1	***	***	53.0
13	732.6	89.4	86.7	79.3	111.1	207.8	81.5	130.0	179.8	73.8	62.6	267.2	236.9	59.1	60.5	211.3	136.8	67.4	61.8	***	***	55.1
14	746.6	113.1	95.7	80.7	142.6	319.9	82.2	190.0	274.7	69.5	61.7	348.7	331.4	62.2	66.6	313.0	151.9	66.8	64.0	***	***	56.2
15	757.3	137.7	129.9	88.6	178.6	381.5	85.5	273.0	369.0	68.8	62.2	411.8	418.8	62.7	66.7	405.3	217.5	67.8	63.7	***	***	56.4
16	765.9	159.6	168.5	99.7	220.4	440.7	93.0	351.3	453.8	66.7	62.4	466.3	469.4	63.3	64.2	465.2	286.6	65.8	62.5	***	***	56.5
17	771.4	180.4	206.8	114.3	387.5	478.9	105.3	411.9	510.6	64.9	61.6	520.1	513.8	64.0	63.3	508.2	376.1	65.1	63.4	***	***	56.4
18	777.9	201.0	242.7	132.8	419.1	518.1	118.9	468.1	562.2	62.4	61.9	566.2	554.4	65.2	62.9	552.8	455.9	66.2	64.5	***	***	56.1
19	785.0	222.4	279.6	140.0	486.5	547.2	136.2	521.8	605.8	61.2	67.1	605.5	589.7	66.7	63.3	592.0	498.4	71.1	64.6	***	***	55.7
20	791.2	245.7	319.2	164.5	518.0	582.6	157.0	570.6	641.3	61.4	60.7	636.4	620.6	75.1	66.2	624.8	538.0	85.2	64.9	***	***	55.3
21	797.8	271.1	359.6	160.1	548.9	609.5	180.6	615.3	670.5	64.9	113.8	662.6	646.8	102.0	80.0	652.1	579.6	130.8	67.2	***	***	55.1
22	803.2	297.3	407.3	169.8	586.3	632.4	187.2	658.0	694.5	78.3	186.3	687.6	669.9	142.6	124.5	674.8	616.9	191.4	74.7	***	***	55.2
23	808.4	325.2	449.1	182.5	623.5	653.9	200.6	694.0	713.1	120.9	290.5	710.1	690.8	189.3	205.6	692.5	645.5	278.7	89.4	***	***	55.7
24	813.8	364.4	508.0	201.2	668.9	672.9	302.9	723.1	735.5	207.8	425.5	727.7	709.4	249.6	353.8	708.2	671.5	400.9	123.4	***	***	56.9
25	817.9	524.2	541.2	246.3	704.6	688.3	402.8	736.7	733.3	344.1	560.7	735.9	723.8	336.5	521.3	716.7	696.7	526.7	178.6	***	***	58.9
26	823.2	675.9	582.5	327.2	719.6	700.1	513.9	738.0	733.2	496.8	655.8	736.9	727.3	456.6	629.9	721.5	718.9	621.9	265.7	***	***	61.4
27	827.6	711.1	621.3	420.8	730.7	709.8	602.5	736.3	732.6	612.0	704.8	736.9	723.1	570.4	686.2	725.7	734.4	677.9	378.8	***	***	64.2
28	831.8	723.9	654.8	496.8	732.4	719.3	665.2	738.1	733.1	678.7	728.8	740.2	720.8	647.9	711.6	732.4	743.4	709.5	489.0	***	***	66.9
29	836.8	735.0	679.1	548.6	723.4	727.9	701.5	743.3	738.3	714.4	743.8	746.3	719.0	694.3	728.8	740.3	754.0	728.6	575.0	***	***	69.0
30	840.5	744.1	698.8	582.2	721.2	736.4	723.8	750.4	745.3	735.2	754.6	753.5	719.3	722.4	740.8	748.5	764.9	741.5	633.5	***	***	70.6
31	843.6	750.0	716.7	604.6	725.6	744.9	739.8	758.3	756.2	749.3	765.4	760.7	723.9	741.0	750.8	756.8	776.5	750.7	671.5	***	***	71.8
32	848.2	761.5	738.2	621.4	737.4	754.4	755.3	767.9	773.1	760.7	770.4	768.0	735.8	755.9	764.3	766.0	785.7	757.6	693.0	***	***	73.4
33	852.5	775.3	763.3	635.2	748.8	765.4	768.6	780.1	796.2	771.5	774.5	775.9	747.6	772.9	780.4	775.9	808.3	762.6	702.5	***	***	76.7
34	855.6	787.0	780.0	630.0	769.7	775.8	797.4	790.1	799.9	782.5	775.6	785.3	708.8	782.1	808.5	788.6	814.2	764.9	704.1	***	***	80.4
35	859.7	797.4	742.5	602.4	747.3	775.5	804.7	793.8	786.3	791.3	768.4	794.6	732.8	784.9	766.2	800.2	791.6	734.3	640.6	***	***	83.8
36	861.9	799.6	737.0	485.2	757.2	748.5	748.8	800.4	781.9	794.8	728.9	798.7	749.8	775.9	737.2	804.2	781.9	537.0	390.4	***	***	86.8
37	865.6	790.1	728.1	436.7	763.0	672.1	723.7	791.5	781.3	789.0	677.1	802.8	759.7	768.5	650.7	806.6	773.4	428.5	355.0	***	***	89.3
38	869.1	771.8	714.9	440.4	775.1	652.2	703.3	787.3	786.6	755.3	664.9	789.3	743.8	753.0	530.9	801.4	763.6	373.3	354.2	***	***	91.5
39	871.7	739.5	687.6	440.9	771.4	638.0	661.6	778.1	790.7	716.9	651.5	773.2	813.9	746.1	502.0	794.3	753.1	346.2	355.8	***	***	93.5
40	876.1	754.3	682.6	440.1	751.5	634.1	613.1	769.8	790.3	689.5	623.2	745.4	840.1	740.5	510.8	788.4	744.3	336.8	361.5	***	***	95.3
41	876.8	677.6	790.4	436.9	946.7	628.1	602.2	777.8	792.2	662.7	540.5	758.4	928.2	773.6	920.3	784.4	735.7	337.4	357.5	***	***	96.7
42	879.3	732.0	818.5	435.9	963.8	620.2	532.1	837.0	788.9	632.9	426.5	785.9	943.6	828.1	950.7	781.9	726.3	337.6	333.0	***	***	97.9

Table 6. Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time	T(Fav)	Temperature at Thermocouple Number																				
(min)	(°C)	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	884.0	744.6	834.0	428.2	965.5	598.1	541.6	831.4	788.9	593.6	374.6	838.0	943.8	811.0	952.8	780.5	718.5	333.3	319.9	***	***	98.7
44	886.3	766.2	875.7	424.1	-273.2	554.0	594.4	845.7	789.5	801.9	377.6	838.9	944.3	829.0	949.0	779.1	712.1	326.2	311.3	***	***	99.8
45	889.8	784.4	893.6	404.5	-273.2	465.4	593.1	853.7	791.3	791.6	381.9	850.3	945.9	854.8	954.4	778.3	706.4	333.1	305.9	***	***	100.8
46	892.3	804.3	903.9	411.8	-273.2	463.8	524.6	856.8	793.6	771.2	386.8	853.3	944.1	853.5	953.3	778.2	701.8	340.9	301.9	***	***	101.4
47	893.6	652.5	901.4	404.6	1006.5	473.9	535.7	857.0	796.3	786.7	392.8	854.9	959.7	830.0	968.6	777.9	698.6	348.0	299.0	***	***	102.0
48	897.7	616.1	913.7	389.1	-273.2	475.1	530.0	860.3	801.2	822.7	398.7	877.7	970.7	829.4	979.7	778.3	696.3	354.8	297.0	***	***	102.3
49	900.6	598.9	924.8	385.7	-273.2	472.0	514.1	867.3	810.0	920.8	412.0	879.4	959.1	835.8	978.0	779.4	695.0	362.4	295.6	***	***	102.7
50	902.6	613.8	934.3	385.4	944.9	478.3	664.6	876.8	906.0	1291.2	434.5	881.8	983.2	843.0	942.7	781.1	694.2	370.4	295.0	***	***	103.3
51	905.3	565.0	934.5	394.5	930.4	502.4	808.9	879.7	936.9	-273.2	924.3	937.8	985.6	879.7	989.0	783.4	694.0	378.6	294.7	***	***	104.1
52	906.4	578.0	943.5	415.3	909.6	513.8	889.9	886.4	949.0	-273.2	929.9	909.9	994.8	908.6	994.1	785.9	694.4	387.2	294.7	***	***	105.2
53	909.3	628.4	947.3	435.1	913.0	524.2	927.7	891.6	956.3	-273.2	938.5	905.1	994.8	908.1	965.9	788.8	694.9	394.4	295.0	***	***	106.7
54	921.9	591.3	928.2	455.3	907.1	513.0	903.7	885.0	930.4	-273.2	923.5	904.8	994.6	887.0	932.9	791.8	695.6	400.6	295.6	***	***	108.3
55	915.5	577.3	911.0	510.0	887.8	520.0	898.5	868.9	911.5	-273.2	906.8	913.8	965.2	919.6	909.7	791.6	695.1	407.7	296.5	***	***	109.8
56	908.4	565.0	950.6	530.8	890.2	521.2	942.1	870.6	952.0	-273.2	946.6	899.9	1006.5	920.7	951.8	789.8	693.0	413.8	297.4	***	***	111.3
57	917.4	558.4	957.5	528.7	897.3	520.4	952.2	877.7	964.9	-273.2	957.6	919.2	1007.1	940.3	960.7	792.0	692.8	419.5	298.4	***	***	112.8
58	920.6	562.4	956.0	538.2	899.4	531.6	962.7	881.8	964.8	-273.2	957.3	937.8	1006.0	953.9	962.1	796.2	695.0	426.3	299.5	***	***	114.5
59	922.2	566.0	960.6	543.3	901.2	536.9	971.3	887.9	970.7	-273.2	960.0	941.2	1008.2	952.0	964.9	800.2	697.3	433.3	300.6	***	***	116.6
60	924.9	568.2	963.9	577.3	904.0	539.8	978.4	894.3	975.1	-273.2	963.2	939.3	1012.3	939.0	965.3	804.3	699.4	440.3	302.0	***	***	118.9
61	927.3	574.6	964.4	560.7	905.5	544.0	977.5	900.3	976.3	-273.2	964.8	943.0	989.3	941.4	965.0	808.3	701.4	447.3	303.6	***	***	121.1
62	929.3	584.3	970.3	593.2	907.7	534.4	983.1	908.9	982.6	-273.2	968.3	944.6	985.7	943.0	967.7	812.3	703.2	454.4	305.5	***	***	123.6
63	931.2	604.2	973.0	611.7	909.0	535.2	980.2	921.1	979.7	-273.2	966.0	508.4	980.3	948.3	964.0	817.0	704.5	461.7	307.4	***	***	127.2
64	932.2	622.9	972.2	601.4	910.3	535.6	970.8	926.9	979.4	-273.2	969.5	670.6	980.1	952.4	966.6	821.8	706.0	469.8	309.5	***	***	132.9
65	933.5	650.4	979.1	613.4	915.2	537.6	794.3	934.1	985.9	-273.2	976.1	828.3	982.2	959.0	972.7	826.9	707.4	478.6	311.6	***	***	138.4
66	935.6	703.0	980.1	658.9	914.4	538.0	808.8	940.3	986.8	-273.2	977.3	947.4	989.1	964.0	975.1	832.2	709.0	488.1	313.9	***	***	148.2
67	938.2	774.5	982.6	621.8	914.8	537.1	814.0	944.1	986.9	-273.2	979.9	1139.0	988.8	976.7	977.1	837.8	710.8	498.7	316.2	***	***	163.4
68	940.8	930.9	980.6	757.5	612.0	537.9	825.9	952.1	1032.0	-273.2	981.7	1336.7	997.6	971.0	980.8	843.5	713.0	510.0	318.7	***	***	184.5
69	940.8	935.7	982.4	746.5	600.4	538.8	831.9	954.1	1034.0	-273.2	982.2	-273.2	1016.1	972.1	985.3	848.8	715.2	521.7	321.3	***	***	199.9
70	942.6	929.0	985.4	776.2	602.1	541.9	846.3	959.8	1037.3	-273.2	986.4	-273.2	1014.0	987.5	989.1	854.0	717.3	533.8	324.1	***	***	213.7

Table 6. Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
0	21.5	20.3	***	***	22.2	20.9	***	***	22.8	21.5	***	***	22.3	21.2	***	***	22.0
1	31.3	20.3	***	***	22.3	21.0	***	***	22.9	21.5	***	***	22.4	21.3	***	***	22.0
2	158.7	20.3	***	***	22.3	21.0	***	***	22.9	21.6	***	***	24.3	21.3	***	***	22.0
3	404.9	20.3	***	***	22.6	21.1	***	***	23.0	21.6	***	***	61.6	22.3	***	***	22.0
4	455.4	20.4	***	***	24.9	22.3	***	***	23.3	21.8	***	***	72.6	24.4	***	***	22.2
5	461.3	21.0	***	***	29.5	25.0	***	***	24.7	22.4	***	***	69.9	27.6	***	***	22.8
6	578.7	22.2	***	***	34.0	27.9	***	***	26.9	23.7	***	***	68.9	36.3	***	***	24.0
7	629.5	23.7	***	***	38.0	30.6	***	***	29.2	25.6	***	***	70.4	42.8	***	***	25.7
8	623.2	25.7	***	***	42.1	33.9	***	***	31.9	27.9	***	***	65.4	49.0	***	***	27.5
9	663.8	28.0	***	***	45.9	37.1	***	***	34.8	30.4	***	***	63.3	55.6	***	***	29.5
10	701.9	30.3	***	***	49.1	39.7	***	***	37.6	33.1	***	***	62.8	60.4	***	***	31.7
11	721.8	32.7	***	***	52.0	42.0	***	***	40.3	35.6	***	***	62.8	63.8	***	***	33.9
12	723.6	35.1	***	***	54.6	44.2	***	***	42.9	38.2	***	***	63.2	66.3	***	***	36.2
13	732.8	37.4	***	***	56.5	45.9	***	***	44.8	40.3	***	***	63.5	68.1	***	***	38.3
14	746.6	39.3	***	***	57.4	47.6	***	***	46.2	42.1	***	***	63.4	72.6	***	***	40.4
15	757.3	40.9	***	***	58.3	49.1	***	***	47.5	43.9	***	***	63.8	72.8	***	***	42.2
16	765.9	42.1	***	***	59.5	50.2	***	***	48.5	45.5	***	***	65.5	72.6	***	***	44.0
17	771.4	43.0	***	***	61.5	51.9	***	***	49.2	46.7	***	***	68.3	69.6	***	***	45.4
18	777.9	43.8	***	***	64.7	54.1	***	***	49.7	47.5	***	***	70.8	67.2	***	***	46.4
19	785.0	44.5	***	***	67.9	56.5	***	***	50.2	48.0	***	***	74.4	66.0	***	***	47.3
20	791.2	45.2	***	***	71.7	59.6	***	***	50.8	48.5	***	***	77.3	65.7	***	***	48.1
21	797.8	46.1	***	***	77.2	63.4	***	***	51.8	49.0	***	***	79.5	66.8	***	***	49.2
22	803.2	47.5	***	***	81.8	69.0	***	***	53.4	49.9	***	***	82.0	69.9	***	***	50.9
23	808.4	49.3	***	***	85.4	74.9	***	***	55.7	51.4	***	***	85.1	71.2	***	***	53.0
24	813.8	52.0	***	***	88.5	80.2	***	***	58.6	53.8	***	***	87.7	74.2	***	***	55.7
25	817.9	55.3	***	***	91.1	84.8	***	***	61.7	57.0	***	***	89.3	78.3	***	***	58.7
26	823.2	58.9	***	***	93.3	88.9	***	***	64.4	60.0	***	***	90.6	82.3	***	***	61.7
27	827.6	62.5	***	***	95.9	92.5	***	***	66.5	62.4	***	***	92.0	86.5	***	***	64.2
28	831.8	65.8	***	***	98.7	95.5	***	***	68.2	64.2	***	***	92.9	91.3	***	***	66.2
29	836.6	68.7	***	***	101.7	98.3	***	***	71.3	65.7	***	***	93.6	96.1	***	***	67.7
30	840.5	71.3	***	***	104.7	101.0	***	***	76.2	67.3	***	***	96.6	100.5	***	***	70.0
31	843.6	74.7	***	***	107.6	103.6	***	***	80.7	69.0	***	***	99.3	103.9	***	***	74.0
32	848.2	79.1	***	***	110.6	106.5	***	***	84.3	71.7	***	***	102.6	106.7	***	***	78.3
33	852.5	82.7	***	***	113.2	109.4	***	***	86.8	75.1	***	***	105.1	109.8	***	***	81.7
34	855.8	86.1	***	***	116.0	112.6	***	***	89.2	78.4	***	***	108.0	112.8	***	***	84.5
35	859.7	89.0	***	***	118.6	115.9	***	***	91.3	81.2	***	***	111.7	115.7	***	***	86.7
36	861.9	91.3	***	***	121.4	119.4	***	***	93.0	84.3	***	***	115.7	118.3	***	***	88.7
37	865.6	93.2	***	***	124.5	123.1	***	***	94.4	88.2	***	***	119.8	120.8	***	***	90.2
38	869.1	94.7	***	***	128.0	127.0	***	***	95.5	91.7	***	***	124.1	123.5	***	***	91.3
39	871.7	96.1	***	***	132.2	132.1	***	***	96.8	94.5	***	***	128.5	127.0	***	***	92.1
40	876.1	97.2	***	***	137.8	140.4	***	***	98.5	98.6	***	***	133.6	131.4	***	***	92.9
41	876.8	98.0	***	***	145.3	154.8	***	***	99.7	99.2	***	***	139.2	130.8	***	***	93.3
42	879.3	98.7	***	***	157.0	176.6	***	***	100.8	103.6	***	***	144.5	148.2	***	***	94.1

Table 6. Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number															
		43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
43	884.0	99.3	***	***	172.8	204.0	***	***	101.7	107.7	***	***	150.0	151.8	***	***	94.8
44	886.3	99.7	***	***	194.2	233.0	***	***	102.5	111.5	***	***	155.3	151.0	***	***	95.4
45	889.8	100.6	***	***	219.8	259.3	***	***	102.9	116.2	***	***	159.4	164.4	***	***	95.9
46	892.3	101.4	***	***	246.9	284.3	***	***	104.1	131.6	***	***	165.6	178.9	***	***	96.3
47	893.6	102.1	***	***	276.3	307.9	***	***	106.0	178.4	***	***	176.9	187.3	***	***	96.9
48	897.7	102.8	***	***	305.8	336.6	***	***	106.9	241.6	***	***	194.2	200.5	***	***	97.6
49	900.6	103.6	***	***	333.4	366.4	***	***	108.0	270.5	***	***	210.5	214.1	***	***	98.1
50	902.6	104.5	***	***	360.0	384.4	***	***	109.4	307.8	***	***	224.3	223.6	***	***	98.7
51	905.3	105.3	***	***	381.8	397.4	***	***	110.9	343.0	***	***	238.6	259.3	***	***	99.3
52	906.4	106.4	***	***	401.7	416.6	***	***	112.4	373.0	***	***	253.0	286.5	***	***	100.3
53	909.3	107.5	***	***	417.4	438.5	***	***	113.6	397.6	***	***	262.7	313.5	***	***	101.2
54	921.9	108.9	***	***	431.8	455.5	***	***	115.5	422.2	***	***	272.5	345.5	***	***	102.1
55	915.5	110.6	***	***	444.6	468.9	***	***	117.5	454.4	***	***	280.3	373.4	***	***	103.1
56	908.4	111.9	***	***	454.6	477.0	***	***	121.0	480.1	***	***	288.0	392.3	***	***	104.2
57	917.4	113.7	***	***	463.0	479.8	***	***	127.9	502.7	***	***	296.9	412.3	***	***	105.3
58	920.6	116.1	***	***	472.4	479.4	***	***	137.7	526.5	***	***	312.0	434.8	***	***	106.6
59	922.2	118.9	***	***	482.5	488.0	***	***	161.0	548.3	***	***	348.8	460.3	***	***	108.0
60	924.9	122.8	***	***	492.0	496.5	***	***	194.6	568.3	***	***	395.8	482.4	***	***	109.3
61	927.3	129.2	***	***	500.4	506.2	***	***	222.9	587.1	***	***	426.9	503.0	***	***	110.5
62	929.3	137.4	***	***	508.0	515.0	***	***	242.7	603.3	***	***	449.8	523.4	***	***	111.8
63	931.2	156.8	***	***	514.6	523.2	***	***	258.4	616.9	***	***	455.3	541.6	***	***	113.1
64	932.2	209.0	***	***	521.0	531.6	***	***	277.5	630.5	***	***	463.9	559.3	***	***	114.8
65	933.5	255.5	***	***	527.0	538.9	***	***	294.1	642.1	***	***	488.7	575.3	***	***	116.9
66	935.6	308.3	***	***	533.2	549.1	***	***	309.8	649.1	***	***	505.2	590.8	***	***	119.8
67	938.2	378.1	***	***	539.5	559.0	***	***	324.4	654.9	***	***	500.9	606.8	***	***	123.2
68	940.8	444.1	***	***	547.2	571.5	***	***	337.3	667.4	***	***	505.5	622.4	***	***	126.7
69	940.6	504.0	***	***	554.5	588.7	***	***	351.8	681.2	***	***	517.0	637.1	***	***	132.8
70	942.6	561.8	***	***	560.7	610.4	***	***	366.5	699.6	***	***	530.4	650.5	***	***	141.3

Table 7. Average Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(18,19,24,25)	BL/Cav. (Exp.) Av(28,29,32, 33,36,37)	Mid. SStd. Av(16,17,22,23)	BL/Cav. (UnExp.) Av(30,31,34, 35,38,39)	BL/SStd. (UnExp.) Av(20,21,26,27)	BL/FL (UnExp.) Av(42,43,46,47,50, 51,54,55,58)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
0	21.5	21.2	21.0	21.0	21.3	21.3	21.7	21.3
1	31.3	21.8	22.5	21.1	21.3	21.7	21.7	21.3
2	158.7	58.1	75.7	28.3	21.5	31.3	21.9	21.3
3	404.9	83.0	89.5	74.1	23.3	58.7	26.3	21.3
4	455.4	82.4	85.2	76.6	32.0	68.0	28.3	21.3
5	461.3	80.3	87.8	76.1	39.8	68.8	29.7	21.3
6	578.7	84.2	98.8	84.4	45.0	74.3	32.3	21.5
7	629.5	85.6	106.3	88.0	50.5	79.2	35.2	21.7
8	623.2	87.6	109.8	87.2	54.7	80.3	37.6	22.2
9	663.8	96.0	111.8	87.1	57.8	81.6	40.4	22.8
10	701.9	106.4	113.6	88.1	61.2	83.3	43.2	23.6
11	721.8	117.3	119.9	87.9	64.0	85.5	45.8	24.5
12	723.6	134.0	140.5	89.9	64.4	88.6	48.2	25.6
13	732.8	158.0	193.7	93.6	64.2	110.3	50.0	26.8
14	746.6	192.0	268.3	107.4	65.1	138.4	51.7	28.2
15	757.3	223.6	349.2	136.5	65.3	154.9	52.8	29.5
16	765.9	272.1	415.4	166.1	64.1	175.1	53.8	30.9
17	771.4	346.9	473.4	191.7	63.7	193.3	54.7	32.3
18	777.9	384.7	526.6	214.0	63.8	212.4	55.6	33.7
19	785.0	426.8	568.8	240.4	65.7	233.0	56.7	35.2
20	791.2	463.8	605.3	273.3	72.3	256.7	58.0	36.7
21	797.8	485.9	637.8	308.5	93.1	278.5	59.8	38.3
22	803.2	510.0	666.9	353.0	133.0	296.4	62.2	40.1
23	808.4	535.4	691.0	399.7	195.7	321.6	64.6	42.1
24	813.8	560.6	712.6	464.1	293.5	381.5	67.5	44.3
25	817.9	588.2	723.8	554.8	411.3	463.6	70.6	46.5
26	823.2	615.8	729.3	635.5	521.1	553.0	73.5	48.6
27	827.8	646.0	731.5	675.1	605.0	619.0	76.3	50.7
28	831.8	669.2	734.7	700.4	660.9	662.4	78.9	52.8
29	836.8	682.8	740.2	718.0	697.5	694.4	81.3	54.7
30	840.5	694.1	747.0	731.4	721.3	718.1	84.2	56.6
31	843.6	705.5	755.4	742.4	738.1	735.7	87.2	58.4
32	848.2	717.9	766.1	756.1	750.3	752.0	90.3	60.2
33	852.5	732.5	780.7	772.1	760.7	770.8	93.4	62.1
34	855.8	743.2	781.1	792.6	769.6	779.5	96.4	63.9
35	859.7	731.4	783.2	780.2	747.6	781.5	99.3	65.7
36	861.9	706.1	786.2	774.8	660.7	754.8	102.1	67.5
37	865.6	696.4	785.9	767.0	611.5	727.7	104.8	69.3
38	869.1	702.4	778.7	759.9	571.9	718.7	107.5	71.0
39	871.7	707.5	783.9	745.4	553.1	700.8	110.3	72.7
40	876.1	707.1	779.7	747.0	543.7	680.9	114.0	74.2
41	876.8	765.9	796.1	768.0	598.7	693.9	117.4	75.7
42	879.3	781.9	810.6	799.3	584.8	683.7	124.6	77.1

Table 7. Average Temperatures Measured in Full Scale Assembly F-10, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(18,19,24,25)	BL/Cav. (Exp.) Av(28,29,32, 33,36,37)	Mid. SStd. Av(16,17,22,23)	BL/Cav. (UnExp.) Av(30,31,34, 35,38,39)	BL/SStd. (UnExp.) Av(20,21,26,27)	BL/FL (UnExp.) Av(42,43,46,47,50, 51,54,55,58)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
43	884.0	789.4	816.9	818.9	564.2	696.5	131.2	78.4
44	886.3	484.0	818.2	842.0	599.2	695.6	138.0	79.7
45	889.8	483.6	821.0	853.2	603.6	680.7	146.6	80.7
46	892.3	488.3	821.3	868.7	601.3	674.5	156.7	81.7
47	893.6	814.0	824.1	838.3	604.2	686.0	170.4	82.5
48	897.7	497.4	830.7	837.5	613.7	691.0	187.6	83.1
49	900.6	497.7	831.7	835.5	634.1	686.7	200.8	83.7
50	902.6	806.7	853.8	843.5	696.1	724.5	212.9	84.4
51	905.3	808.4	869.6	834.3	532.2	769.3	226.6	85.1
52	906.4	811.9	870.1	843.5	540.2	800.3	239.4	85.7
53	909.3	820.7	871.9	860.5	538.1	816.9	251.0	86.4
54	921.9	823.6	867.0	842.3	527.7	815.1	262.5	87.3
55	915.5	823.7	857.7	828.9	527.9	803.9	273.6	88.5
56	908.4	845.4	868.6	845.9	542.8	826.7	282.3	90.0
57	917.4	850.8	875.6	851.8	550.5	836.9	290.5	92.1
58	920.6	849.3	880.3	854.6	554.3	845.3	300.0	95.3
59	922.2	853.4	884.3	858.7	556.3	851.8	314.7	99.1
60	924.9	862.3	887.5	861.3	556.1	856.9	331.2	103.8
61	927.3	857.8	886.4	862.6	558.2	858.6	345.2	109.9
62	929.3	868.7	889.5	868.0	560.9	859.2	357.2	118.2
63	931.2	875.7	818.5	874.8	562.4	860.7	367.4	127.4
64	932.2	872.6	847.5	881.6	565.8	860.7	382.3	135.8
65	933.5	876.8	877.4	893.4	570.8	819.0	397.4	144.1
66	935.6	888.4	900.8	908.8	574.2	821.0	412.6	153.3
67	938.2	880.5	934.6	927.6	579.2	822.5	427.8	162.2
68	940.8	837.2	979.1	966.0	581.5	824.7	445.2	170.3
69	940.6	830.0	715.9	968.0	584.9	827.3	463.0	177.6
70	942.6	839.5	718.2	968.3	591.3	832.7	481.7	185.7

Table 8. Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
0		22.3	22.9	22.3	21.9	22.7	22.8	22.5	21.4	22.6	***	***	***	***	***	***	***	***	***	***	***
1		22.3	22.9	22.3	21.9	22.8	22.8	22.6	21.4	22.5	***	***	***	***	***	***	***	***	***	***	***
2		22.3	22.9	22.3	21.9	22.8	22.9	22.6	21.4	22.6	***	***	***	***	***	***	***	***	***	***	***
3		22.3	23.0	22.3	21.9	22.8	22.8	22.6	21.4	22.6	***	***	***	***	***	***	***	***	***	***	***
4		22.3	23.0	22.4	21.9	22.8	22.8	22.6	21.4	22.6	***	***	***	***	***	***	***	***	***	***	***
5		22.4	23.1	22.4	22.0	22.9	22.9	22.6	21.5	22.6	***	***	***	***	***	***	***	***	***	***	***
6		22.5	23.2	22.5	22.0	23.0	23.0	22.7	21.6	22.7	***	***	***	***	***	***	***	***	***	***	***
7		22.7	23.3	22.5	22.1	23.2	23.3	22.8	21.8	22.9	***	***	***	***	***	***	***	***	***	***	***
8		23.1	23.6	22.6	22.3	23.5	23.9	22.9	22.1	23.3	***	***	***	***	***	***	***	***	***	***	***
9		23.7	24.0	22.8	22.7	24.0	24.8	23.1	22.7	23.9	***	***	***	***	***	***	***	***	***	***	***
10		24.4	24.4	23.0	23.3	24.6	26.0	23.4	23.5	24.6	***	***	***	***	***	***	***	***	***	***	***
11		25.5	25.2	23.3	24.0	25.4	27.7	23.8	24.5	25.6	***	***	***	***	***	***	***	***	***	***	***
12		26.8	26.1	23.7	25.2	26.3	29.5	24.4	25.8	27.0	***	***	***	***	***	***	***	***	***	***	***
13		28.2	27.2	24.3	26.6	27.5	31.7	25.0	27.2	28.6	***	***	***	***	***	***	***	***	***	***	***
14		29.7	28.5	24.9	28.5	28.7	33.9	25.8	28.7	30.5	***	***	***	***	***	***	***	***	***	***	***
15		31.3	30.0	25.7	30.4	30.2	36.0	26.6	30.3	32.7	***	***	***	***	***	***	***	***	***	***	***
16		32.9	31.6	26.5	32.3	31.6	37.9	27.5	31.9	34.7	***	***	***	***	***	***	***	***	***	***	***
17		34.4	33.2	27.5	34.1	33.0	39.6	28.5	33.5	36.5	***	***	***	***	***	***	***	***	***	***	***
18		36.0	34.8	28.5	35.7	34.3	41.3	29.5	35.0	38.5	***	***	***	***	***	***	***	***	***	***	***
19		37.3	36.3	29.7	37.1	35.5	42.8	30.6	36.5	40.2	***	***	***	***	***	***	***	***	***	***	***
20		38.7	37.8	30.8	38.3	36.6	44.1	31.6	37.9	41.6	***	***	***	***	***	***	***	***	***	***	***
21		40.1	39.1	32.0	39.4	37.6	45.3	32.7	39.2	42.7	***	***	***	***	***	***	***	***	***	***	***
22		41.6	40.2	33.2	40.3	38.5	46.5	33.8	40.4	43.8	***	***	***	***	***	***	***	***	***	***	***
23		43.0	41.2	34.3	41.1	39.4	47.7	34.8	41.6	44.6	***	***	***	***	***	***	***	***	***	***	***
24		44.5	42.1	35.3	41.7	40.1	48.9	35.6	42.7	45.5	***	***	***	***	***	***	***	***	***	***	***
25		46.0	42.9	36.5	42.4	40.9	50.1	36.5	43.9	46.6	***	***	***	***	***	***	***	***	***	***	***
26		47.7	43.7	37.8	43.1	41.7	51.5	37.5	45.1	47.8	***	***	***	***	***	***	***	***	***	***	***
27		49.5	44.6	39.4	44.0	42.6	52.9	38.6	46.6	49.4	***	***	***	***	***	***	***	***	***	***	***
28		51.6	45.6	41.2	45.2	43.9	54.5	39.9	48.2	51.3	***	***	***	***	***	***	***	***	***	***	***
29		54.2	46.9	43.2	46.6	45.4	56.4	41.6	50.1	53.3	***	***	***	***	***	***	***	***	***	***	***
30		57.0	48.5	45.3	48.3	47.4	58.7	43.7	52.3	55.3	***	***	***	***	***	***	***	***	***	***	***
31		59.9	50.2	47.5	50.3	49.5	61.1	46.0	54.9	57.3	***	***	***	***	***	***	***	***	***	***	***
32		62.6	52.1	49.8	52.2	51.7	63.7	48.5	58.0	59.2	***	***	***	***	***	***	***	***	***	***	***
33		64.9	53.8	52.1	54.1	53.8	66.1	50.9	61.2	61.1	***	***	***	***	***	***	***	***	***	***	***
34		66.7	55.3	54.4	55.8	55.8	68.3	53.2	64.3	63.0	***	***	***	***	***	***	***	***	***	***	***
35		68.3	56.8	56.4	57.5	58.0	70.2	55.4	67.2	64.9	***	***	***	***	***	***	***	***	***	***	***
36		69.8	58.4	58.3	59.3	60.5	71.7	57.9	69.7	66.9	***	***	***	***	***	***	***	***	***	***	***
37		71.2	60.0	60.2	61.3	62.9	73.0	60.7	71.6	68.6	***	***	***	***	***	***	***	***	***	***	***
38		72.4	61.6	61.9	63.4	65.0	74.0	63.5	73.2	70.0	***	***	***	***	***	***	***	***	***	***	***
39		73.5	63.0	63.6	65.4	67.0	74.9	65.8	74.5	71.1	***	***	***	***	***	***	***	***	***	***	***
40		74.3	64.4	64.9	67.2	68.8	75.6	67.8	75.4	71.9	***	***	***	***	***	***	***	***	***	***	***
41		75.1	65.7	66.1	68.5	70.3	76.4	69.3	76.0	72.5	***	***	***	***	***	***	***	***	***	***	***
42		75.7	66.9	67.1	69.7	71.5	77.3	70.5	76.5	73.0	***	***	***	***	***	***	***	***	***	***	***
43		76.3	68.0	67.9	70.7	72.3	78.1	71.5	76.8	73.4	***	***	***	***	***	***	***	***	***	***	***
44		76.8	68.8	68.6	71.4	72.8	79.1	72.2	77.0	73.6	***	***	***	***	***	***	***	***	***	***	***
45		77.4	69.5	69.2	72.0	73.0	80.2	72.8	77.4	73.7	***	***	***	***	***	***	***	***	***	***	***
46		78.0	70.1	69.6	72.3	73.1	81.4	73.1	78.0	73.7	***	***	***	***	***	***	***	***	***	***	***
47		78.8	70.5	69.9	72.3	73.1	82.8	73.2	78.8	73.8	***	***	***	***	***	***	***	***	***	***	***

Table 8. Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
48		79.7	70.8	70.0	72.1	73.1	84.3	73.3	79.7	74.0	***	***	***	***	***	***	***	***	***	***	***
49		80.8	71.0	70.1	71.9	73.1	85.7	73.3	80.9	74.3	***	***	***	***	***	***	***	***	***	***	***
50		82.0	71.1	70.3	71.7	73.0	87.1	73.5	82.2	74.8	***	***	***	***	***	***	***	***	***	***	***
51		83.2	71.2	70.5	71.5	73.1	88.6	74.0	83.6	75.6	***	***	***	***	***	***	***	***	***	***	***
52		84.6	71.2	70.8	71.3	73.3	90.1	74.6	85.1	76.4	***	***	***	***	***	***	***	***	***	***	***
53		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
54		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
55		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
56		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
57		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
58		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
59		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
60		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
61		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
62		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
63		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
64		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
65		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
66	938.6	99.8	77.0	78.8	78.8	84.3	103.7	86.3	102.2	88.3	63.3	69.9	68.0	60.8	46.1	59.0	870.7	818.8	753.2	546.4	899.9
67	940.0	100.5	77.7	79.5	79.6	85.3	104.1	87.1	102.7	89.1	63.7	70.7	67.4	61.0	45.0	58.9	872.6	824.3	754.1	546.8	902.1
68	941.6	101.2	78.3	80.1	80.3	86.2	104.3	87.8	103.1	89.8	64.3	70.6	70.9	60.9	45.6	59.5	874.8	828.3	755.3	547.1	903.4
69	943.4	101.8	78.9	80.8	81.0	87.3	104.7	88.4	103.5	90.5	64.8	71.1	71.4	60.8	46.4	59.8	877.2	833.2	757.5	547.5	905.3
70	945.3	102.5	79.5	81.5	81.8	88.2	105.0	89.1	103.8	91.3	65.0	72.3	73.1	60.8	46.3	59.9	880.6	837.7	760.4	547.8	910.0
71	946.8	103.1	80.1	82.0	82.5	89.3	105.2	89.7	104.1	92.0	65.6	71.9	74.3	60.7	45.9	60.7	882.2	840.7	764.0	548.8	910.7
72	948.2	103.8	80.8	82.7	83.3	90.3	105.5	90.3	104.4	92.9	66.3	71.9	74.6	60.5	46.6	60.7	885.5	844.3	767.3	551.5	913.7
73	949.1	104.4	81.3	83.4	84.0	91.4	105.6	90.9	104.6	93.8	66.8	73.1	74.3	60.5	46.1	60.9	889.6	847.2	770.1	553.7	917.8
74	950.9	104.9	82.0	84.1	84.7	92.6	105.9	91.5	104.9	94.7	67.3	73.8	75.9	60.9	46.9	61.5	889.6	850.8	772.4	555.2	912.8
75	954.1	105.4	82.6	84.7	85.4	94.0	106.1	92.0	105.2	95.9	67.9	74.2	77.7	61.0	47.2	61.8	891.9	880.2	775.3	561.0	914.5
76	955.3	105.9	83.2	85.4	86.2	95.6	106.4	92.6	105.4	97.2	68.9	74.6	76.9	61.1	47.2	62.0	892.3	888.9	778.5	572.4	920.6
77	956.7	106.3	83.8	86.1	87.0	97.7	106.6	93.1	105.7	98.6	69.6	76.0	78.1	62.1	47.6	62.5	892.5	896.4	781.6	586.8	920.2
78	958.7	106.8	84.5	86.9	87.8	100.1	106.9	93.7	105.9	100.0	70.6	77.5	80.4	63.1	47.4	62.7	892.8	897.9	783.9	608.1	919.8
79	960.2	107.2	85.2	87.8	88.7	102.5	107.2	94.2	106.2	101.5	71.1	78.1	81.1	64.7	47.4	63.1	894.4	899.4	785.4	644.6	921.7
80	961.8	107.7	85.9	88.7	89.6	104.1	107.5	94.7	106.5	102.7	72.8	81.4	81.0	66.0	48.1	63.3	897.7	902.9	787.7	735.8	924.1
81	963.1	108.3	86.6	89.6	90.5	105.1	107.8	95.2	106.8	103.7	74.1	82.7	82.1	68.1	48.6	63.7	899.7	906.8	790.3	832.7	925.6
82	965.7	109.0	87.4	90.7	91.6	105.7	108.1	95.7	107.1	104.4	76.0	84.8	84.2	70.0	49.3	64.7	903.9	938.0	792.8	857.8	927.9
83	967.1	109.7	88.4	91.9	92.6	106.3	108.4	96.3	107.5	104.8	78.1	87.4	85.0	71.8	51.5	65.8	904.4	924.7	795.0	850.5	926.9
84	968.1	110.5	89.4	93.3	93.6	106.9	108.9	96.8	108.1	105.1	78.8	88.7	88.1	73.6	53.0	66.6	906.2	909.2	797.1	839.1	927.1
85	969.3	111.5	90.6	94.7	94.7	107.6	109.2	97.3	108.8	105.2	80.2	90.8	88.2	75.2	53.8	68.0	906.0	913.3	798.2	840.7	923.3
86	971.0	112.6	92.1	96.1	96.0	108.3	109.7	97.9	109.6	105.4	81.0	92.9	88.7	76.6	54.5	70.3	909.4	915.7	797.6	848.7	924.8
87	971.7	113.8	93.7	97.4	97.5	108.8	110.1	98.5	110.6	105.8	81.7	94.0	90.0	78.9	56.2	71.7	908.4	921.3	796.7	854.6	913.3
88	973.8	115.2	95.4	98.4	99.1	109.2	110.5	99.1	111.6	106.0	83.0	95.4	89.8	80.1	56.2	72.4	908.4	930.5	795.3	858.4	906.9
89	976.0	116.7	97.1	99.4	100.8	109.6	111.0	99.9	112.8	106.3	83.4	95.7	91.6	80.5	58.1	72.3	915.7	938.5	795.7	864.4	890.8
90	976.4	118.4	98.8	100.2	102.4	110.1	111.6	100.7	114.2	106.5	84.6	98.7	93.8	82.1	58.3	73.1	919.3	937.9	797.5	872.1	874.6
91	977.7	120.4	100.3	100.9	103.9	110.7	112.2	101.6	115.8	106.7	85.1	97.6	94.8	82.7	59.6	73.1	923.5	945.8	800.2	952.7	875.2
92	978.5	122.8	101.6	101.5	104.9	111.4	112.8	102.4	117.5	107.0	85.8	100.6	98.0	84.0	60.7	73.2	923.8	953.7	803.1	892.6	872.3
93	979.9	125.9	102.7	102.0	105.6	112.3	113.5	103.3	119.4	107.4	86.8	100.8	95.3	84.3	60.4	73.4	925.3	958.0	806.2	915.9	871.9
94	980.0	130.2	103.6	102.6	106.0	113.5	114.2	104.1	121.3	107.8	87.9	102.5	100.4	85.7	61.9	74.5	927.6	964.0	809.5	915.5	875.8
95	983.8	136.2	104.2	103.0	106.3	114.7	115.0	104.7	123.5	108.4	89.5	105.4	100.0	87.2	62.5	75.2	932.2	968.1	813.0	1025.2	880.4

Table 8. Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
96	983.5	144.8	104.7	103.4	106.6	116.0	115.9	105.1	126.5	109.0	90.2	107.8	103.5	87.8	63.0	75.1	935.2	966.2	817.2	921.7	882.7
97	985.1	156.2	105.1	103.8	106.7	117.4	117.0	105.3	130.9	109.7	91.1	110.9	103.4	89.2	64.5	75.4	937.9	971.8	821.0	975.1	888.7
98	987.2	171.8	105.5	104.0	107.2	118.8	118.1	105.4	135.9	110.5	92.4	113.7	100.8	90.1	64.3	75.5	944.3	973.0	826.1	915.0	894.9
99	987.8	191.0	105.8	104.3	107.9	120.3	119.4	105.4	142.7	111.4	93.9	117.6	105.6	91.0	66.7	76.1	959.2	951.2	840.2	908.4	990.2
100	989.0	213.2	106.1	104.5	108.5	122.1	120.8	105.4	152.3	112.2	96.7	122.0	102.0	92.5	65.6	76.2	953.0	946.2	857.9	983.6	1001.5
101	991.5	237.9	106.4	104.7	109.3	123.8	122.4	105.3	168.7	113.0	98.8	128.7	104.9	94.1	67.7	75.7	917.8	954.7	872.7	951.5	1009.9
102	992.4	268.4	106.6	105.0	110.7	125.9	124.2	105.3	192.4	114.0	101.3	135.1	107.2	95.3	69.1	77.0	928.4	962.9	890.2	979.8	1011.8
103	993.1	312.5	106.9	105.4	112.1	128.8	126.4	105.5	221.1	115.2	105.4	141.2	109.8	97.4	70.7	77.5	941.0	965.6	908.2	965.9	1016.7
104	994.0	378.0	107.1	105.8	114.2	133.6	129.0	105.7	251.9	116.6	108.8	146.0	110.9	99.0	70.3	78.5	969.5	970.8	924.2	971.1	1027.3
105	994.6	448.2	107.2	106.1	116.4	139.7	131.9	106.0	288.4	118.3	110.0	153.2	113.7	100.3	71.8	78.3	984.3	971.6	940.5	981.2	1032.7

Table 8. Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time	T(Fav)	Temperature at Thermocouple Number																			
(min)	(°C)	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
0		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
1		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
5		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
6		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
7		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
8		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
9		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
10		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
11		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
12		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
13		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
14		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
15		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
16		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
17		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
18		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
19		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
20		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
21		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
22		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
23		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
24		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
25		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
26		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
27		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
28		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
29		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
30		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
31		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
32		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
33		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
34		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
35		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
36		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
37		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
38		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
39		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
40		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
41		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
42		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
43		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
44		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
45		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
46		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
47		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Table 8. Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																			
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
48		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
49		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
50		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
51		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
52		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
53		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
54		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
55		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
56		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
57		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
58		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
59		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
60		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
61		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
62		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
63		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
64		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
65		***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
66	938.6	531.2	709.0	419.2	605.9	891.2	159.0	285.7	1223.8	772.7	766.4	807.9	737.2	749.7	407.8	344.8	422.8	207.8	382.9	497.4	***
67	940.0	542.5	708.5	428.7	619.9	893.3	155.4	281.3	820.9	776.0	769.8	812.0	739.4	752.1	413.8	350.9	427.6	249.5	385.0	501.7	***
68	941.6	553.8	708.5	428.4	634.5	897.3	153.7	276.2	705.2	779.4	773.4	814.8	741.7	754.6	420.3	357.9	433.1	291.7	388.4	506.8	***
69	943.4	564.5	709.5	745.9	649.6	895.9	151.8	270.2	668.1	783.1	777.9	819.2	744.5	757.3	428.1	366.4	439.5	335.9	392.6	513.0	***
70	945.3	573.7	711.0	748.2	665.0	904.1	151.9	263.5	653.8	786.7	782.4	822.9	747.1	760.2	436.9	376.3	446.9	407.7	399.1	520.3	***
71	946.8	582.2	713.0	750.7	680.0	900.9	153.0	257.4	646.4	790.5	788.5	824.9	750.1	763.4	446.3	387.1	455.6	473.8	404.4	527.9	***
72	948.2	589.9	714.6	753.4	694.3	900.6	154.3	250.5	647.7	794.3	792.5	830.4	753.2	766.6	456.5	397.9	465.5	539.7	410.4	535.1	***
73	949.1	596.7	715.4	756.6	707.2	902.9	156.7	244.8	655.6	797.9	790.5	845.0	756.0	769.8	467.3	408.4	477.5	694.3	415.5	541.8	***
74	950.9	602.7	716.6	761.0	718.0	913.6	165.2	243.3	664.6	801.9	789.9	873.6	758.6	773.1	479.6	418.4	491.5	***	419.7	547.5	***
75	954.1	616.1	717.6	769.0	726.1	937.1	163.5	241.9	674.4	810.1	788.7	916.3	761.0	776.6	494.3	431.0	506.9	***	423.7	551.3	***
76	955.3	630.4	719.8	782.6	733.0	943.9	159.4	240.9	681.7	818.3	784.2	937.4	763.4	780.5	510.8	446.2	529.5	***	428.0	554.1	***
77	956.7	643.3	721.2	803.1	739.2	953.2	155.2	245.0	686.2	830.3	776.5	958.1	765.6	784.5	529.7	461.4	560.1	***	432.4	556.4	***
78	958.7	654.3	722.5	833.2	745.0	947.3	150.5	252.3	692.4	835.5	766.8	977.2	767.8	788.5	549.9	473.2	597.0	***	437.0	559.2	***
79	960.2	662.0	723.5	870.8	750.7	953.5	147.2	264.5	695.3	843.9	758.2	986.9	769.9	792.3	570.6	484.1	623.2	787.3	441.4	562.7	***
80	961.8	672.2	723.8	943.0	757.1	949.3	149.6	282.8	700.7	850.4	754.1	1005.3	772.0	796.0	590.9	495.8	641.3	788.8	445.6	566.3	***
81	963.1	694.0	726.3	941.0	763.3	956.8	148.1	318.2	705.3	858.7	750.8	1010.6	774.1	799.7	610.9	509.0	655.1	717.7	449.9	569.7	***
82	965.7	709.5	730.5	972.7	769.1	681.3	146.1	364.2	803.6	890.2	748.8	1044.3	776.4	803.2	629.1	925.2	666.8	830.1	454.5	573.0	***
83	967.1	739.0	730.9	1006.0	773.9	975.8	146.9	385.3	807.3	877.6	749.2	1021.9	778.7	807.1	649.9	687.9	677.4	626.1	459.6	577.0	***
84	968.1	717.3	732.4	964.8	777.6	968.1	145.2	401.5	813.0	864.3	748.0	1023.1	781.1	810.1	667.1	864.9	687.7	678.6	465.2	581.5	***
85	969.3	707.1	736.2	954.2	780.7	957.8	146.0	452.6	815.5	858.2	747.3	987.8	783.4	812.6	674.9	904.1	754.7	658.4	471.1	586.4	***
86	971.0	710.7	740.2	953.2	785.8	960.4	147.3	509.0	816.9	857.3	748.7	1015.2	785.6	814.6	693.5	893.5	768.4	721.4	477.1	591.4	***
87	971.7	719.8	740.8	955.2	790.3	961.0	171.0	583.9	817.7	860.8	757.6	953.7	787.8	816.1	816.8	892.1	789.5	680.6	482.7	596.4	***
88	973.8	724.9	740.5	960.7	797.7	970.3	167.6	639.9	819.1	865.3	773.7	969.9	789.8	817.3	793.7	917.3	823.2	561.1	488.0	601.1	***
89	976.0	736.7	745.5	950.9	811.3	737.2	169.3	631.7	820.8	874.5	788.2	963.8	791.7	818.4	1098.2	923.2	985.6	554.6	493.4	605.1	***
90	976.4	765.8	755.8	934.6	817.0	642.4	177.1	731.4	825.9	899.1	802.4	989.0	793.6	819.4	1005.1	932.0	***	543.8	498.9	608.9	***
91	977.7	777.4	765.2	951.0	819.6	662.2	173.4	741.1	831.4	927.5	814.4	990.2	795.2	820.4	887.7	917.8	***	753.2	504.2	612.3	***
92	978.5	800.4	772.4	943.8	821.8	665.6	171.7	721.9	837.9	940.2	819.3	968.5	796.7	821.3	904.7	933.3	***	673.6	509.4	615.4	***
93	979.9	829.1	778.3	952.1	823.7	565.4	176.9	899.0	847.3	950.2	824.4	960.7	798.2	822.5	***	928.2	***	695.2	514.4	618.4	***
94	980.0	848.8	783.7	961.9	827.0	559.2	177.5	765.3	870.8	955.6	830.7	941.1	799.7	823.9	***	927.0	***	633.0	519.0	621.2	***
95	983.9	893.2	789.7	959.7	831.2	559.0	179.1	805.3	935.5	962.8	838.2	956.0	801.3	825.8	866.0	930.5	***	791.2	523.2	624.0	***

Table 8. Temperatures Measured in Full Scale Assembly F-10b, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Time	T(Fav)	Temperature at Thermocouple Number																			
(min)	(°C)	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
96	983.5	904.2	796.5	960.1	835.6	557.9	185.2	769.3	910.7	961.6	844.3	946.9	803.2	828.3	852.7	929.5	***	779.8	527.5	627.0	***
97	985.1	921.8	803.6	964.6	837.7	564.4	194.1	958.8	909.2	967.8	854.7	948.7	804.8	830.1	860.8	938.0	***	798.9	531.9	630.0	***
98	987.2	944.6	813.1	968.5	843.4	560.7	207.1	735.9	928.8	970.4	864.9	960.5	806.8	831.9	864.6	935.0	***	837.9	536.5	633.0	***
99	987.8	1000.2	851.6	1024.3	853.1	559.9	219.4	893.9	951.0	949.5	911.0	948.2	808.6	833.5	861.1	935.8	***	939.5	541.4	636.0	***
100	989.0	984.2	867.4	1045.5	863.8	585.7	236.0	965.5	962.6	952.2	924.5	964.2	810.3	836.1	851.9	946.6	***	995.8	546.7	639.4	***
101	991.5	992.1	882.6	1036.0	870.8	591.1	253.5	994.1	976.5	952.0	920.9	976.2	811.9	839.0	866.6	968.3	***	945.0	551.9	644.5	***
102	992.4	990.3	902.7	1027.8	874.7	587.2	306.0	1001.6	1001.4	957.2	924.2	1008.8	813.6	842.7	881.3	978.9	***	951.1	557.2	649.5	***
103	993.1	965.4	925.8	1018.4	876.6	585.6	305.1	991.9	1153.5	960.1	925.9	1005.0	815.2	846.3	889.0	980.2	***	953.5	562.3	654.9	***
104	994.0	965.2	913.6	1013.9	879.1	588.7	331.5	990.8	***	964.0	929.9	996.6	816.7	850.3	899.2	979.2	***	950.4	567.4	660.3	***
105	994.6	968.0	912.4	1009.9	889.4	593.0	353.6	988.6	***	963.3	941.8	1008.9	818.2	854.0	913.7	988.5	***	941.7	572.7	665.7	***

Table 9. Average Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(20,21,22,23)	BL/Cav. (Exp.) Av(28,29,30, 31,32,33)	Mid. SStd. Av(16,17,18,19)	BL/Cav. (UnExp.) Av(34,35,36, 37,38,39)	BL/SStd. (UnExp.) Av(24,25,26,27)	BL/FL (UnExp.) Av(50,51,52,53,54, 55,56,57,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
0		***	***	***	***	***	***	22.4
1		***	***	***	***	***	***	22.4
2		***	***	***	***	***	***	22.4
3		***	***	***	***	***	***	22.4
4		***	***	***	***	***	***	22.4
5		***	***	***	***	***	***	22.5
6		***	***	***	***	***	***	22.6
7		***	***	***	***	***	***	22.7
8		***	***	***	***	***	***	23.0
9		***	***	***	***	***	***	23.5
10		***	***	***	***	***	***	24.1
11		***	***	***	***	***	***	25.0
12		***	***	***	***	***	***	26.1
13		***	***	***	***	***	***	27.4
14		***	***	***	***	***	***	28.8
15		***	***	***	***	***	***	30.4
16		***	***	***	***	***	***	31.9
17		***	***	***	***	***	***	33.4
18		***	***	***	***	***	***	34.8
19		***	***	***	***	***	***	36.2
20		***	***	***	***	***	***	37.5
21		***	***	***	***	***	***	38.7
22		***	***	***	***	***	***	39.8
23		***	***	***	***	***	***	40.9
24		***	***	***	***	***	***	41.8
25		***	***	***	***	***	***	42.9
26		***	***	***	***	***	***	44.0
27		***	***	***	***	***	***	45.3
28		***	***	***	***	***	***	46.8
29		***	***	***	***	***	***	48.6
30		***	***	***	***	***	***	50.7
31		***	***	***	***	***	***	53.0
32		***	***	***	***	***	***	55.3
33		***	***	***	***	***	***	57.6
34		***	***	***	***	***	***	59.6
35		***	***	***	***	***	***	61.6
36		***	***	***	***	***	***	63.6
37		***	***	***	***	***	***	65.5
38		***	***	***	***	***	***	67.2
39		***	***	***	***	***	***	68.8
40		***	***	***	***	***	***	70.0
41		***	***	***	***	***	***	71.1
42		***	***	***	***	***	***	72.0
43		***	***	***	***	***	***	72.8
44		***	***	***	***	***	***	73.4
45		***	***	***	***	***	***	73.9
46		***	***	***	***	***	***	74.4
47		***	***	***	***	***	***	74.8

Table 9. Average Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(20,21,22,23)	BL/Cav. (Exp.) Av(28,29,30, 31,32,33)	Mid. SStd. Av(16,17,18,19)	BL/Cav. (UnExp.) Av(34,35,36, 37,38,39)	BL/SStd. (UnExp.) Av(24,25,26,27)	BL/FL (UnExp.) Av(50,51,52,53,54, 55,56,57,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
48		***	***	***	***	***	***	75.2
49		***	***	***	***	***	***	75.7
50		***	***	***	***	***	***	76.2
51		***	***	***	***	***	***	76.8
52		***	***	***	***	***	***	77.5
53		***	***	***	***	***	***	***
54		***	***	***	***	***	***	***
55		***	***	***	***	***	***	***
56		***	***	***	***	***	***	***
57		***	***	***	***	***	***	***
58		***	***	***	***	***	***	***
59		***	***	***	***	***	***	***
60		***	***	***	***	***	***	***
61		***	***	***	***	***	***	***
62		***	***	***	***	***	***	***
63		***	***	***	***	***	***	***
64		***	***	***	***	***	***	***
65		***	***	***	***	***	***	***
66	938.6	639.8	843.0	747.3	377.3	485.5	142.5	88.8
67	940.0	645.5	778.4	749.5	388.1	487.5	145.7	89.5
68	941.6	648.5	761.5	751.4	399.7	490.4	148.9	90.1
69	943.4	731.3	758.3	753.8	412.6	491.9	152.3	90.8
70	945.3	735.7	758.8	756.6	431.0	496.1	155.6	91.4
71	946.8	739.2	760.6	758.9	449.2	497.8	158.8	92.0
72	948.2	742.9	764.1	762.2	467.5	499.9	162.4	92.7
73	949.1	746.6	769.2	765.1	500.8	502.9	166.1	93.3
74	950.9	748.3	777.0	767.0	392.8	510.0	170.2	93.9
75	954.1	754.3	787.9	777.1	401.2	517.1	174.9	94.6
76	955.3	763.4	794.2	783.0	411.4	519.3	180.1	95.3
77	956.7	771.9	800.2	789.3	423.3	523.1	186.0	96.1
78	958.7	782.4	804.7	795.7	436.1	523.6	192.2	97.0
79	960.2	794.5	807.8	806.0	578.2	529.0	199.0	97.8
80	961.8	815.8	813.1	831.1	588.1	534.7	205.1	98.6
81	963.1	821.7	816.5	857.4	585.4	546.6	211.2	99.3
82	965.7	835.2	844.4	873.1	679.8	490.2	217.2	100.0
83	967.1	850.7	840.3	868.7	613.0	570.5	223.2	100.6
84	968.1	835.4	839.9	862.9	657.5	573.1	229.1	101.4
85	969.3	830.2	834.1	864.5	674.9	584.3	235.6	102.2
86	971.0	832.2	839.7	867.9	690.9	600.6	242.8	103.1
87	971.7	832.3	832.3	870.3	709.7	629.1	250.5	104.0
88	973.8	833.3	839.2	873.2	697.4	643.9	258.6	104.9
89	976.0	831.0	842.9	878.6	776.7	587.4	267.7	106.0
90	976.4	832.7	854.9	881.7	598.1	592.0	277.4	107.0
91	977.7	842.2	863.2	905.6	612.5	599.1	287.1	108.1
92	978.5	847.2	864.0	893.3	606.1	595.3	297.8	109.1
93	979.9	857.9	867.2	901.4	459.4	616.2	309.0	110.2
94	980.0	867.5	870.3	904.1	450.0	582.2	320.3	111.5
95	983.8	880.8	886.6	934.6	622.5	593.7	331.5	112.9

Table 9. Average Temperatures Measured in Full Scale Assembly F-10B, Steel Stud, 1x2 Gypsum Board Layers, Mineral Fibre Insulation (Cont.)

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(20,21,22,23)	BL/Cav. (Exp.) Av(28,29,30, 31,32,33)	Mid. SStd. Av(16,17,18,19)	BL/Cav. (UnExp.) Av(34,35,36, 37,38,39)	BL/SStd. (UnExp.) Av(24,25,26,27)	BL/FL (UnExp.) Av(50,51,52,53,54, 55,56,57,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
96	983.5	885.9	882.5	910.1	619.4	587.0	340.9	114.7
97	985.1	894.7	885.9	926.4	626.6	638.7	350.3	116.9
98	987.2	905.3	893.9	914.6	634.5	586.8	360.9	119.7
99	987.8	966.6	902.0	914.8	652.3	631.6	372.3	123.1
100	989.0	974.7	908.3	935.2	663.4	662.7	386.7	127.2
101	991.5	980.2	912.7	924.2	662.7	677.4	401.7	132.4
102	992.4	983.1	924.6	940.3	669.7	692.4	417.3	139.2
103	993.1	981.5	951.0	945.2	673.3	689.8	432.5	148.2
104	994.0	980.0	759.6	958.9	676.1	697.5	446.9	160.2
105	994.6	980.7	764.4	969.4	680.4	706.2	459.7	173.6

Table 10. Temperatures Measured in Full Scale Assembly F-11, Steel Stud, 1x2 Gypsum Board Layers, Cellulosic Fibre Insulation (wet spray)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
0	23.8	21.0	21.6	20.5	20.4	21.5	21.6	21.0	20.8	20.9	21.8	22.0	21.0	22.3	21.1	22.1	21.4	20.9	21.7	20.8	21.8	21.9
1	32.5	21.0	21.6	20.5	20.4	21.5	21.6	21.0	21.2	21.0	22.2	22.3	21.3	22.7	21.5	22.7	21.5	21.0	21.9	21.0	22.2	22.3
2	170.2	20.9	21.6	20.5	20.4	21.5	21.6	21.0	21.4	20.9	22.3	22.5	21.4	23.0	21.6	23.0	21.8	21.5	23.3	21.6	63.1	89.4
3	413.1	20.9	21.6	20.5	20.4	21.5	21.6	21.0	21.4	20.9	22.5	22.6	21.5	23.1	21.8	23.2	39.5	48.1	42.3	32.2	99.1	98.5
4	447.8	21.0	21.7	20.5	20.4	21.5	21.6	21.0	21.5	20.9	22.7	22.7	21.6	23.3	21.9	23.4	68.8	72.7	59.0	47.1	96.5	95.2
5	453.4	21.0	21.7	20.5	20.4	21.5	21.6	21.0	21.6	20.9	22.7	22.8	21.6	23.4	21.9	23.6	75.3	75.9	64.7	54.8	94.6	95.5
6	568.6	21.0	21.7	20.5	20.4	21.5	21.6	21.0	21.6	20.9	22.8	23.0	21.8	23.5	22.0	23.7	83.5	89.7	74.4	63.9	96.2	97.3
7	615.7	21.1	21.7	20.5	20.4	21.5	21.7	21.0	21.7	20.9	22.9	23.5	22.0	23.6	22.1	23.8	91.3	95.1	84.3	75.0	95.9	97.6
8	623.4	21.3	21.7	20.5	20.4	21.5	21.8	21.1	21.8	20.9	23.0	24.1	22.4	23.6	22.1	23.9	93.7	94.2	86.3	80.0	98.9	99.8
9	670.6	21.6	21.9	20.5	20.4	21.5	22.0	21.1	21.8	21.0	23.0	25.0	22.9	23.8	22.2	24.0	94.3	95.0	89.1	84.6	107.9	106.5
10	702.5	22.1	22.1	20.6	20.4	21.6	22.3	21.1	22.0	21.0	23.1	26.1	23.6	24.1	22.4	24.2	95.2	95.8	91.4	88.7	123.3	120.2
11	719.3	22.8	22.4	20.7	20.4	21.7	22.9	21.2	22.1	21.1	23.2	27.2	24.5	24.5	22.6	24.4	95.3	95.9	92.6	91.5	132.2	131.9
12	721.6	23.7	22.9	20.8	20.6	21.9	23.7	21.3	22.5	21.3	23.5	28.5	25.5	25.1	23.0	24.7	92.8	94.8	93.0	92.5	130.2	140.1
13	734.1	25.0	23.7	21.2	20.9	22.4	24.8	21.5	22.9	21.7	23.8	29.6	26.6	26.0	23.6	25.2	92.1	91.1	92.0	92.4	135.6	153.9
14	747.1	26.5	24.8	21.9	21.4	23.2	26.2	21.8	23.5	22.3	24.3	30.8	27.9	27.1	24.4	25.8	87.3	85.4	98.1	90.5	144.5	160.8
15	754.7	28.2	26.1	23.0	22.2	24.3	27.9	22.3	24.4	23.1	25.0	31.5	29.1	28.3	25.5	26.5	87.8	83.4	111.0	91.0	167.1	177.7
16	766.5	30.0	27.8	24.5	23.3	25.8	29.8	23.0	25.4	24.2	26.0	32.7	30.4	30.0	27.1	27.6	90.5	86.3	125.9	96.7	212.9	206.0
17	771.5	32.1	29.8	26.5	24.7	27.7	32.0	23.9	26.5	25.6	27.3	34.3	31.7	31.9	28.8	28.9	96.4	90.0	144.6	107.8	254.8	256.7
18	778.9	34.2	32.1	28.8	26.7	30.1	34.4	25.1	27.8	27.3	29.2	35.4	33.1	34.5	31.2	30.1	104.5	100.0	167.2	123.7	317.1	324.3
19	786.8	36.6	35.0	31.4	29.2	33.1	37.2	26.5	29.5	29.5	31.7	36.7	34.6	37.1	33.6	31.8	116.9	110.2	190.8	143.8	364.6	361.5
20	791.4	39.0	38.0	34.2	32.2	36.3	40.2	28.3	31.4	32.1	34.4	38.4	35.8	39.5	36.0	33.6	130.6	117.9	213.5	164.5	397.2	386.8
21	798.2	41.6	41.1	37.2	35.4	39.6	43.2	30.7	33.7	35.1	37.2	39.9	37.3	41.4	38.2	35.9	146.6	125.4	239.0	185.5	429.9	420.2
22	803.5	44.3	44.0	40.3	38.7	42.9	46.3	33.5	35.9	38.2	39.7	41.1	38.7	42.9	40.1	37.8	167.4	134.5	270.4	206.8	445.7	453.7
23	808.6	47.0	46.7	43.4	41.9	45.9	49.2	36.8	38.1	41.5	42.1	42.7	40.4	44.6	41.6	39.3	194.7	145.5	304.9	229.2	512.7	496.6
24	814.1	49.8	49.0	46.3	44.9	48.7	52.1	40.1	39.8	44.6	43.7	43.9	41.6	46.0	43.0	41.1	222.7	158.2	341.2	252.9	578.2	562.2
25	820.1	52.7	50.9	48.9	47.7	51.1	54.9	43.4	41.6	47.6	45.6	44.9	43.3	46.8	44.0	42.1	222.9	172.0	379.0	278.7	626.7	605.3
26	823.4	55.2	52.6	51.1	50.2	53.2	57.6	46.5	42.7	50.2	46.6	46.0	44.7	47.6	44.3	43.1	219.7	185.3	416.1	305.0	673.3	650.2
27	827.4	57.4	54.1	53.1	52.4	55.0	60.2	49.3	44.0	52.6	47.5	47.4	45.7	48.0	45.7	43.9	232.0	196.5	452.1	330.1	714.0	681.3
28	832.4	59.4	55.3	54.7	54.2	56.5	63.0	51.7	45.1	54.6	48.7	47.4	47.1	48.3	46.0	44.8	262.7	206.1	484.9	354.2	738.8	702.5
29	836.0	61.3	56.4	56.0	55.8	57.8	66.1	53.8	45.5	56.3	49.5	47.8	48.1	48.3	46.8	45.7	329.2	215.9	510.9	378.0	747.3	724.0
30	841.2	63.1	57.5	57.0	56.9	58.9	69.3	55.6	45.8	57.7	50.1	49.0	48.7	49.0	46.6	45.5	433.6	225.9	533.9	401.3	739.5	738.1
31	845.8	64.7	58.6	57.9	57.9	59.8	72.4	57.0	46.6	58.9	50.2	49.7	49.5	49.2	47.0	46.3	545.4	239.8	568.0	424.8	727.5	742.1
32	847.5	66.5	59.9	58.6	58.7	60.5	75.5	58.2	47.0	59.9	50.6	50.9	50.3	49.4	47.0	46.8	631.9	265.1	610.6	446.8	716.8	737.3
33	851.8	68.2	61.7	59.2	59.5	61.4	78.5	59.3	47.5	60.8	51.0	52.7	51.3	50.1	48.1	47.3	677.7	306.2	643.7	467.7	714.1	723.6
34	855.3	69.7	64.0	59.9	60.1	62.5	81.0	60.1	48.1	61.6	51.1	55.6	51.6	50.5	48.0	48.1	699.5	369.6	676.3	487.7	716.1	714.2
35	857.8	71.3	66.1	60.6	60.7	64.0	82.9	60.8	48.7	62.3	51.5	59.1	52.5	51.4	49.1	48.3	708.7	447.3	694.3	510.4	718.8	714.3
36	859.3	72.8	67.6	61.2	61.1	66.8	84.0	61.4	49.1	63.0	51.7	61.8	52.6	51.0	49.1	48.7	712.6	526.1	699.7	531.8	721.7	721.3
37	866.5	74.1	69.1	61.8	61.7	70.8	84.4	61.9	49.8	63.7	52.3	67.0	53.1	52.5	50.2	49.2	718.3	591.5	704.8	553.8	726.2	722.0
38	867.9	75.4	70.1	62.3	62.4	73.7	84.3	62.6	50.5	64.5	53.1	70.6	53.5	53.8	50.4	49.6	724.2	639.0	710.4	582.1	730.8	724.2
39	877.8	76.7	70.3	62.9	63.2	74.3	83.9	63.5	51.2	65.4	53.9	72.8	54.1	54.4	51.4	50.4	727.2	699.7	700.5	606.7	733.1	732.3
40	873.3	78.7	70.2	63.5	63.9	74.1	83.5	64.9	51.9	66.3	54.6	72.7	56.6	56.1	56.3	50.0	732.2	713.6	701.7	629.5	737.3	737.4
41	877.5	80.9	70.9	64.0	64.4	73.9	83.3	66.3	52.5	67.1	55.5	74.0	62.7	59.6	60.2	51.6	736.3	720.0	707.2	652.2	740.4	742.0
42	881.0	82.8	71.4	64.4	64.8	73.7	83.1	67.7	53.8	67.6	56.4	76.2	67.4	62.7	61.0	52.1	739.7	725.8	712.5	671.8	743.1	746.8

Table 10. Temperatures Measured in Full Scale Assembly F-11, Steel Stud,1x2 Gypsum Board Layers,Cellulosic Fibre Insulation(wet spray)(Cont.)

Time	T(Fav)	Temperature at Thermocouple Number																				
(min)	(°C)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
43	887.3	84.4	71.7	65.1	65.2	73.4	83.1	69.7	56.7	67.9	57.4	77.3	70.2	63.7	61.6	52.7	742.8	735.3	717.3	735.9	745.6	760.6
44	883.7	86.3	72.0	68.1	65.7	73.2	84.1	72.8	60.2	68.1	58.1	78.5	71.5	64.3	61.6	54.5	745.8	742.1	722.2	734.0	747.8	763.9
45	888.4	88.8	72.4	72.0	66.5	72.9	85.4	75.0	61.6	68.3	58.2	80.7	72.1	63.7	60.9	55.8	747.3	745.2	725.6	729.9	745.7	765.9
46	891.5	91.4	72.7	74.0	67.8	72.7	86.6	75.9	61.9	68.9	59.0	79.3	71.8	62.9	60.5	55.8	746.8	748.8	726.6	729.3	741.3	768.6
47	895.0	94.4	72.8	74.5	69.1	72.6	88.3	76.0	61.7	69.6	59.9	80.3	73.1	62.0	60.3	55.9	745.6	751.8	727.0	729.7	737.2	772.2
48	897.2	97.6	72.4	74.7	70.3	72.6	90.4	75.7	62.1	70.1	61.7	84.2	74.9	61.4	62.7	56.0	743.8	755.6	726.5	732.5	732.7	775.9
49	900.0	100.9	72.2	75.1	71.8	72.6	92.7	75.4	62.6	70.6	63.2	87.2	74.1	61.5	65.8	55.4	742.4	760.3	726.0	736.5	730.8	779.8
50	902.7	104.1	72.1	75.2	73.2	72.4	95.0	75.0	63.3	71.0	63.8	89.0	74.0	61.8	67.9	54.7	740.7	765.6	725.4	742.1	730.3	783.8
51	905.8	107.1	72.0	75.1	74.4	72.2	97.5	74.5	63.7	71.5	64.2	91.2	76.7	62.7	68.9	54.4	739.6	771.6	725.0	748.6	731.1	787.8
52	906.8	109.9	72.0	74.8	75.1	72.3	99.8	74.1	64.4	72.1	63.6	93.2	75.7	62.1	68.2	53.8	739.2	776.6	725.4	751.8	732.1	791.1
53	909.8	112.6	72.0	74.3	75.3	73.4	101.9	73.7	65.2	72.4	63.3	94.9	77.9	62.7	68.9	53.8	738.4	777.8	725.3	750.2	732.6	794.2
54	911.8	115.0	72.2	74.2	75.5	76.8	103.8	73.3	66.5	72.7	63.3	95.1	78.0	63.2	68.9	53.7	738.2	778.1	725.5	746.9	733.4	797.2
55	915.3	117.4	72.7	73.9	75.6	81.2	105.4	73.2	67.7	72.9	63.3	98.8	79.2	63.9	71.1	53.9	738.6	776.7	726.2	743.3	734.2	800.0
56	915.1	119.7	73.6	73.5	75.2	85.6	106.8	73.2	69.2	73.1	62.9	100.3	79.7	64.2	74.0	53.6	739.1	775.4	727.1	740.3	735.0	801.8
57	918.0	122.1	74.6	73.1	75.3	89.5	108.1	73.2	71.0	73.1	63.0	103.9	82.7	64.7	79.3	53.6	739.1	777.5	727.1	738.9	735.1	810.3
58	920.3	125.4	75.9	73.0	75.6	93.3	109.2	73.2	72.9	73.2	63.1	105.8	81.0	65.6	83.3	53.9	739.2	787.4	727.2	742.2	735.4	817.2
59	921.7	130.9	77.6	73.1	75.7	96.7	110.3	73.2	76.6	73.2	64.3	109.2	82.7	67.1	86.4	53.7	739.9	804.5	728.0	751.1	736.3	820.6
60	924.0	140.0	79.9	73.4	75.9	99.5	111.2	73.4	80.8	73.3	66.2	109.3	83.1	67.4	89.0	53.2	741.2	823.2	729.2	757.8	737.6	824.3
61	925.7	161.2	82.6	73.7	77.7	101.7	112.1	73.4	83.4	73.8	70.7	113.0	83.0	68.6	91.9	53.6	742.8	850.6	731.0	767.0	739.4	830.5
62	928.7	200.9	85.8	74.0	81.7	103.8	113.2	73.4	86.0	74.5	73.7	117.5	84.8	70.9	93.6	53.1	744.4	866.2	732.5	781.2	741.1	844.6
63	930.6	242.9	89.2	74.3	84.6	105.5	114.4	73.5	89.2	75.5	74.3	119.9	87.1	71.8	96.9	53.0	746.5	854.7	734.6	794.1	743.3	860.0
64	934.3	292.9	92.6	74.7	87.8	107.3	115.6	73.6	93.0	76.5	74.5	127.7	87.7	75.0	99.0	53.2	748.2	830.6	735.9	796.2	745.1	873.3
65	933.6	370.3	95.4	74.9	92.7	108.6	117.0	73.8	96.6	77.6	75.0	129.2	92.3	76.1	103.1	53.1	750.6	810.9	738.0	793.0	747.4	876.4
66	935.6	448.7	97.8	75.0	97.6	109.9	118.6	74.1	101.9	78.6	75.0	129.6	90.5	76.6	106.2	52.9	752.9	793.6	739.9	785.9	749.1	863.3
67	937.9	498.7	99.9	75.2	102.1	111.3	120.5	74.4	110.5	79.5	76.3	134.4	90.2	78.3	111.7	53.1	754.9	781.3	741.4	776.5	751.0	841.9
68	939.5	542.5	101.6	75.4	105.4	112.7	122.7	74.7	123.4	80.5	80.6	141.1	96.0	81.8	117.1	52.9	757.3	772.6	743.7	764.9	753.3	822.2
69	941.1	587.0	103.0	75.5	108.2	114.1	125.4	74.7	146.9	81.5	86.6	143.9	97.0	84.9	135.4	53.1	759.8	766.3	745.6	753.9	755.7	809.2
70	943.2	625.9	104.2	75.7	110.8	115.9	129.0	74.8	174.7	82.5	92.4	150.4	101.5	88.2	158.3	53.1	762.3	762.3	747.2	744.0	757.8	798.5
71	944.8	646.8	105.0	76.0	113.3	117.8	135.1	75.0	201.7	83.6	96.3	155.2	103.2	92.2	173.5	53.1	765.1	759.3	748.9	735.7	759.9	787.1
72	947.4	646.7	105.7	76.4	115.7	119.9	141.2	75.4	228.5	84.9	100.2	158.6	107.3	97.3	186.0	53.3	768.5	757.4	750.9	729.3	762.6	780.5
73	947.5	645.4	106.4	76.9	118.0	122.8	148.9	75.9	255.4	86.3	102.6	165.9	109.4	101.7	195.6	54.0	771.3	757.7	751.7	726.2	764.1	778.6
74	949.1	644.3	107.1	77.6	120.4	127.2	164.9	76.6	317.9	87.8	105.4	171.3	112.6	107.1	200.7	54.2	774.1	760.7	752.2	725.6	765.2	781.3
75	951.6	643.3	108.0	78.2	123.0	134.8	190.9	77.4	476.9	89.5	108.2	176.1	117.5	114.5	208.5	55.3	776.8	765.2	752.5	727.5	766.5	788.4
76	953.5	643.1	109.0	79.1	126.7	153.9	236.9	78.4	532.6	91.7	110.7	181.0	118.0	120.7	211.4	56.7	779.1	771.7	751.9	733.4	767.7	797.4
77	954.3	643.6	110.3	84.8	133.6	186.3	287.0	79.4	532.4	94.1	114.7	185.8	120.3	123.1	214.1	57.2	781.4	778.9	751.0	739.8	768.8	806.9
78	956.9	644.7	112.0	90.2	144.8	224.3	350.1	80.4	557.9	97.2	120.3	192.8	122.8	125.4	215.1	57.6	783.4	789.4	748.9	750.6	769.9	819.3
79	960.9	647.1	113.8	94.6	176.6	275.3	421.9	81.4	633.3	100.2	126.7	199.6	129.0	135.1	220.2	58.0	791.2	795.5	751.1	758.7	778.5	826.4
80	961.6	652.0	115.8	98.4	221.2	360.0	488.4	82.6	656.6	102.5	143.6	207.0	135.1	143.1	221.3	61.9	803.0	804.6	755.7	769.9	788.4	835.8
81	960.6	657.9	117.9	101.5	268.7	417.4	515.5	83.9	634.2	104.3	175.5	210.8	138.6	149.9	221.8	64.4	818.3	819.8	766.2	786.8	801.9	851.9
82	962.5	664.4	120.5	104.5	338.8	467.3	538.4	85.5	616.7	106.0	197.3	216.8	144.4	168.7	221.8	67.3	834.9	828.3	777.5	804.2	814.5	865.6

Table 10. Temperatures Measured in Full Scale Assembly F-11, Steel Stud,1x2 Gypsum Board Layers,Cellulosic Fibre Insulation(wet spray)(Cont.)

Time	T(Fav)	Temperature at Thermocouple Number																				
(min)	(°C)	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
0	23.8	22.6	21.5	21.6	20.9	21.7	20.9	21.8	22.2	22.3	21.9	22.5	21.4	21.5	20.6	21.7	20.9	21.7	20.6	***	***	21.4
1	32.5	23.8	22.3	21.6	20.9	21.7	20.9	22.9	23.2	23.7	23.0	23.5	22.2	21.5	20.6	21.8	20.9	21.7	20.6	***	***	21.4
2	170.2	70.1	57.6	21.6	21.0	21.8	20.9	70.7	67.8	87.3	72.2	72.5	55.7	21.5	20.7	21.8	20.9	21.7	20.6	***	***	21.4
3	413.1	92.3	89.7	21.7	22.0	23.2	21.8	89.8	89.3	93.9	90.0	92.2	87.3	21.8	20.7	22.0	20.9	22.4	20.6	***	***	21.4
4	447.8	86.8	84.7	23.1	27.6	26.5	25.2	83.8	83.0	86.6	83.4	86.4	80.3	23.7	21.0	23.6	21.5	30.3	21.0	***	***	21.4
5	453.4	87.3	84.5	27.9	34.8	31.3	29.7	85.8	84.7	95.0	83.4	89.9	79.2	28.5	22.9	30.8	24.1	38.3	22.8	***	***	21.5
6	588.6	94.3	92.9	34.9	44.6	40.3	34.9	96.4	96.1	108.2	92.3	101.1	88.6	36.8	29.1	40.9	31.6	47.2	26.6	***	***	21.5
7	615.7	94.0	93.7	44.6	60.8	50.3	42.2	102.4	102.4	116.9	95.2	107.2	90.3	49.7	38.6	54.4	42.6	58.5	31.8	***	***	21.7
8	623.4	100.0	99.9	55.5	69.5	57.7	51.1	106.3	105.3	120.9	98.9	110.7	92.1	59.1	50.9	64.1	56.2	64.0	41.3	***	***	22.3
9	670.6	110.5	110.4	62.9	75.1	64.3	60.4	110.8	109.8	126.3	103.7	114.7	95.9	66.7	61.2	68.9	64.2	67.3	53.3	***	***	23.7
10	702.5	112.3	117.2	67.8	79.4	68.7	68.8	114.9	114.4	132.8	108.7	118.4	100.1	74.5	68.5	74.1	69.1	71.5	62.2	***	***	26.4
11	719.3	118.3	121.8	71.3	81.4	69.4	75.1	119.2	119.3	140.1	115.2	122.5	105.9	80.6	73.6	80.5	72.8	76.3	71.0	***	***	31.7
12	721.6	129.7	128.0	71.7	78.8	67.1	78.1	120.8	125.0	160.1	124.5	120.9	110.2	83.9	75.6	84.4	76.2	82.5	77.1	***	***	38.8
13	734.1	167.9	137.0	72.4	74.0	65.9	78.2	138.9	141.8	218.2	159.3	137.0	112.4	83.4	76.4	82.6	76.5	82.8	79.1	***	***	45.7
14	747.1	224.9	176.7	70.2	70.6	69.9	79.1	184.6	191.4	293.5	216.0	200.7	119.6	82.2	75.3	91.4	81.5	81.2	82.3	***	***	50.9
15	754.7	285.3	223.9	74.6	75.7	71.6	80.1	258.8	272.3	357.3	308.7	268.5	149.9	90.7	88.8	94.4	89.9	89.5	83.0	***	***	54.8
16	766.5	337.6	264.8	77.1	78.7	74.8	83.0	329.7	354.1	416.9	387.5	352.4	192.2	91.0	87.9	94.6	89.7	91.8	79.6	***	***	59.5
17	771.5	395.9	300.4	78.5	79.8	76.9	82.7	401.3	422.3	466.3	447.8	418.3	245.4	90.8	87.4	95.2	89.6	91.9	85.9	***	***	63.4
18	778.9	438.5	354.9	80.0	80.4	79.1	81.4	450.6	477.3	513.0	501.7	471.7	328.1	91.2	86.6	94.4	89.9	92.6	88.8	***	***	65.8
19	786.8	489.4	398.8	80.0	82.8	81.0	82.8	497.7	531.2	554.7	551.0	523.3	405.9	91.6	87.3	94.5	89.4	94.5	88.1	***	***	67.9
20	791.4	534.5	435.4	78.5	83.4	82.6	86.6	541.3	574.7	588.1	590.1	567.2	454.8	92.9	87.7	95.1	89.8	98.3	88.0	***	***	69.6
21	798.2	562.9	466.7	79.4	84.0	83.8	92.3	579.1	609.0	617.2	622.1	601.7	496.9	95.0	88.1	97.6	90.9	105.4	88.2	***	***	71.1
22	803.5	589.0	501.7	80.7	84.9	85.5	97.4	610.5	637.0	643.3	648.9	630.0	538.2	98.0	88.7	102.1	92.2	118.0	88.6	***	***	72.4
23	808.6	617.8	533.8	82.4	85.9	89.0	102.8	636.8	662.0	668.2	671.2	650.2	573.4	103.3	89.4	111.2	93.8	131.8	89.2	***	***	73.7
24	814.1	648.4	564.9	83.4	87.5	95.5	111.4	659.3	685.0	693.1	693.3	666.8	604.6	112.0	91.7	129.8	96.6	144.1	90.6	***	***	74.4
25	820.1	680.1	594.5	83.4	89.7	105.7	121.0	678.7	705.2	716.9	714.6	682.9	630.3	120.8	96.3	165.3	99.5	158.6	92.4	***	***	74.9
26	823.4	709.4	620.3	89.1	92.7	118.3	131.7	696.8	724.1	733.0	733.8	699.5	652.8	134.6	105.8	231.9	105.0	177.1	94.9	***	***	75.8
27	827.4	730.6	644.8	106.8	95.3	137.7	142.6	710.1	740.1	742.4	750.1	714.5	672.5	166.8	130.5	332.5	114.0	200.6	98.9	***	***	76.5
28	832.4	741.1	667.2	151.4	98.3	164.9	153.9	715.8	752.2	747.0	762.8	726.4	690.7	234.2	189.9	448.5	128.8	223.1	104.3	***	***	76.9
29	836.0	742.2	689.0	228.5	102.2	205.8	166.1	713.6	759.6	745.7	771.9	736.5	705.7	349.4	292.0	554.1	156.3	251.9	111.8	***	***	77.5
30	841.2	739.6	710.6	318.5	106.8	261.0	179.9	705.3	761.0	737.1	778.8	743.4	718.9	485.5	412.1	635.0	211.7	288.8	121.0	***	***	78.0
31	845.8	738.9	730.3	412.2	113.1	331.6	196.0	696.7	759.1	726.6	785.6	748.1	730.5	595.9	520.1	688.4	290.4	329.8	132.7	***	***	78.9
32	847.5	741.0	745.7	502.0	124.1	418.6	216.4	691.9	756.1	717.9	792.6	752.6	740.7	660.2	602.0	716.4	365.5	372.9	146.5	***	***	80.4
33	851.8	745.6	757.0	578.5	144.6	507.5	242.6	692.2	753.9	710.6	798.4	756.2	748.2	690.8	651.9	726.3	437.8	422.2	164.4	***	***	83.3
34	855.3	751.4	765.3	635.4	181.3	582.7	273.0	697.7	754.6	706.9	804.1	755.4	753.0	707.5	684.1	730.8	498.7	474.8	189.4	***	***	87.8
35	857.8	756.5	769.5	674.0	237.3	636.6	308.3	702.6	757.9	704.8	805.7	751.1	754.7	717.2	704.9	720.8	545.5	531.9	229.4	***	***	90.9
36	859.3	760.4	772.0	694.0	309.5	667.7	344.4	707.4	760.2	701.8	807.6	744.7	752.2	725.9	717.5	710.2	579.1	585.5	285.7	***	***	91.6
37	866.5	763.1	771.4	706.4	391.0	687.3	378.4	712.8	762.4	700.9	796.6	738.5	747.8	734.4	721.9	710.0	602.3	622.6	351.9	***	***	93.6
38	867.9	764.8	769.3	714.2	472.1	700.8	411.3	717.4	765.4	700.7	781.6	733.9	744.4	742.4	724.9	712.7	620.9	650.2	424.2	***	***	95.3
39	877.6	763.6	763.9	709.8	584.5	703.1	444.1	717.3	768.2	662.0	811.3	726.3	749.6	748.0	722.4	716.9	706.8	668.6	482.3	***	***	99.6
40	873.3	763.6	757.5	713.5	645.0	708.2	486.2	721.8	768.4	656.4	777.7	722.8	749.1	754.2	721.9	721.3	712.3	684.5	540.5	***	***	103.7
41	877.5	761.8	748.5	719.0	682.6	713.2	536.7	725.3	765.3	662.3	759.5	722.2	749.6	759.5	719.9	724.2	709.7	696.7	590.1	***	***	107.0
42	881.0	759.8	739.6	724.3	697.2	717.4	585.7	728.2	761.1	670.6	745.4	723.2	751.2	763.7	717.3	726.7	710.5	706.5	628.2	***	***	109.8

Table 10. Temperatures Measured in Full Scale Assembly F-11, Steel Stud,1x2 Gypsum Board Layers,Cellulosic Fibre Insulation(wet spray)(Cont.)

Time (min)	T(Fav) (°C)	Temperature at Thermocouple Number																				
		22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
43	887.3	757.9	801.9	730.4	704.5	721.2	669.5	730.7	757.1	679.4	740.2	725.2	753.6	768.0	715.3	730.2	713.4	714.2	656.8	***	***	112.1
44	883.7	756.7	776.8	733.8	714.2	724.8	707.1	733.3	755.6	689.3	738.2	728.0	756.7	769.2	729.6	733.2	724.6	721.0	678.3	***	***	113.6
45	888.4	754.3	752.0	716.6	724.7	726.6	731.1	732.9	750.2	693.6	734.0	728.8	760.6	749.2	727.0	731.8	733.6	725.6	694.1	***	***	113.7
46	891.5	751.4	745.4	701.0	728.5	726.5	738.9	730.1	746.3	691.6	740.8	727.0	764.2	725.2	727.0	726.7	739.5	727.8	707.1	***	***	113.5
47	895.0	748.8	739.1	696.9	731.0	725.6	737.6	727.4	743.3	688.1	741.9	724.2	766.5	711.2	725.8	721.9	741.4	728.7	716.7	***	***	113.5
48	897.2	746.3	738.0	695.9	734.0	724.4	737.4	724.8	743.0	684.0	742.5	721.2	769.6	700.6	727.7	717.8	745.0	728.4	725.5	***	***	113.4
49	900.0	744.3	738.2	696.4	738.4	723.2	738.9	723.8	744.1	680.8	744.3	719.0	774.1	695.0	730.7	714.7	747.0	728.2	734.4	***	***	113.6
50	902.7	742.5	739.9	698.0	743.8	722.1	742.8	723.5	746.7	679.0	747.6	717.0	778.9	691.7	735.6	712.3	751.5	727.5	742.9	***	***	114.0
51	905.6	741.0	742.2	699.6	749.7	721.3	748.6	723.5	750.9	677.8	752.2	715.7	784.0	690.0	741.0	710.9	755.5	727.2	750.9	***	***	114.6
52	906.8	740.2	743.9	701.7	753.2	721.0	750.4	724.1	752.5	677.3	756.2	714.9	788.4	689.1	742.5	710.1	756.8	727.7	757.5	***	***	115.3
53	909.8	739.1	742.5	703.8	752.1	720.7	747.5	724.8	749.1	676.5	755.8	713.9	789.2	688.0	738.9	709.0	753.7	727.9	759.9	***	***	115.8
54	911.8	738.7	739.2	706.1	749.3	721.1	744.8	726.0	743.2	676.8	753.6	713.6	788.2	688.4	734.1	708.7	748.8	728.3	760.1	***	***	116.5
55	915.3	738.7	735.1	708.0	746.3	721.4	743.3	726.7	738.3	678.1	750.8	713.7	785.5	689.3	728.4	708.8	743.8	728.9	758.4	***	***	117.5
56	915.1	738.8	731.2	709.7	743.4	722.0	742.0	727.6	734.6	680.0	748.4	714.4	782.9	690.6	722.1	709.2	739.4	729.5	756.5	***	***	118.0
57	918.0	738.4	730.1	711.0	743.9	721.9	742.0	728.0	734.0	681.5	748.6	714.4	783.0	691.6	716.9	709.2	739.2	729.5	757.5	***	***	118.5
58	920.3	738.0	735.7	711.9	749.3	721.9	752.0	728.4	732.4	682.6	754.7	714.5	791.6	693.2	719.0	709.0	744.2	729.6	765.1	***	***	119.5
59	921.7	738.2	747.8	713.3	763.1	722.3	757.4	729.4	742.7	684.4	766.9	715.2	805.4	696.1	730.6	709.7	754.0	730.3	778.5	***	***	121.8
60	924.0	738.8	758.8	715.1	776.1	723.3	760.3	731.3	751.9	687.0	779.0	716.5	815.2	699.7	738.9	711.0	758.4	731.3	793.3	***	***	125.0
61	925.7	739.9	771.9	717.4	788.9	724.8	767.3	733.7	759.0	690.6	790.6	718.5	822.3	703.9	745.7	712.9	761.1	732.7	812.0	***	***	128.4
62	928.7	740.9	789.6	719.6	804.2	726.3	778.9	735.9	770.4	694.1	803.3	720.3	815.4	707.6	757.7	714.7	775.3	733.9	827.3	***	***	133.5
63	930.6	742.7	801.7	722.2	812.7	728.4	787.2	738.7	778.9	698.1	813.9	722.8	807.0	712.2	768.6	717.1	765.2	735.5	830.0	***	***	140.3
64	934.3	744.0	802.7	724.3	813.2	729.9	786.8	741.0	777.1	701.5	812.1	724.9	796.9	715.9	768.7	719.0	762.5	736.6	820.5	***	***	149.3
65	933.6	746.0	797.3	726.8	806.6	731.9	779.2	743.8	771.2	705.4	803.8	727.7	789.3	720.0	763.5	721.3	761.7	738.0	810.7	***	***	171.9
66	935.6	747.7	788.1	729.2	797.4	733.3	771.0	746.1	762.4	709.0	792.8	730.2	781.1	724.6	754.8	723.7	753.0	739.2	799.8	***	***	198.6
67	937.9	749.2	777.3	732.0	786.5	735.0	764.1	748.5	752.0	712.1	778.6	732.7	772.0	729.4	744.5	726.1	746.9	740.0	787.5	***	***	229.3
68	939.5	750.9	764.1	733.3	773.4	737.4	754.2	751.2	738.0	715.9	765.7	735.9	764.7	733.9	731.7	728.2	741.6	741.6	777.5	***	***	259.7
69	941.1	752.7	750.3	735.1	762.4	739.5	744.6	754.0	723.0	719.4	757.4	739.0	759.2	739.7	718.8	730.7	734.8	742.5	768.9	***	***	292.2
70	943.2	754.4	738.2	737.2	753.7	741.4	736.1	756.9	710.6	722.8	751.6	742.1	755.1	746.3	709.0	733.0	727.8	743.4	762.9	***	***	330.9
71	944.8	756.3	727.3	739.8	747.5	743.5	728.9	759.9	702.3	726.6	747.0	745.8	754.6	753.3	702.7	735.8	722.7	744.5	758.7	***	***	377.6
72	947.4	758.6	720.1	744.7	743.2	745.3	723.4	763.5	697.3	731.7	743.9	750.3	757.0	762.0	698.7	739.7	718.8	745.9	756.8	***	***	443.2
73	947.5	760.1	716.5	749.2	741.9	746.5	721.8	766.5	695.0	734.6	743.8	753.8	760.9	770.2	697.5	743.1	716.5	745.8	758.5	***	***	515.3
74	949.1	761.5	715.1	754.0	742.8	747.7	721.8	769.4	694.6	737.1	745.3	757.2	765.3	779.0	698.1	746.6	715.8	745.2	762.5	***	***	585.5
75	951.6	762.7	716.7	758.6	746.3	748.7	724.7	771.6	696.0	738.7	748.9	760.5	772.2	787.2	700.6	750.0	717.1	744.3	767.6	***	***	645.4
76	953.5	763.0	722.0	763.4	753.0	749.0	730.1	773.3	700.6	739.9	755.2	762.4	780.5	795.5	705.6	753.0	720.1	742.6	774.1	***	***	691.0
77	954.3	763.2	728.1	768.2	760.7	749.2	735.0	774.8	708.6	740.8	762.8	763.8	790.9	803.9	712.7	756.1	724.9	740.6	781.7	***	***	722.7
78	956.9	761.3	738.7	774.3	771.6	748.9	743.8	774.9	720.3	740.5	771.8	763.2	804.7	812.6	722.6	758.7	734.1	738.4	798.2	***	***	745.6
79	960.9	762.1	749.1	786.9	780.5	752.3	750.2	779.4	735.4	747.1	778.9	767.6	814.7	830.8	731.8	766.4	742.1	742.5	810.9	***	***	762.2
80	961.6	764.1	761.0	802.3	791.5	757.8	759.6	786.7	742.6	757.0	788.9	774.9	828.7	848.7	742.3	777.1	751.2	750.1	824.6	***	***	776.6
81	960.6	769.9	778.5	817.7	807.0	767.4	775.6	796.6	759.9	771.4	803.9	787.4	842.5	869.6	758.7	789.1	763.9	764.3	843.0	***	***	787.0
82	962.5	779.0	797.6	831.5	825.3	778.3	791.9	808.8	778.7	787.9	819.4	801.2	856.8	892.7	775.7	802.7	779.7	778.4	851.4	***	***	794.6

Table 10. Temperatures Measured in Full Scale Assembly F-11, Steel Stud,1x2 Gypsum Board Layers,Cellulosic Fibre Insulation(wet spray)(Co

Time	T(Fav)	Temperature at Thermocouple Number																
(min)	(°C)	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
0	23.8	20.6	***	***	21.4	20.6	***	***	21.6	20.7	***	***	21.5	20.4	***	***	21.7	20.4
1	32.5	20.6	***	***	21.4	20.6	***	***	21.6	20.7	***	***	21.5	20.4	***	***	21.6	20.3
2	170.2	20.7	***	***	21.4	20.7	***	***	21.7	20.7	***	***	21.6	20.3	***	***	21.6	20.3
3	413.1	20.7	***	***	21.5	20.7	***	***	21.7	20.8	***	***	22.5	20.3	***	***	21.6	20.3
4	447.8	20.8	***	***	21.7	20.8	***	***	21.8	20.8	***	***	23.1	20.3	***	***	21.6	20.3
5	453.4	21.2	***	***	22.7	21.4	***	***	21.9	20.9	***	***	24.7	20.4	***	***	21.7	20.4
6	588.6	22.9	***	***	24.1	22.5	***	***	22.0	21.0	***	***	34.6	20.3	***	***	21.9	20.3
7	615.7	25.2	***	***	26.1	24.5	***	***	22.5	21.2	***	***	41.5	20.4	***	***	22.4	20.4
8	623.4	29.9	***	***	28.8	27.8	***	***	23.7	21.7	***	***	41.5	20.7	***	***	23.7	20.5
9	670.6	39.7	***	***	32.4	32.1	***	***	26.3	22.9	***	***	38.7	21.3	***	***	25.9	20.9
10	702.5	50.0	***	***	36.0	36.6	***	***	29.7	24.8	***	***	37.9	22.7	***	***	28.7	22.0
11	719.3	55.0	***	***	39.8	41.3	***	***	33.7	27.6	***	***	38.9	25.0	***	***	32.0	24.1
12	721.6	51.5	***	***	43.1	45.6	***	***	38.7	31.1	***	***	40.3	28.2	***	***	35.8	27.6
13	734.1	46.9	***	***	45.9	48.5	***	***	44.3	35.1	***	***	41.7	32.5	***	***	40.0	32.2
14	747.1	46.3	***	***	48.2	50.1	***	***	48.8	39.0	***	***	43.1	37.1	***	***	44.4	36.9
15	754.7	47.5	***	***	50.5	51.2	***	***	55.8	43.6	***	***	44.7	41.6	***	***	48.0	41.6
16	766.5	49.9	***	***	53.4	53.2	***	***	62.1	49.3	***	***	46.9	49.0	***	***	52.7	46.0
17	771.5	53.2	***	***	56.3	55.7	***	***	65.6	54.5	***	***	49.6	55.6	***	***	57.6	48.8
18	778.9	55.5	***	***	58.7	57.7	***	***	67.9	58.1	***	***	52.5	59.8	***	***	60.9	51.9
19	786.8	57.5	***	***	61.0	59.3	***	***	69.7	60.7	***	***	55.8	62.5	***	***	63.3	55.5
20	791.4	59.2	***	***	62.6	61.1	***	***	71.4	62.5	***	***	59.6	64.9	***	***	65.4	58.6
21	798.2	61.2	***	***	64.1	62.9	***	***	72.6	64.0	***	***	62.6	67.1	***	***	67.3	61.2
22	803.5	63.7	***	***	65.8	64.5	***	***	73.4	65.5	***	***	65.1	69.1	***	***	69.1	63.4
23	808.8	66.3	***	***	67.2	66.1	***	***	74.1	66.9	***	***	66.7	70.8	***	***	70.3	65.3
24	814.1	68.5	***	***	68.6	67.8	***	***	74.9	68.0	***	***	68.3	72.2	***	***	71.2	67.0
25	820.1	70.3	***	***	69.7	69.3	***	***	75.6	69.0	***	***	70.1	73.5	***	***	72.1	68.4
26	823.4	71.9	***	***	70.8	70.6	***	***	75.5	69.8	***	***	72.0	74.6	***	***	73.0	69.5
27	827.4	73.4	***	***	71.9	71.8	***	***	75.3	70.5	***	***	73.9	75.4	***	***	73.8	70.3
28	832.4	74.6	***	***	73.1	72.8	***	***	75.6	71.1	***	***	76.0	76.0	***	***	74.5	71.0
29	836.0	75.8	***	***	74.7	73.8	***	***	76.3	71.4	***	***	78.6	76.5	***	***	75.3	71.8
30	841.2	77.1	***	***	76.5	74.8	***	***	77.0	71.5	***	***	82.1	76.9	***	***	76.6	72.6
31	845.8	79.1	***	***	79.1	75.7	***	***	77.4	71.8	***	***	86.0	77.2	***	***	78.7	73.2
32	847.5	81.4	***	***	84.1	76.5	***	***	78.2	72.6	***	***	89.7	77.7	***	***	81.9	73.8
33	851.8	83.9	***	***	87.9	77.4	***	***	79.1	73.5	***	***	93.3	78.3	***	***	86.1	74.4
34	855.3	86.3	***	***	95.8	78.2	***	***	80.1	74.5	***	***	96.7	78.4	***	***	88.2	75.1
35	857.8	88.9	***	***	103.0	79.1	***	***	81.5	75.5	***	***	100.0	78.9	***	***	89.8	75.7
36	859.3	91.8	***	***	110.0	79.9	***	***	83.8	76.0	***	***	103.0	79.8	***	***	92.3	76.3
37	866.5	94.8	***	***	116.4	80.8	***	***	85.7	76.3	***	***	105.8	80.8	***	***	94.5	77.0
38	867.9	97.4	***	***	121.9	82.1	***	***	87.9	76.7	***	***	108.6	82.0	***	***	96.4	78.0
39	877.8	98.0	***	***	127.4	95.4	***	***	91.5	89.1	***	***	111.4	82.6	***	***	97.0	78.6
40	873.3	101.8	***	***	134.6	98.7	***	***	95.1	92.2	***	***	113.9	82.8	***	***	97.5	79.0
41	877.5	104.1	***	***	143.0	101.7	***	***	99.6	97.8	***	***	116.7	83.1	***	***	98.0	79.5
42	881.0	105.7	***	***	153.3	105.7	***	***	104.1	107.6	***	***	120.0	83.5	***	***	98.8	80.7

Table 11. Average Temperatures Measured in Full Scale Assembly F-11, Steel Stud, 1x2 Gypsum Layers, Cellulosic Fibre Insulation (wet spray)

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fav) (°C)	BL/SStd. (Exp.) Av(18,19,24,25)	BL/Cav. (Exp.) Av(28,29,32, 33,36,37)	Mid. SStd. Av(16,17,22,23)	BL/Cav. (UnExp.) Av(30,31,34, 35,38,39)	BL/SStd. (UnExp.) Av(20,21,26,27)	BL/FL (UnExp.) Av(42,43,46,47,50, 51,54,55,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
0	23.8	21.3	21.7	21.6	21.4	21.6	21.0	21.0
1	32.5	21.3	22.4	22.2	21.9	21.8	21.0	21.1
2	170.2	21.9	51.6	42.7	40.7	48.8	21.0	21.1
3	413.1	29.6	66.9	67.4	44.9	60.6	21.2	21.1
4	447.8	39.2	63.1	78.3	44.3	60.9	21.3	21.1
5	453.4	45.6	65.8	80.8	48.5	62.7	21.7	21.1
6	588.6	54.5	75.8	90.1	56.7	67.2	23.1	21.1
7	615.7	66.2	83.2	93.5	65.1	71.5	24.6	21.2
8	623.4	72.8	89.1	97.0	72.5	76.9	26.1	21.2
9	670.6	77.9	94.1	102.5	79.8	84.8	28.4	21.3
10	702.5	81.9	98.5	105.1	86.4	95.2	31.5	21.4
11	719.3	84.2	103.4	107.8	92.8	102.2	34.9	21.7
12	721.6	84.0	106.3	111.3	100.6	103.9	38.1	22.1
13	734.1	82.7	114.9	122.0	116.5	108.4	41.3	22.7
14	747.1	82.4	144.9	143.6	138.4	113.6	44.5	23.5
15	754.7	88.1	189.0	170.1	169.7	124.1	47.9	24.6
16	766.5	94.6	235.4	194.8	192.5	144.2	52.2	26.0
17	771.5	102.7	278.7	220.7	211.7	167.8	56.0	27.6
18	778.9	112.8	318.7	249.0	229.0	200.5	58.9	29.6
19	786.8	124.3	357.0	278.8	244.5	222.5	61.3	32.0
20	791.4	135.0	387.1	304.6	257.5	238.3	63.5	34.6
21	798.2	147.0	412.5	325.4	269.3	256.5	65.4	37.5
22	803.5	160.7	435.0	348.1	280.9	270.6	67.2	40.5
23	808.6	175.6	454.6	373.0	292.2	300.3	68.8	43.4
24	814.1	191.2	473.7	398.6	304.1	336.8	70.1	46.2
25	820.1	207.7	493.7	417.4	316.6	364.7	71.3	48.8
26	823.4	225.7	518.4	433.7	329.9	393.4	72.4	51.0
27	827.4	246.1	547.3	451.0	348.2	418.9	73.3	53.1
28	832.4	272.2	577.1	469.3	376.9	440.0	74.2	54.9
29	836.0	304.9	604.3	494.1	420.5	460.8	75.2	56.6
30	841.2	340.1	629.2	527.4	470.6	479.6	76.3	58.0
31	845.8	379.5	652.2	563.6	515.1	499.3	77.7	59.3
32	847.5	420.8	670.5	595.9	548.7	522.3	79.6	60.5
33	851.8	458.6	685.8	621.6	573.0	547.0	81.7	61.8
34	855.3	495.2	698.4	646.5	594.5	571.5	84.1	63.0
35	857.8	529.0	705.4	670.5	615.7	594.5	86.3	64.2
36	859.3	558.7	709.0	692.8	637.4	613.8	88.5	65.2
37	866.5	589.0	712.3	711.1	654.7	628.5	90.6	66.4
38	867.9	619.7	715.8	724.3	670.7	641.8	92.6	67.3
39	877.8	650.4	730.9	738.6	682.4	653.2	97.1	67.9
40	873.3	672.4	732.6	741.7	689.2	667.3	99.9	68.6
41	877.5	690.2	732.7	741.7	698.0	683.1	103.0	69.3
42	881.0	701.4	733.5	741.2	705.3	698.3	106.9	69.9

Table 11. Average Temperatures Measured in Full Scale Assembly F-11,Steel Stud,1x2 Gypsum Layers,Cellulosic Fibre Insulation(wet spray)(Cont.)

Legend: BL - Base Layer, FL - Face Layer, Cav. - Cavity, SStd. - Steel Stud, WStd. - Wood Stud, Av - Average, Exp. - Exposed Side, UnExp. - Unexposed Side

Time (min)	T(Fev) (°C)	BL/SStd. (Exp.) Av(18,19,24,25)	BL/Cav. (Exp.) Av(28,29,32, 33,36,37)	Mid. SStd. Av(16,17,22,23)	BL/Cav. (UnExp.) Av(30,31,34, 35,38,39)	BL/SStd. (UnExp.) Av(20,21,26,27)	BL/FL (UnExp.) Av(42,43,46,47,50, 51,54,55,58,59)	UnExp. Av(1,2,3,4,5, 6,7,8,9)
43	887.3	722.0	735.0	759.5	712.3	724.2	111.6	70.8
44	883.7	726.1	738.6	755.4	721.0	735.9	116.1	72.3
45	888.4	724.2	739.6	749.7	720.6	742.3	121.5	73.7
46	891.5	721.4	738.9	748.1	719.9	743.8	128.9	74.7
47	895.0	721.2	737.5	746.3	718.7	743.1	141.7	75.4
48	897.2	722.2	736.9	745.9	718.1	742.6	155.6	76.2
49	900.0	724.3	737.1	746.3	718.9	743.2	169.2	77.1
50	902.7	727.3	738.3	747.2	720.7	744.7	184.6	77.9
51	905.8	730.7	740.1	748.6	723.2	747.2	196.7	78.7
52	906.8	733.0	741.1	750.0	725.0	748.7	210.2	79.4
53	909.8	732.8	740.0	749.4	724.5	748.8	223.4	80.1
54	911.8	731.9	738.1	748.6	723.6	749.1	234.5	81.1
55	915.3	730.9	736.1	747.3	722.3	749.7	246.6	82.2
56	915.1	730.1	734.7	746.1	721.2	750.2	259.3	83.3
57	918.0	730.2	734.6	746.3	720.9	752.3	272.3	84.5
58	920.3	732.6	736.7	750.1	724.0	756.6	284.4	85.7
59	921.7	738.9	742.7	757.6	731.1	759.1	298.2	87.5
60	924.0	744.5	747.4	765.5	738.2	761.4	317.3	89.7
61	925.7	751.1	751.3	776.3	745.9	765.5	333.3	93.3
62	928.7	759.4	755.3	785.3	754.0	772.7	350.2	99.3
63	930.6	765.9	754.9	786.4	759.7	779.7	366.5	105.5
64	934.3	767.4	753.6	781.4	759.2	783.8	382.3	112.7
65	933.6	766.1	752.5	776.2	756.9	783.7	399.2	123.0
66	935.6	763.1	749.4	770.5	753.4	779.2	415.5	133.6
67	937.9	759.1	746.4	765.7	748.7	773.0	431.4	141.3
68	939.5	753.8	743.3	761.2	744.4	766.8	451.3	148.8
69	941.1	749.3	740.1	757.3	741.1	762.2	472.7	157.4
70	943.2	745.5	737.6	754.3	739.3	758.5	491.7	165.9
71	944.8	743.0	736.8	752.0	738.8	754.8	509.2	172.7
72	947.4	742.1	737.7	751.1	739.8	753.0	529.8	177.2
73	947.5	742.2	739.3	751.4	741.7	752.8	551.2	181.8
74	949.1	743.6	741.5	752.8	744.5	754.0	575.0	191.5
75	951.6	746.2	744.6	755.3	747.9	757.1	600.8	213.5
76	953.5	750.4	748.3	759.0	752.1	761.1	627.9	227.9
77	954.3	754.9	753.2	762.9	757.1	765.0	651.8	239.0
78	956.9	761.3	759.3	768.2	764.0	770.5	674.3	255.7
79	960.9	769.3	767.6	774.5	773.7	776.8	694.9	282.7
80	961.6	779.8	776.9	783.2	785.3	785.4	716.3	308.6
81	960.6	794.4	789.9	796.6	801.8	799.2	725.7	322.4
82	962.5	809.6	804.7	810.0	817.6	812.6	734.0	338.0

Table 12. Centre Deflections Measured in Full-Scale Assembly F-09, Unloaded Assembly

Time (min)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Defln. (cm)	0.1	0.1	-0.4	-0.7	-0.6	-0.6	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.9	-1.6	-2.5	-3.3	-3.9	-4.3
Time (min)	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
Defln. (cm)	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.3	-7.3	-7.4	-7.5	-7.5	-7.6	-7.7	-7.7	-7.8	-7.8	-7.9	-7.9
Time (min)	60	61	62	63	64	65	66	67	68	69	70	71	72	73					
Defln. (cm)	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-8.0	-7.9	-7.7	-7.6	-7.0	-6.2					

Table 13. Centre Deflections Measured in Full-Scale Assembly F-10, Unloaded Assembly

Time (min)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Defln. (cm)	0.2	0.0	-0.4	-0.6	-0.5	-0.5	-0.5	-0.4	-0.4	-0.4	-0.5	-0.6	-0.8	-1.3	-2.0	-2.7	-3.3	-3.8	-4.1
Time (min)	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Defln. (cm)	-4.3	-4.4	-4.4	-4.4	-4.3	-4.4	-4.5	-4.6	-4.7	-4.9	-5.0	-5.1	-5.2	-5.4	-5.4	-5.5	-5.6	-5.6	-5.7
Time (min)	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Defln. (cm)	-5.7	-5.8	-5.8	-5.9	-6.0	-6.0	-6.0	-6.0	-5.9	-5.9	-5.9	-6.0	-6.0	-6.1	-6.1	-6.1	-6.1	-6.1	-6.2
Time (min)	57	58	59	60	61	62	63	64	65	66	67	68	69	70					
Defln. (cm)	-6.2	-6.2	-6.2	-6.2	-6.1	-6.1	-6.0	-5.9	-5.7	-5.5	-5.3	-5.1	-4.9	-4.8					

Table 14. Centre Deflections Measured in Full-Scale Assembly F-10B, Unloaded Assembly

Time (min)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Defln. (cm)	0.1	0.1	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.7	-1.1	-1.8	-2.6	-3.2	-3.8
Time (min)	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Defln. (cm)	-4.2	-4.4	-4.4	-4.3	-4.3	-4.3	-4.3	-4.5	-4.7	-4.9	-5.1	-5.4	-5.6	-5.8	-6.0	-6.2	-6.4	-6.5	-6.7
Time (min)	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Defln. (cm)	-6.8	-6.9	-7.0	-7.1	-7.2	-7.2	-7.2	-7.2	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	-7.3	***	***	***	***
Time (min)	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Defln. (cm)	***	***	***	***	***	***	***	***	***	-7.4	-7.4	-7.4	-7.4	-7.4	-7.4	-7.4	-7.5	-7.5	-7.5
Time (min)	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94
Defln. (cm)	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5	-7.6	-7.6	-7.6	-7.6	-7.7	-7.7	-7.7	-7.7	-7.7	-7.7
Time (min)	95	96	97	98	99	100	101	102	103	104	105								
Defln. (cm)	-7.7	-7.7	-7.7	-7.7	-7.7	-7.7	-7.7	-7.6	-7.6	-7.5	-7.4								

Table 15. Centre Deflections Measured in Full-Scale Assembly F-11, Unloaded Assembly

Time (min)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Defln. (cm)	0.5	0.4	0.1	-0.2	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.8	-1.2	-1.6	-2.1	-2.6
Time (min)	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Defln. (cm)	-3.0	-3.2	-3.3	-3.4	-3.5	-3.5	-3.5	-3.5	-3.5	-3.5	-3.4	-3.4	-3.4	-3.5	-3.7	-3.9	-4.0	-4.2	-4.3
Time (min)	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Defln. (cm)	-4.3	-4.7	-4.8	-4.8	-4.9	-5.0	-5.0	-5.0	-5.0	-5.0	-4.9	-4.9	-4.9	-5.0	-5.0	-5.1	-5.2	-5.3	-5.3
Time (min)	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Defln. (cm)	-5.3	-5.3	-5.4	-5.4	-5.4	-5.4	-5.3	-5.2	-5.1	-4.9	-4.7	-4.5	-4.2	-4.0	-3.7	-3.5	-3.3	-3.2	-3.1
Time (min)	76	77	78	79	80	81	82												
Defln. (cm)	-2.9	-2.7	-2.5	-2.3	-2.1	-2.0	-1.9												

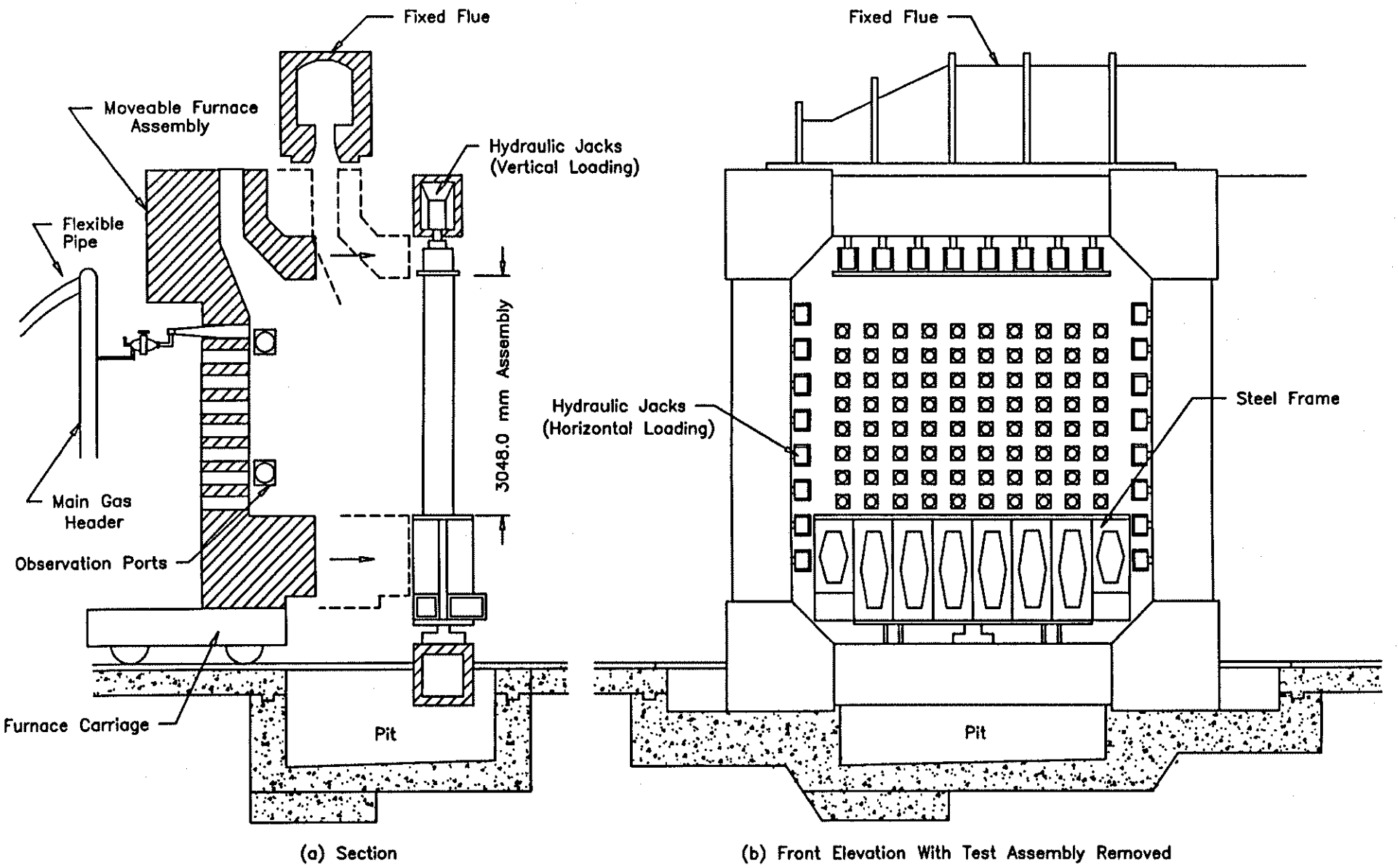


Figure 1. Full-Scale Test Assembly Furnace

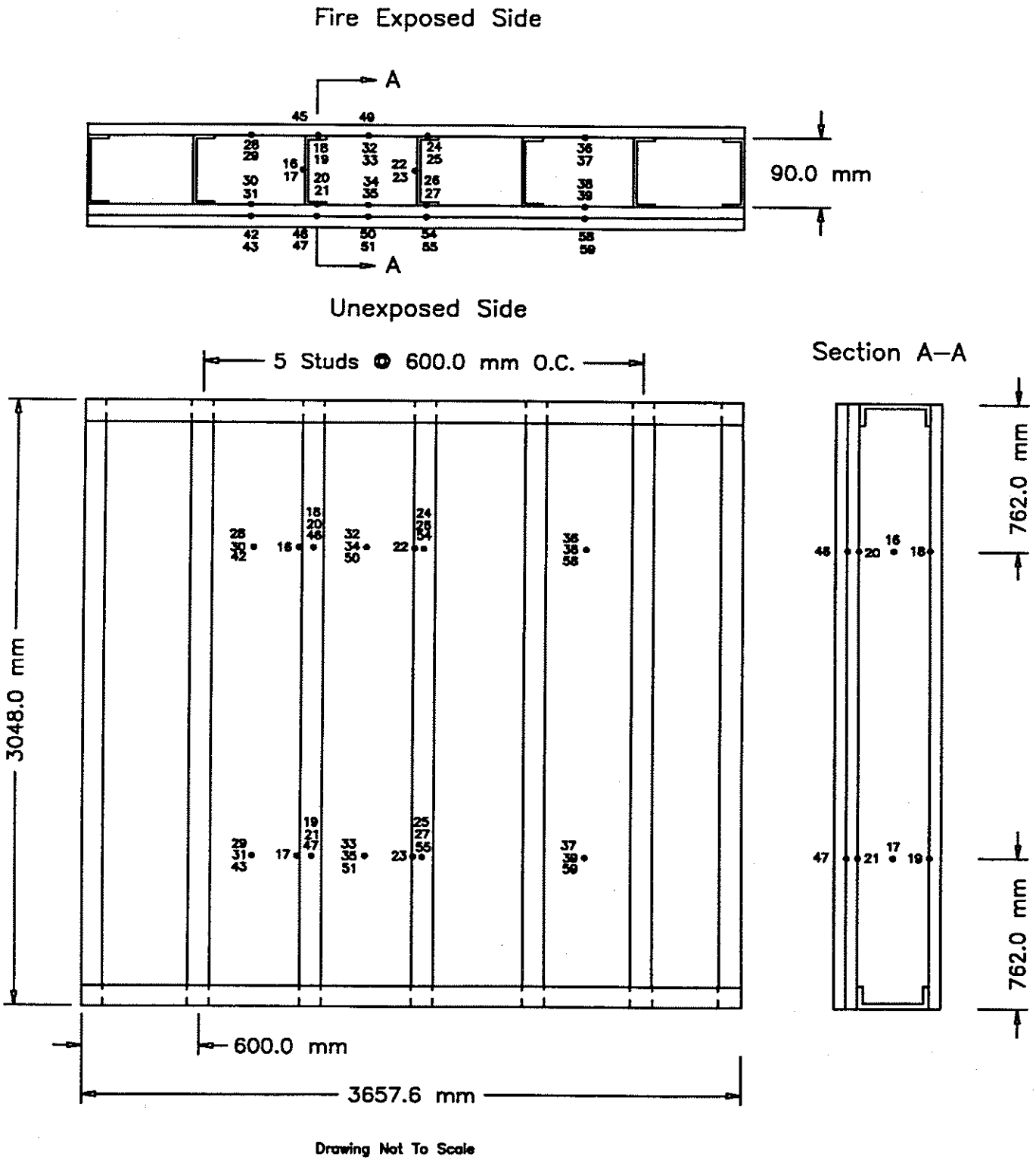


Figure 2. Thermocouple Locations in Full-Scale Test S-07

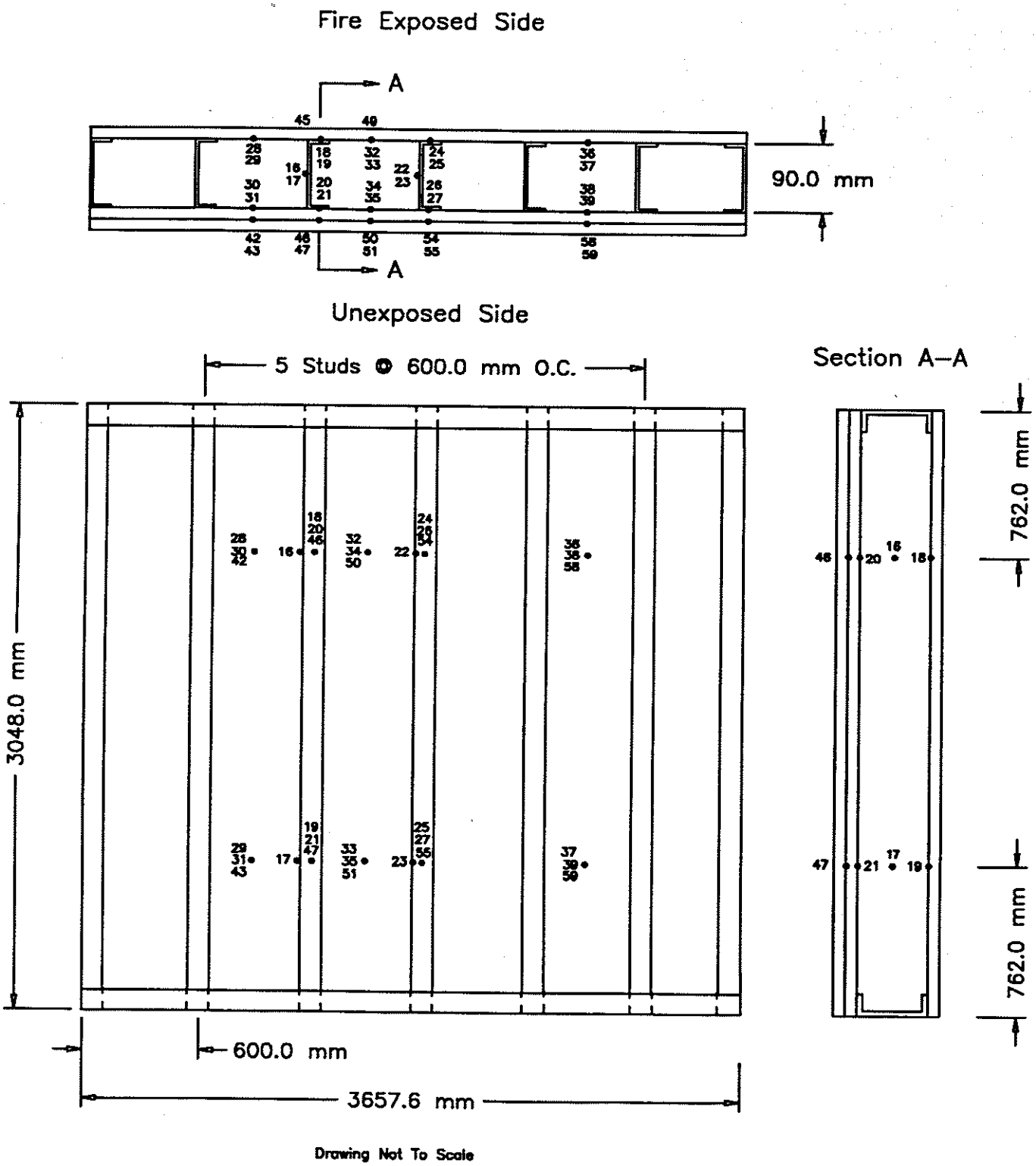


Figure 3. Thermocouple Locations in Full-Scale Test S-09

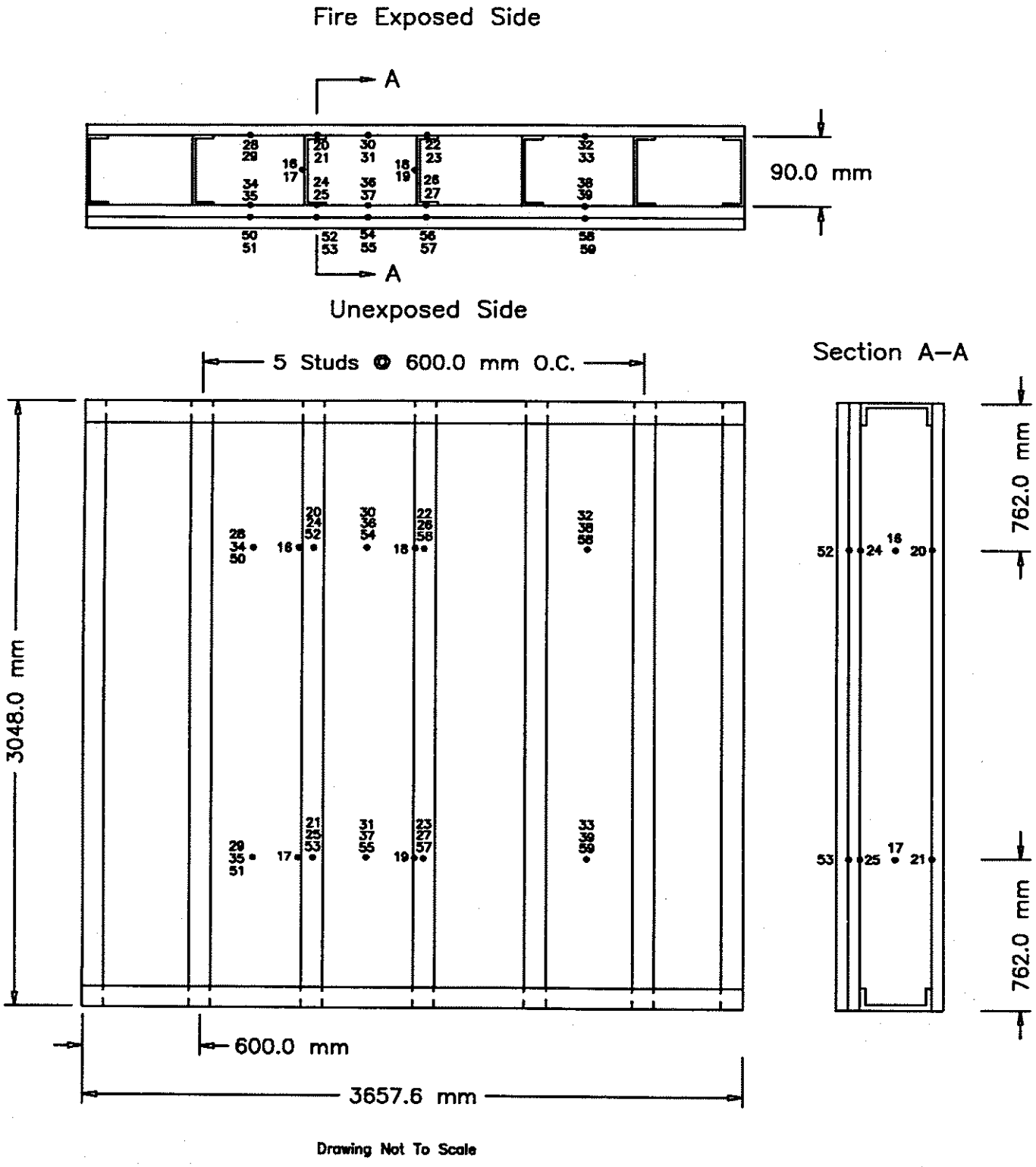


Figure 4. Thermocouple Locations in Full-Scale Tests S-10 and 10B

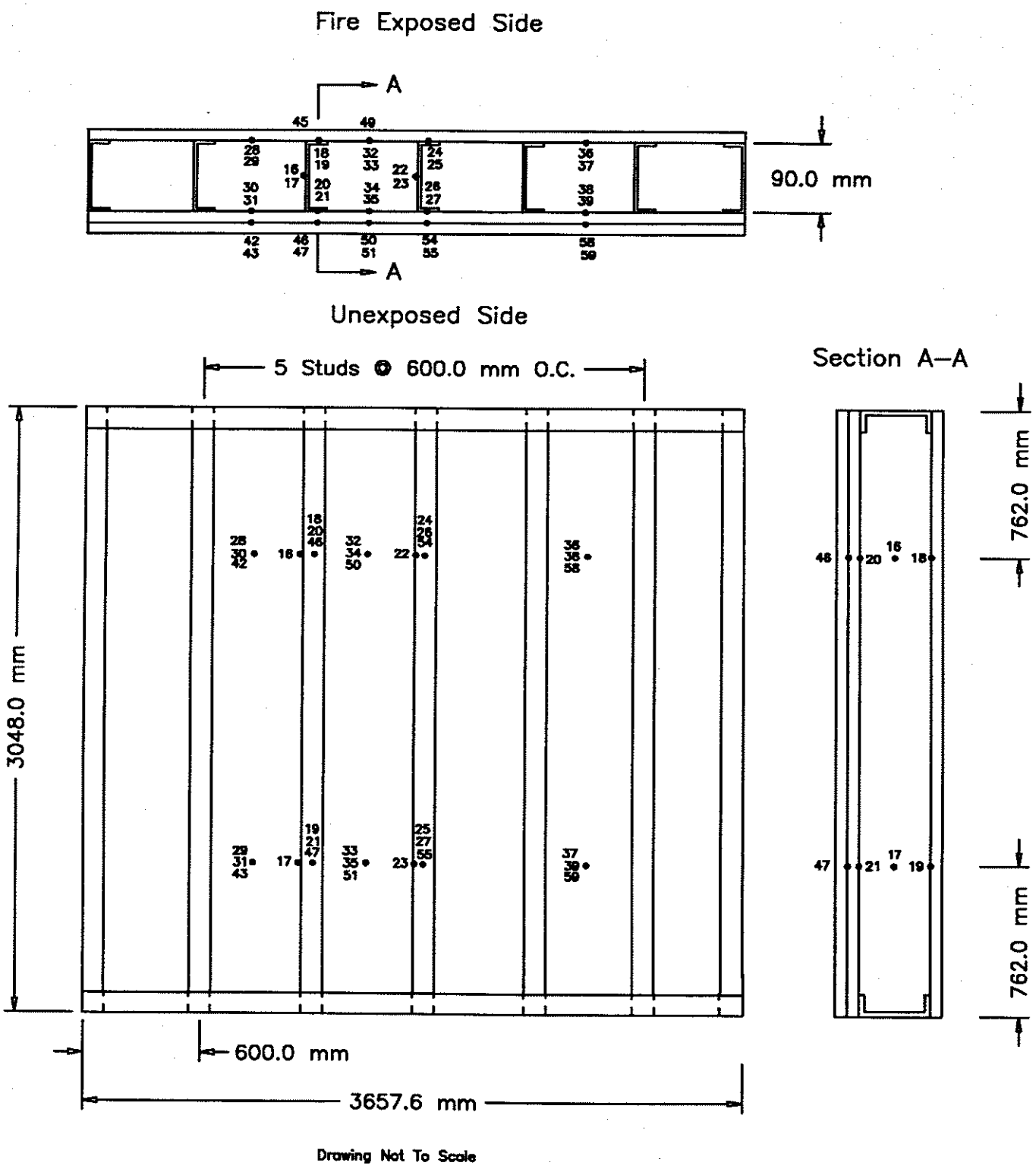


Figure 5. Thermocouple Locations in Full-Scale Test S-11

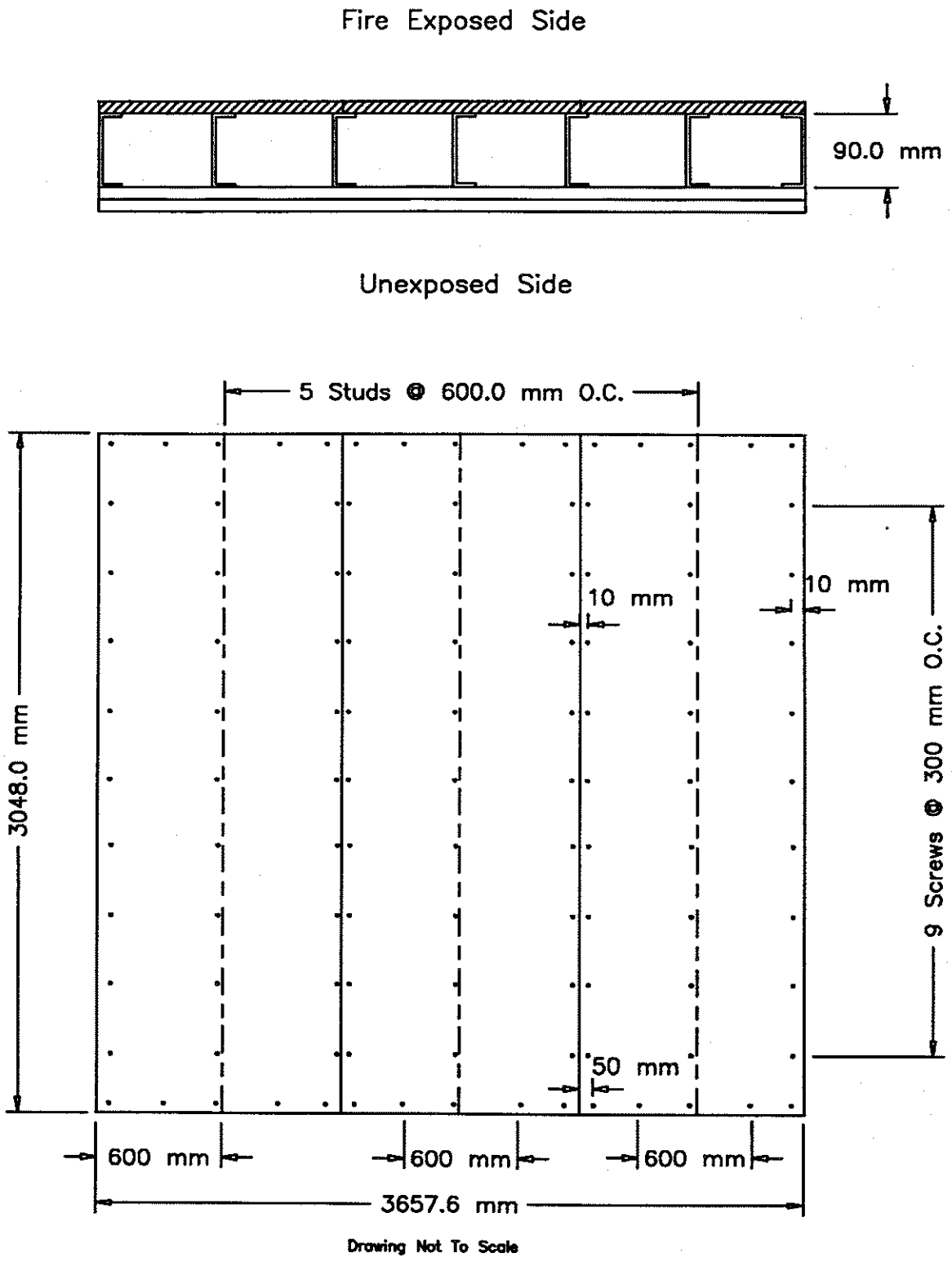


Figure 6. Screw Locations For Steel Stud, 1x2 Gypsum Board Layers, Full-Scale Assembly, Fire Exposed Face

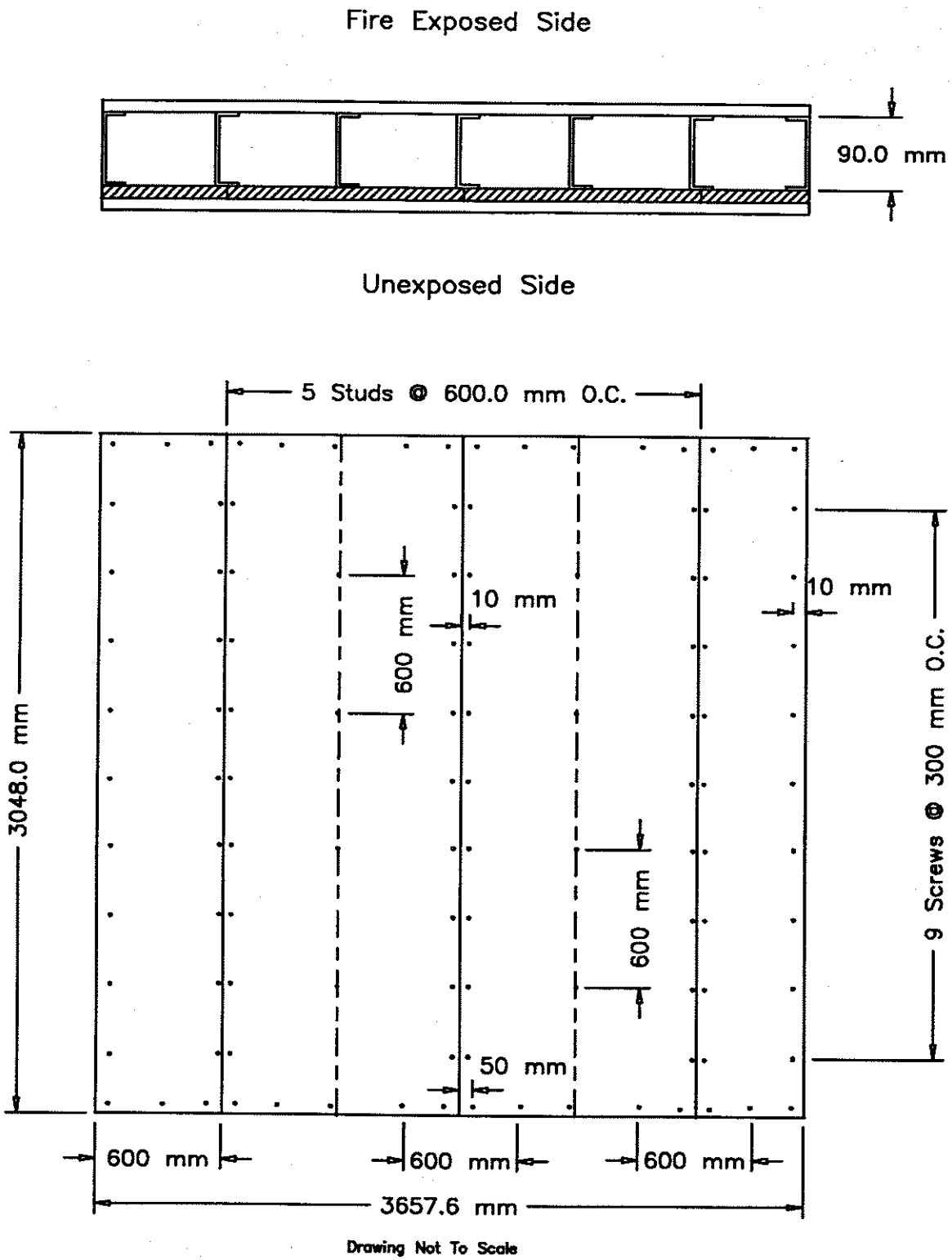


Figure 7. Screw Locations For Steel Stud, 1x2 Gypsum Board Layers, Full-Scale Assembly, Unexposed Face

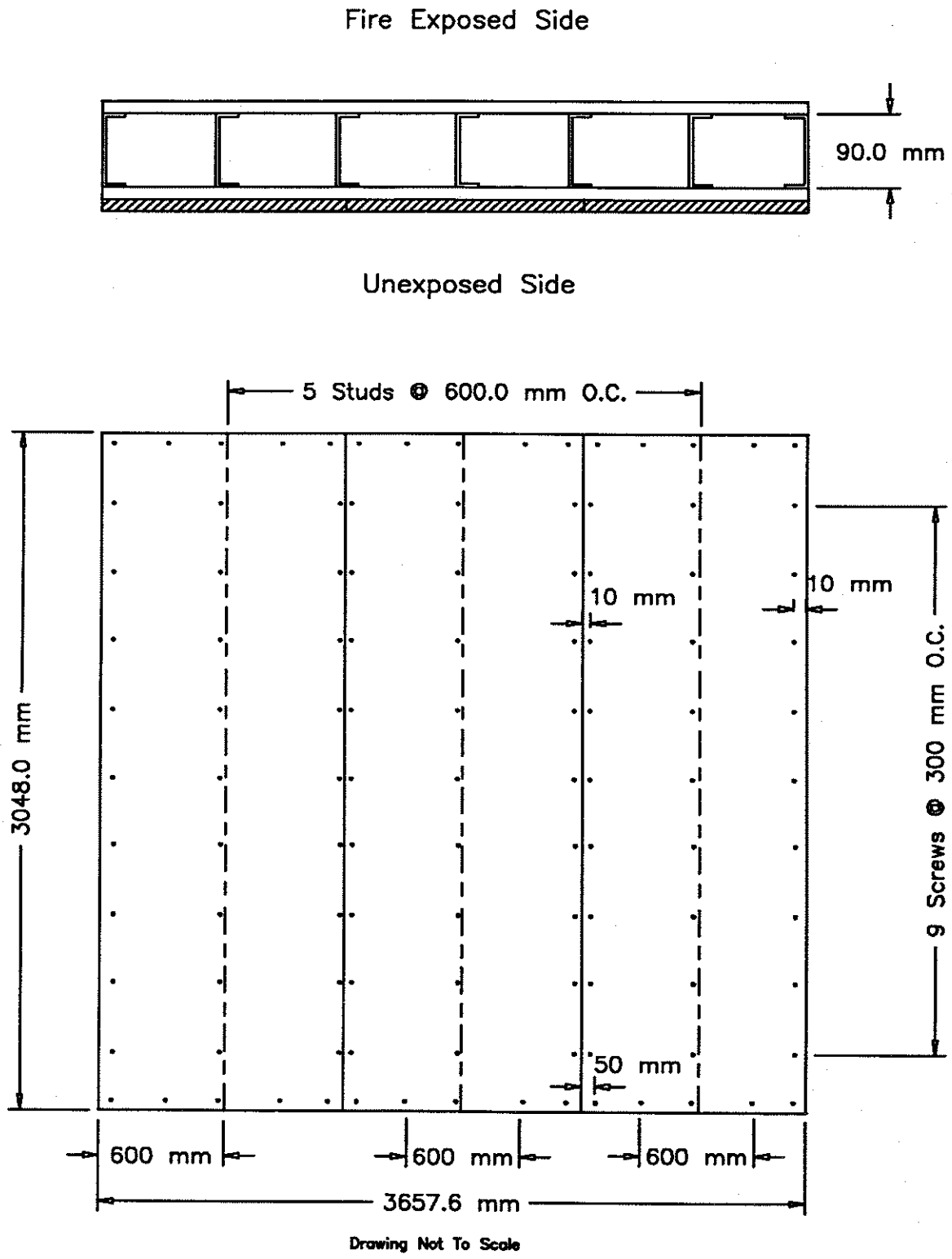
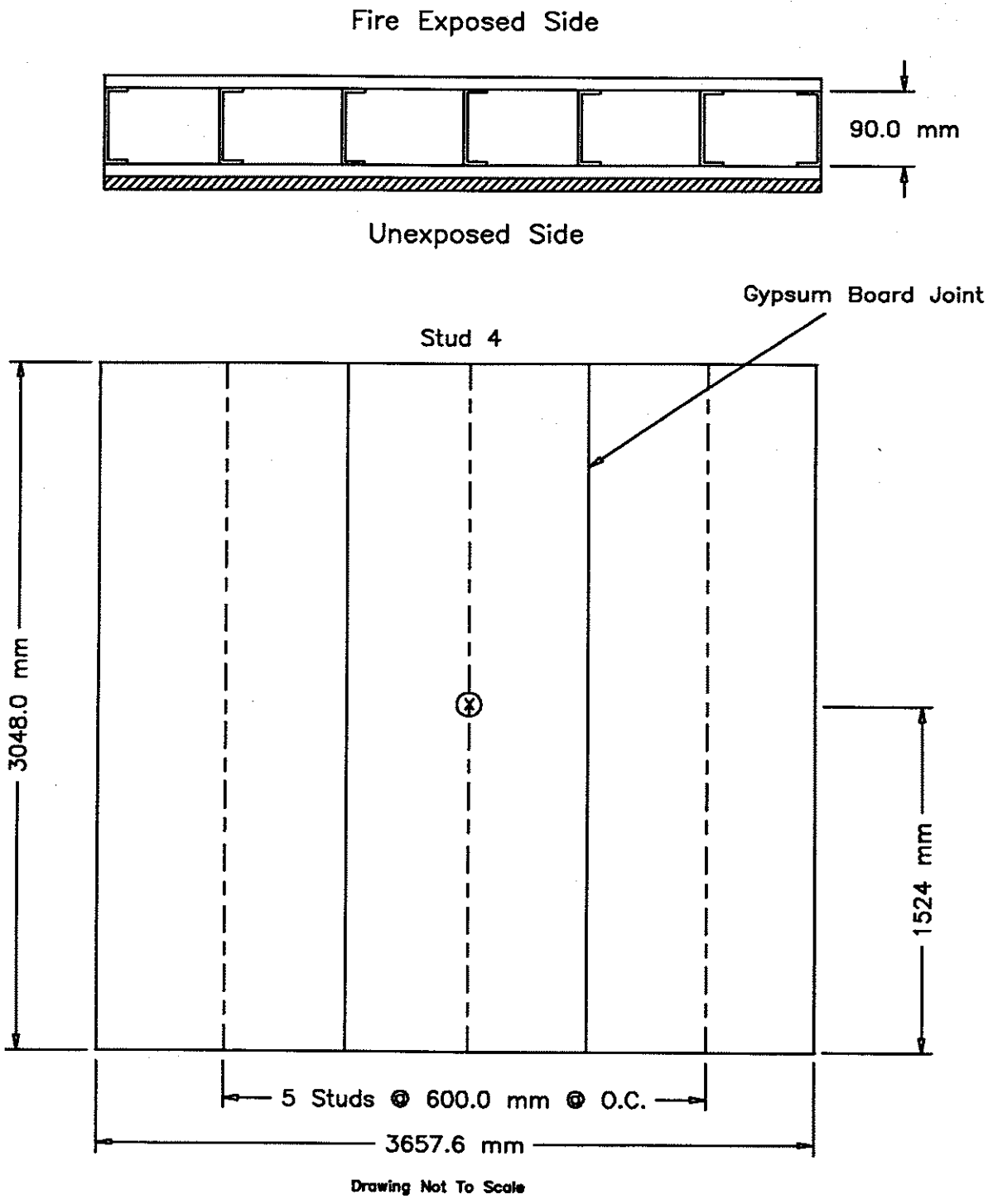


Figure 8. Screw Locations For Steel Stud, 1x2 Gypsum Board Layers, Full-Scale Assembly, Unexposed Face



⊗ Attatchment Point For Measurement of Deflection During Test

Figure 9. Deflection Attatchment Point For Full-Scale Tests

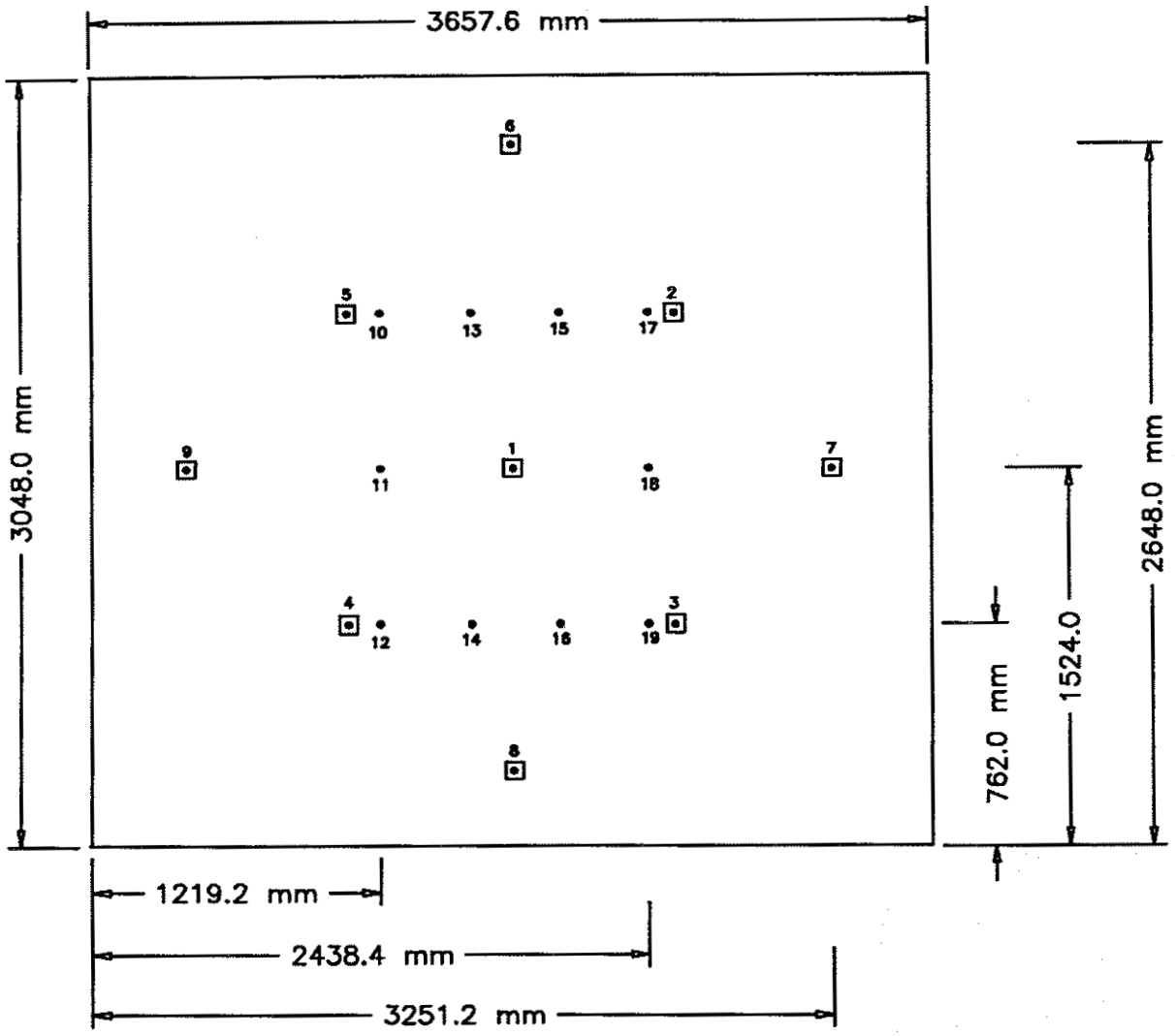
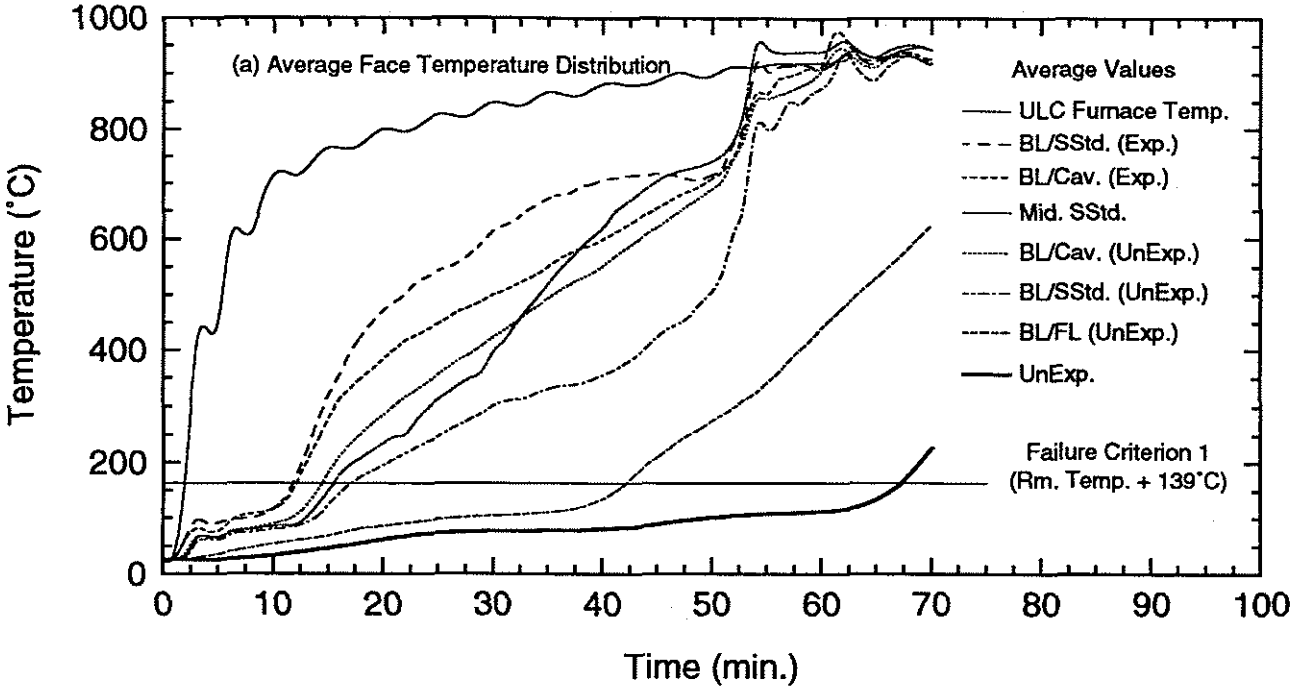


Figure 10. Thermocouple Locations on Unexposed Surface Full-Scale Tests



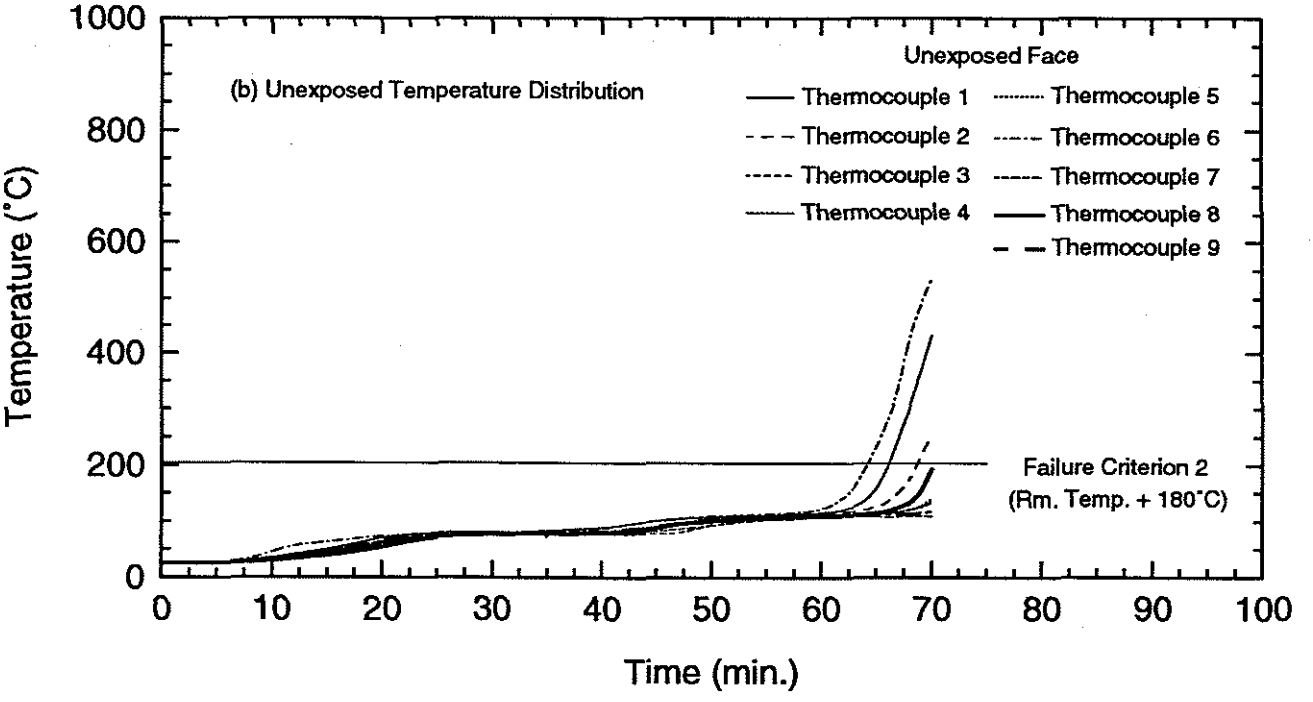
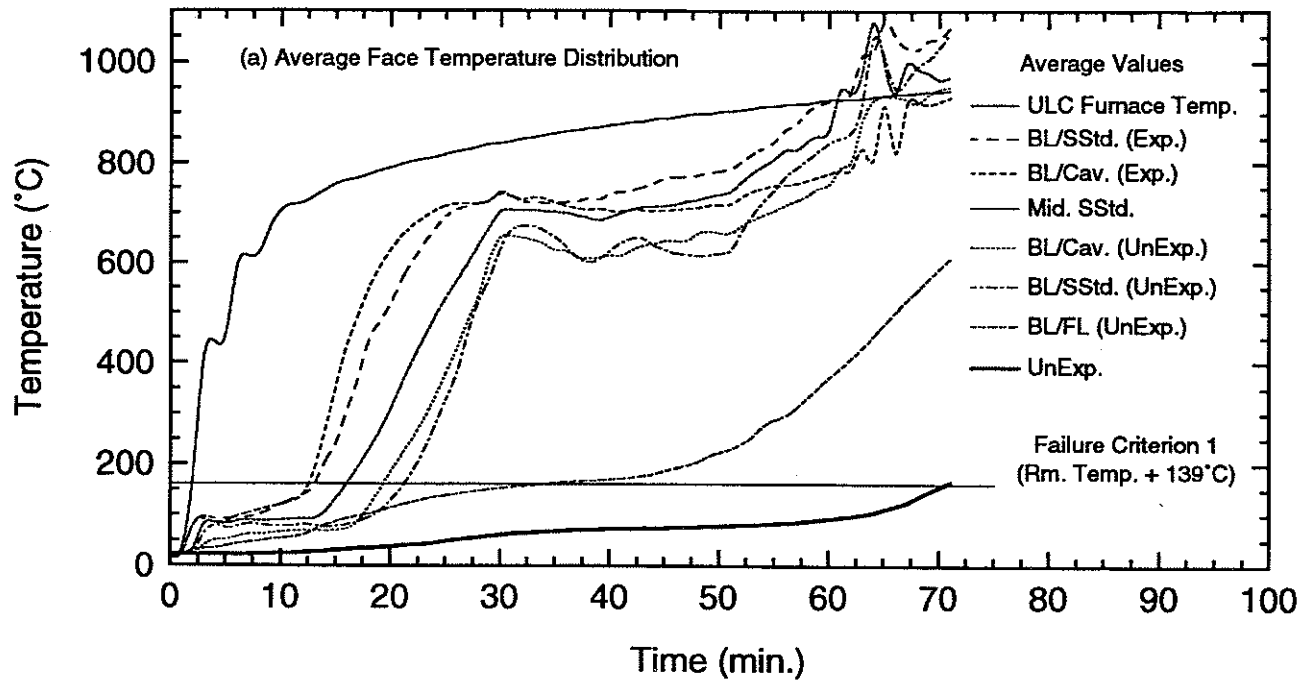


Figure 11. Temperature Distributions For Full Scale Test Assembly F-07



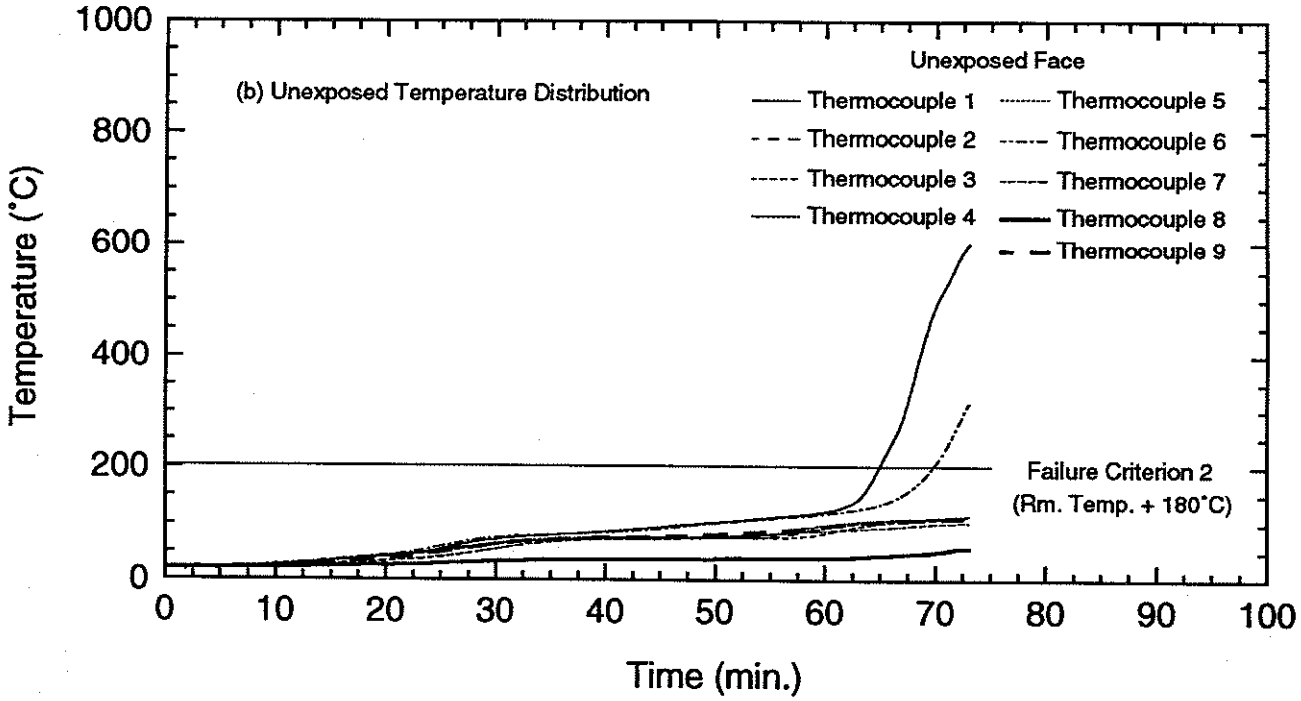
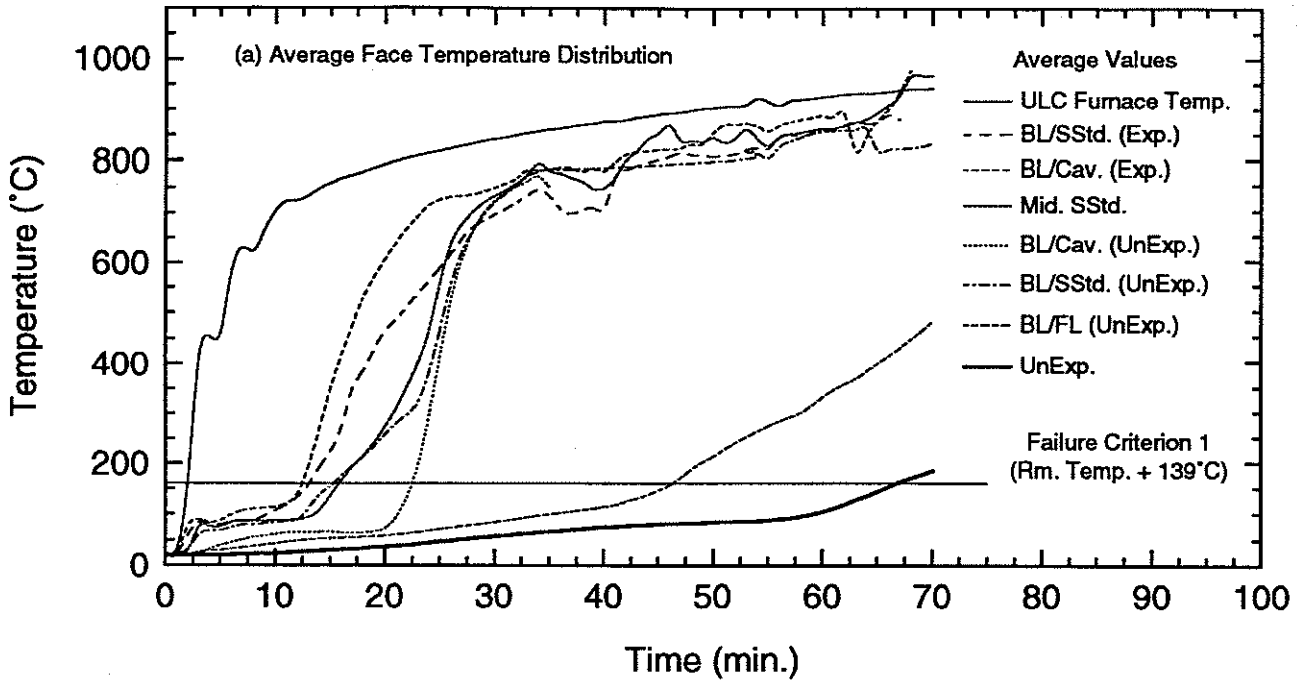


Figure 12. Temperature Distributions For Full Scale Test Assembly F-09



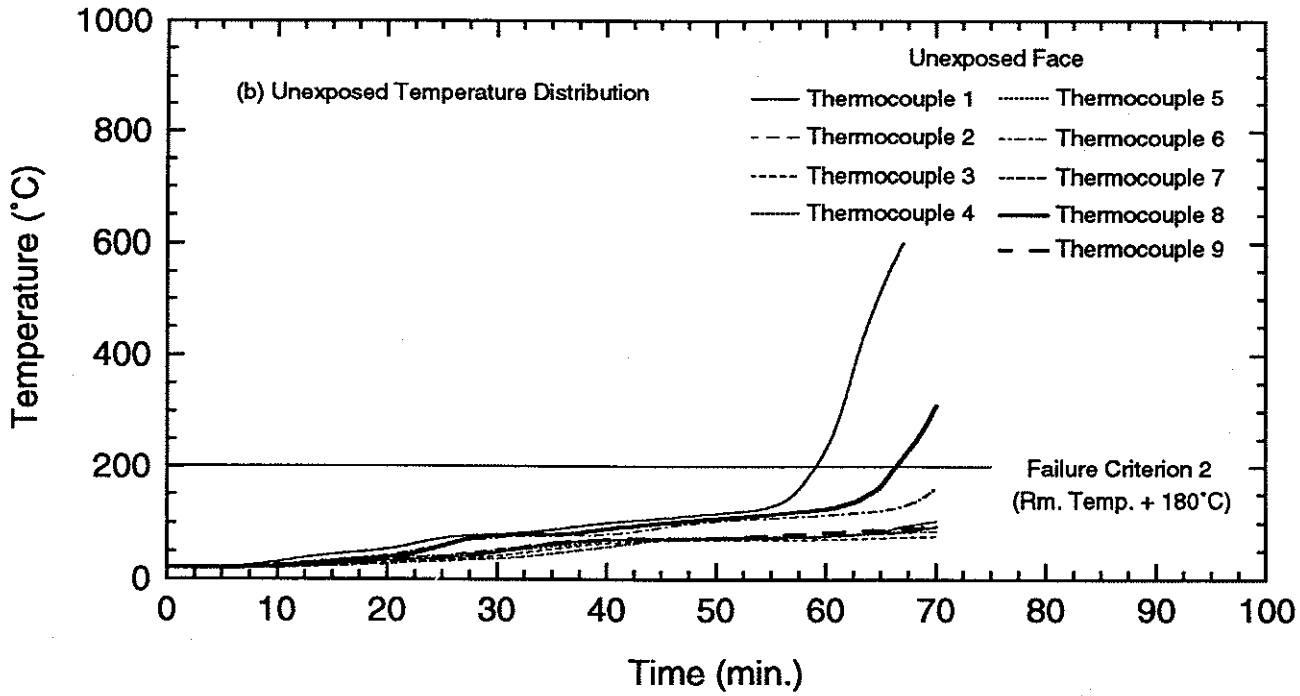
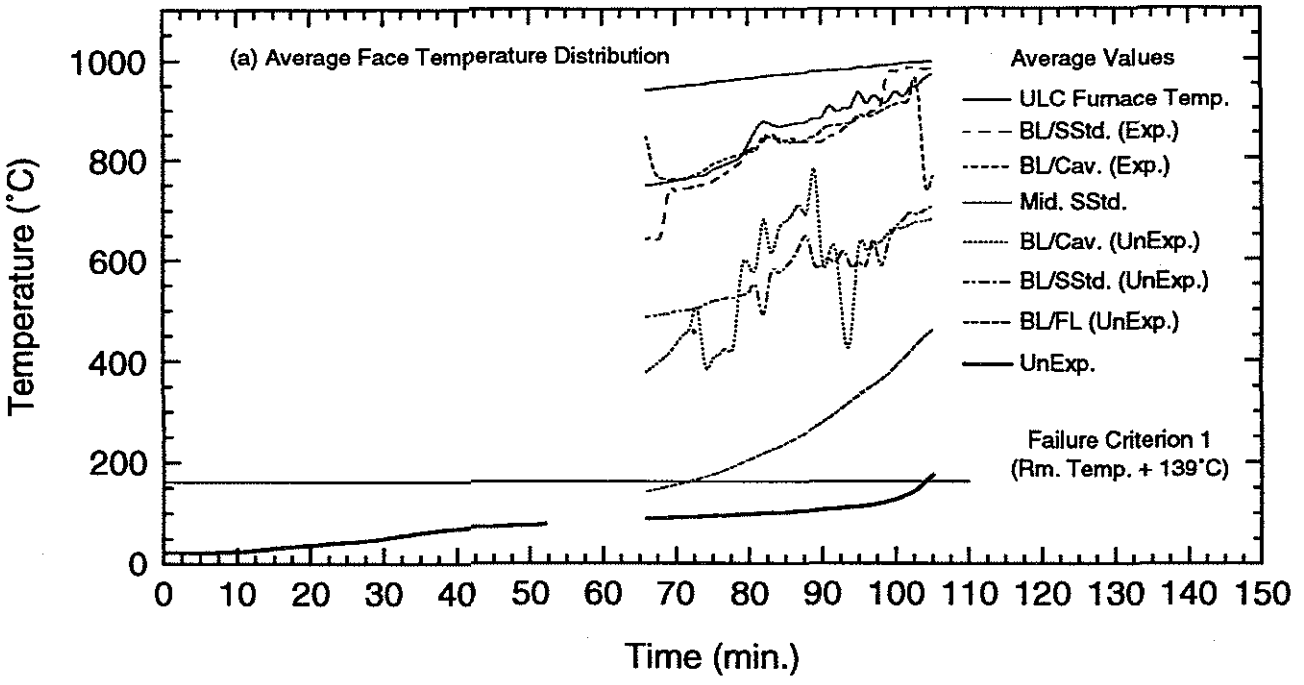


Figure 13. Temperature Distributions For Full Scale Test Assembly S-10



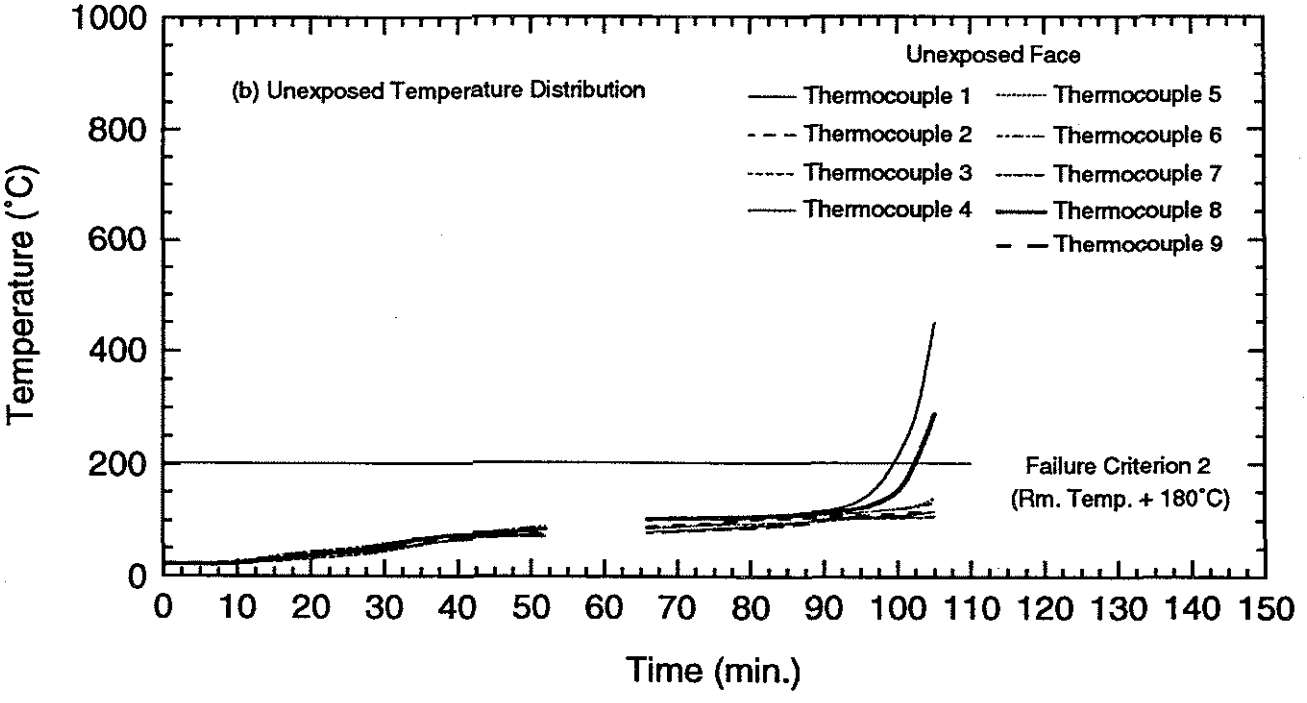
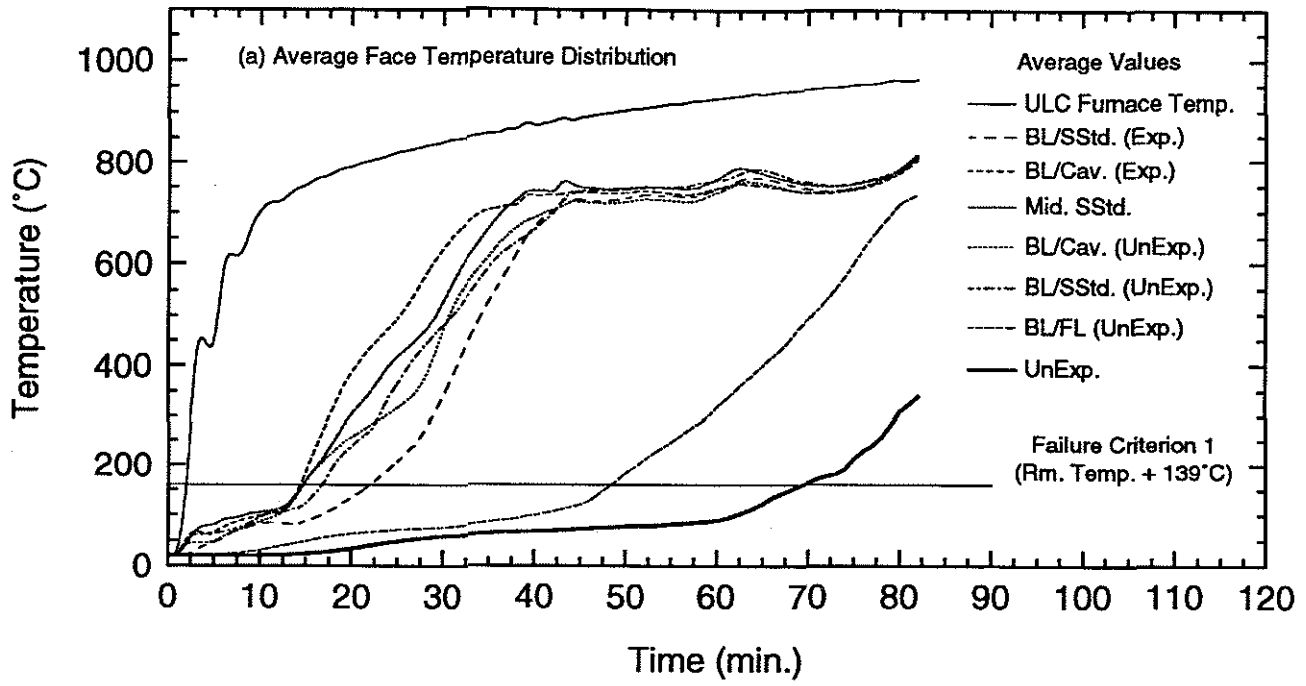


Figure 14. Temperature Distributions For Full Scale Test Assembly F-10B



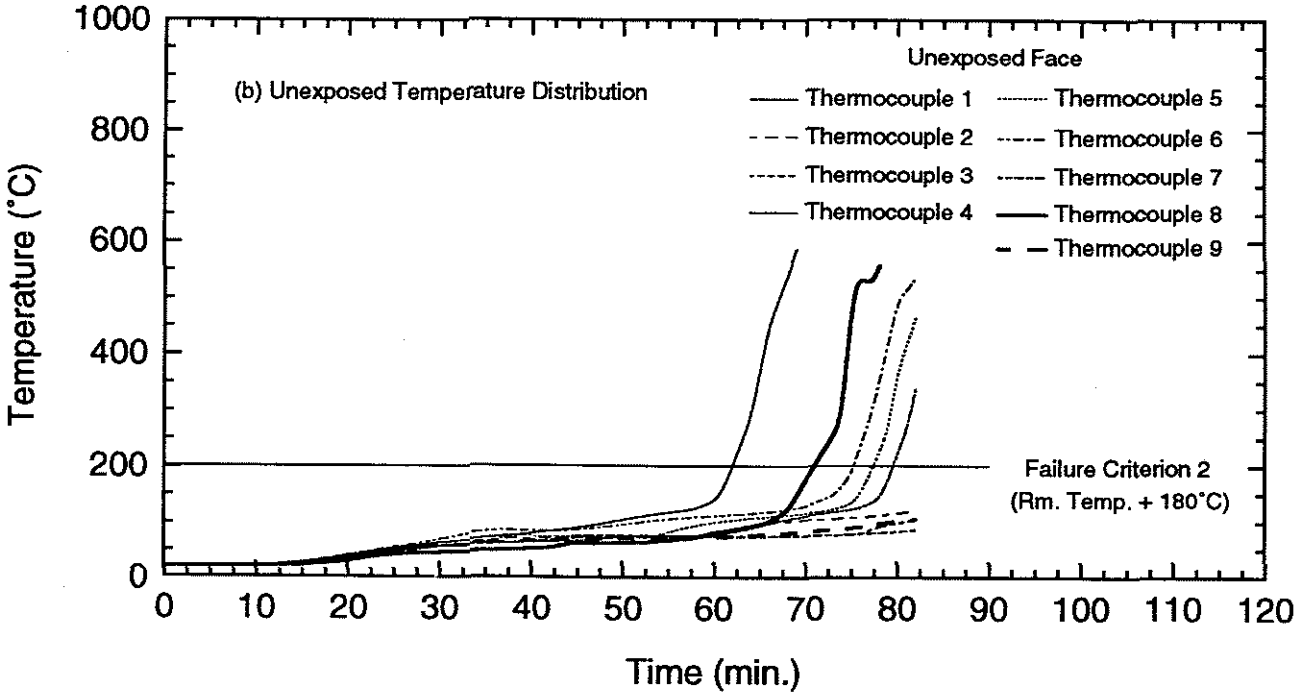


Figure 15. Temperature Distributions For Full Scale Test Assembly F-11

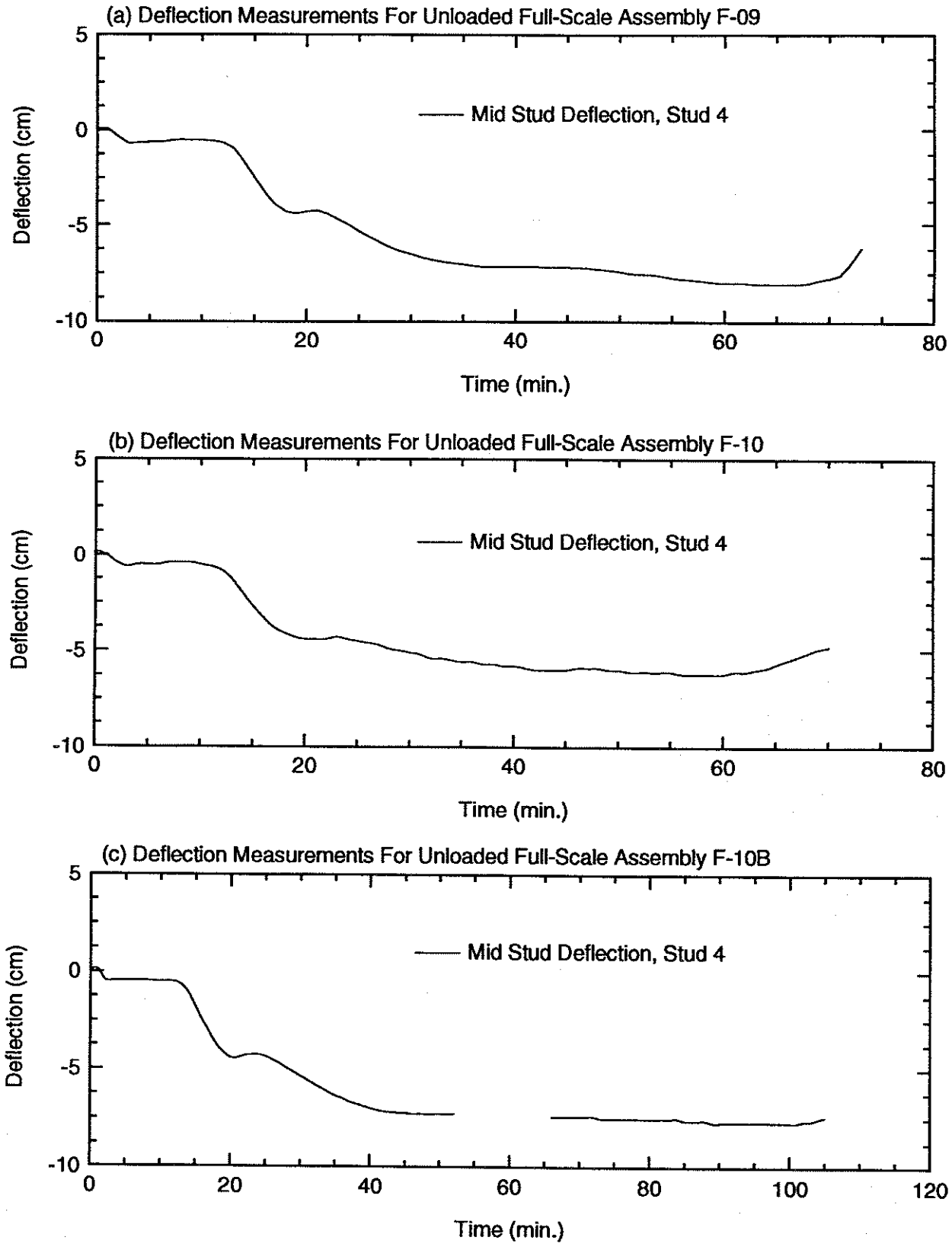


Figure 16. Measured Deflections For Full-Scale Assemblies

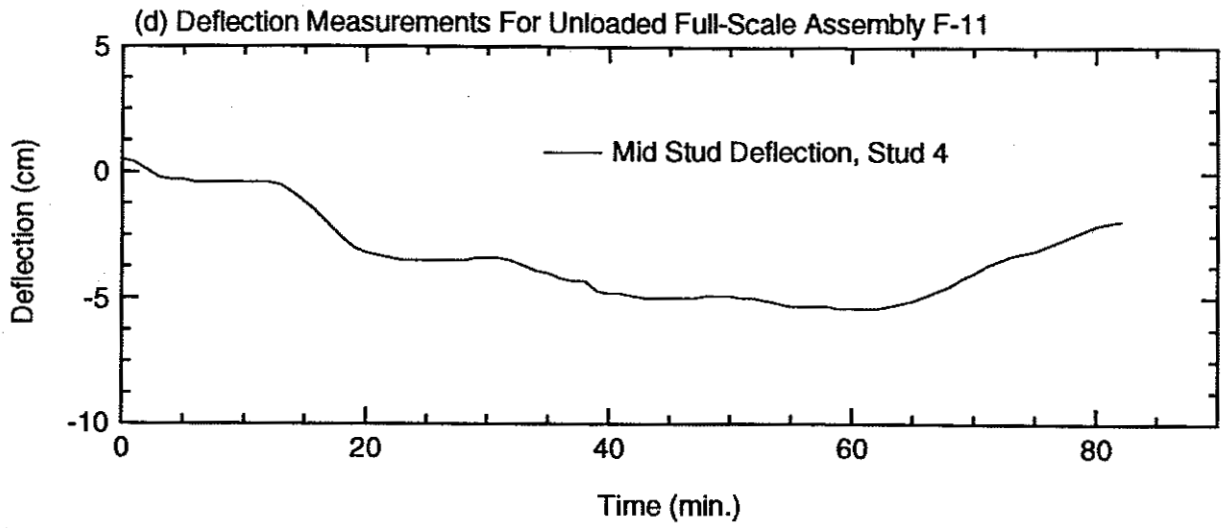


Figure 16. Measured Deflections For Full-Scale Assemblies (Cont.)

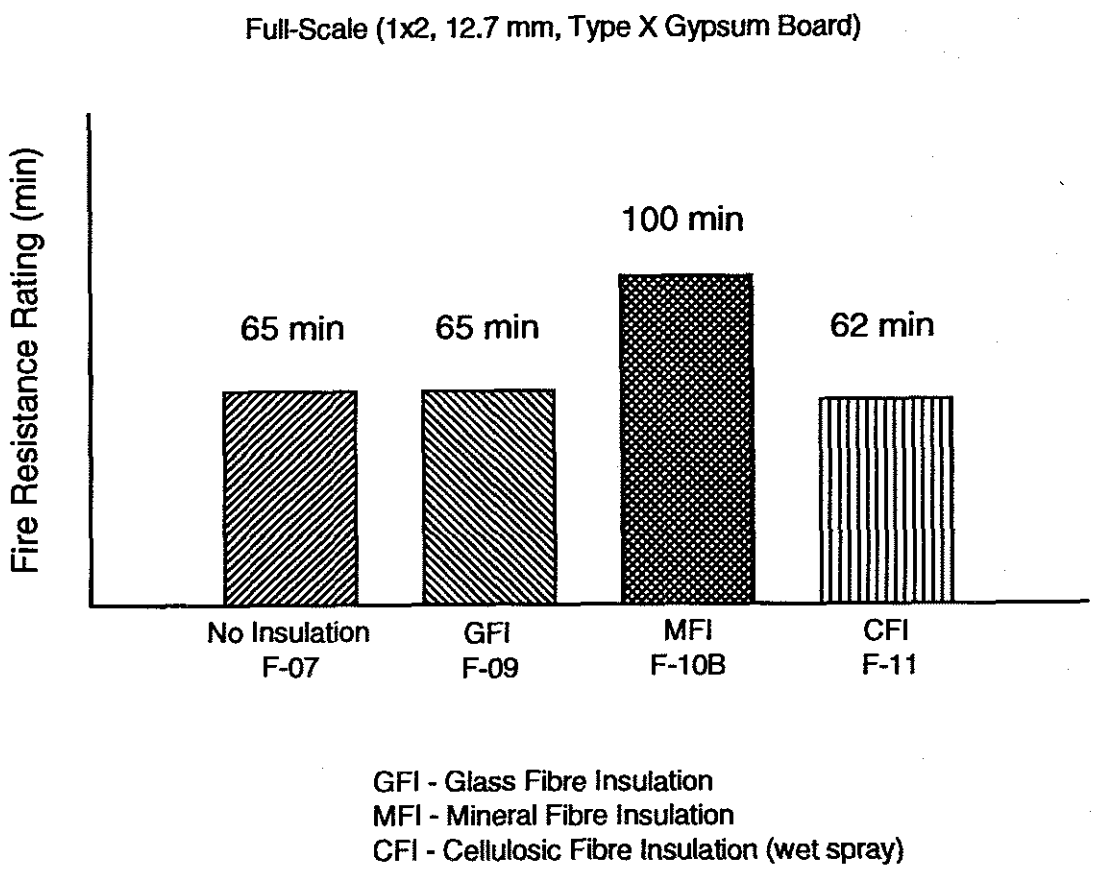


Figure 17. Fire Resistance Ratings of Insulated and Non-Insulated (1x2) Gypsum Board Wall Assemblies

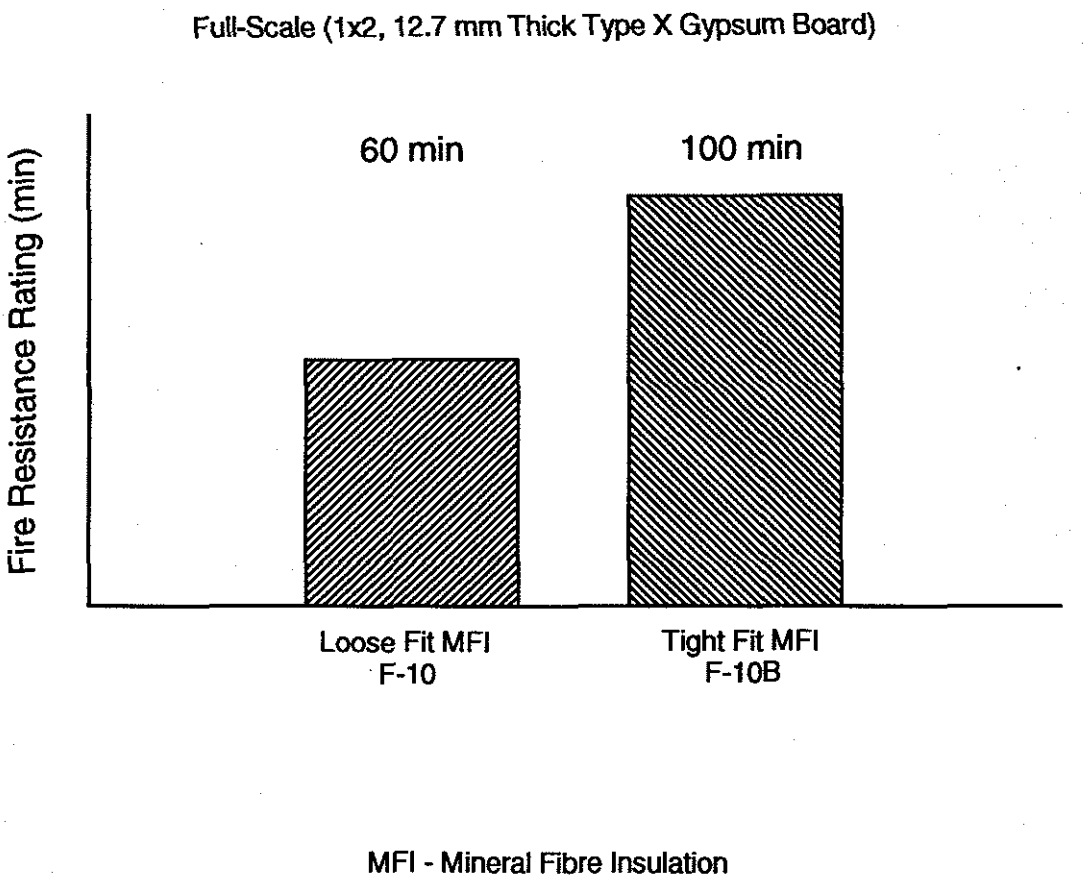


Figure 18. Effect of Fit Types of Mineral fibre Insulation on the Fire Resistance rating of Load Bearing Insulated Assemblies