

ICC-ES TEST REPORT

NFPA 285 (Fire Propagation Characteristics of Exterior Wall Assemblies)

**RENDERED TO: Alumanate LLC
842 Buschong Street
Houston, TX 77039**

**PRODUCT: AMERACORE® FR Metal
Composite Material (MCM)
Panels**

Report No.: ALAB021425-66
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1.0 General Information

1.1 Product

AMERACORE® FR Metal Composite Material (MCM) Panels

1.2 Project Summary

ICC Evaluation Service (ICC-ES) was contracted by Alumanate LLC to evaluate AMERACORE® FR Metal Composite Material (MCM) Panels using AMericlاد® AC-1200 BV Back Ventilated extrusion panel system in accordance with NFPA 285. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at ICC-ES's facility in Bryan, Texas.

1.3 Product Description

Alumanate LLC's AMERACORE® FR Metal Composite Material (MCM) Panels are comprised of a 3 mm (0.12-inch) thick thermoplastic core bonded to pre-finished 0.50 mm (0.020-inch) thick aluminum facers on both sides of the core to complete the 4 mm (0.157-inch) thick composite panel. The panels are cut to project specific sizes and fabricated by securing the panels to aluminum extrusion profiles using rivets to enable installation.

1.4 Qualifications

ICC-ES in Bryan, TX has demonstrated compliance with ISO/IEC 17025 and is consequently accredited as a Testing Laboratory. ICC-ES is accredited to perform all testing reported herein.

1.5 Product Sampling

Alumanate LLC's AMERACORE® FR Metal Composite Material (MCM) Panels were witnessed during production and fabrication for testing reported herein. The specimen(s) were witnessed and labeled prior to shipment with ICC-ES project number and inspectors initials, (Reference ALAB021425-66 and ALAB021425-62, dated 06/18/2025 and 07/08/2025 respectively). All test specimens were supplied by the client and received at the fire testing facility.

1.6 Witnessing

The following were present for testing reported herein via video telecommunication:

Witness	Organization
John Stumpf	Alumanate

1.7 Conditions of Testing

Unless otherwise indicated, all testing reported herein was conducted in ambient laboratory conditions.

2.0 Referenced Standards

NFPA 285-2025, *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components*

3.0 Summary of Results

Test Requirements	Test Results	Conditions of Acceptance
Limits of Vertical Flame Propagation (Exterior)	Flames did not reach 10-ft. above the window header	Pass
Limits of Horizontal Flame Propagation (Exterior)	Flames did not reach a lateral distance of 5-ft. from the vertical centerline	Pass
Flames in the Second Story Test Room	No visible flames in the second story test room	Pass
Temperatures in Second Story Test Room – 1-in. away from interior sheathing (500°F above ambient)	TC's 49 – 54 did not exceed 574°F	Pass
Exterior Temperatures at 10 ft. above the window header (1000°F Limit)	TC's 11, 14-17 did not exceed 1000°F	Pass
Wall Cavity Air Gap Temperature Limits (1000°F)	TC's 18, 19, 28, and 31 – 40 did not exceed 1000°F	Pass

4.0 NFPA 285-2025

4.1 General

4.1.1 Purpose

The purpose of this test is to provide a standardized test procedure in order to determine the suitability of exterior wall assemblies and panels utilized as components of curtain wall assemblies. These wall assemblies are constructed using combustible materials or that contain combustible elements for installation on buildings.

Fire testing is conducted in order to evaluate the fire propagation characteristics of exterior wall assemblies and panels used as components in building assemblies. Visual observations and data acquisition of temperatures are utilized in this test method to assess the wall assemblies ability to resist flame propagation over the exterior face of the test specimen, ability to resist the vertical flame propagation within the combustible components from one story to the next, ability to resist flame propagation on the interior face of the wall from one story to the next, and the ability of the wall assembly to resist lateral flame propagation from the compartment of flame origin to adjacent combustible compartment spaces.

4.1.2 Test Apparatus

The test apparatus is a two-story structure having a height of 15-ft. 8-in. with a test room on each story constructed of 8-in. nominal concrete block. Each test room has an unfinished inside dimension of 10-ft. wide by 10-ft. deep and an unfinished inside height of 7-ft. The test apparatus was constructed in accordance with the standard. The interior walls and ceiling of the first-story test room are protected with one-layer of 5/8-in. thick Type X gypsum wallboard and one layer of nominal 1-1/2-in. thick, nominal 8-lb./ft³ density ceramic fiber insulation. The first-story slab is insulated using two layers of nominal 5/8-in. thick gypsum wallboard.

The first-story test room burner is constructed of nominal 2-in. outside diameter steel pipe with nominal 1/8-in. diameter holes spaced a nominal 1-in. on-center. The burner holes are located on the top surface of the pipe. The first hole on each side of the room burner is located 3-1/2-ft. from the rear window and continued around the front face of the burner. The pipe is wrapped with a single layer of nominal 8-lb./ft.³ density ceramic fiber blanket. The centerline of the burner is positioned 2-1/2-ft. above the floor surface of the test room.

The window burner is a 60-in. length of 2-in. outside diameter steel pipe with a 1/2-in. wide by 44-in. long slot. The burner is wrapped in a nominal 8-lb./ft.³ density ceramic fiber blanket. The burner is mounted to a movable trolley in order to position the burner in the center of the window opening. The burner's horizontal centerline is positioned 9-in. below the bottom surface of the window header. The vertical centerline of the burner is positioned within 0 – 5-in. from the wall assembly based on the calibration procedure.

5.0 Test Specimens

A representative wall system was constructed and built under representative conditions of those applied in the field during construction in order to assess the materials, workmanship, and details such as dimensions of parts and all components in the assembly.

5.1 Framing

The wall assembly was framed using 20-gauge (33 mil thick), 3-5/8-in. deep metal studs, spaced 24-in. on-center. The studs were secured to 20-ga. C-channel top and bottom tracks using #8 - 1/2-in. long self-drilling framing screws with wafer head. A window opening was framed with 20-ga. C-channel with rough opening dimensions of 78-in. wide by 30-in. tall. The windowsill was positioned 40-in. above the base of the wall assembly.

5.2 Exterior Sheathing

The exterior sheathing consisted of 5/8-in. thick, Type X gypsum wallboard (GWB) complying with ASTM C1396. The exterior sheathing (4-ft. x 10-ft. panels) was installed horizontally with vertical butt joints staggered a minimum of 72-in. on-center. The exterior sheathing was secured to the metal studs using #6 - 1-1/4-in. long, self-drilling drywall screws with bugle heads spaced 24-in. on-center horizontally. Fasteners located around the perimeter of the panels were vertically spaced 8-in. on-center and fasteners located within the field of the panels were vertically spaced 12-in. on-center. Fasteners located around the window opening were spaced 8-in. on-center both vertically and horizontally. Exterior sheathing joints and fastener heads were not treated with any joint compound.

5.3 Weather Resistive Barrier

The weather resistive barrier (WRB) consisted of Henry® Blueskin® VP160 (ESR-2975), a self-adhere vapor permeable, water resistive air barrier. The WRB was supplied in a 4-ft. wide roll and was applied to the exterior sheathing vertically. The WRB overlapped at a minimum of 3-inches along all vertical seams as specified by the manufacturer. Additional flashing was installed around the window opening perimeter consisting of Henry® Blueskin ZeroFlash®. The ZeroFlash® was installed in shingle fashion, overlapping a minimum of 2-in. across the face of the exterior sheathing and back into the window opening framing members.

5.4 Stud Cavity Insulation

Fire stop was installed at the centerline of the first and second story floor slab. The fire stop consisted of 4 in. thick, 4 pcf mineral wool safing, friction fit in each stud cavity.

5.5 Exterior Framing

The exterior framing system to enable proper panel attachment consisted of 2-in. deep, 16-ga. Z-girts installed horizontally. The Z-girts were spaced 24-in. on-center vertically and secured to the studs through 1/4-inch thick thermal isolators and the exterior sheathing using #10 - 1-3/4-in. long, self-drilling screws with HEX head. Additional Z-girts were installed at closer spacings for intermediate support for MCM panel attachment and to contain the exterior insulation batts.

5.6 Exterior Insulation

The exterior insulation consisted of 2-inch thick, Rockwool® Cavityrock® exterior insulation. The insulation was supplied in 24-inch wide by 48-inch long batts and were compression fit in between each Z-girt. The insulation batts were further secured to the wall assembly using 2-inch long, self-drilling screws and 1-1/4-inch diameter washers along the bottoms of each batt.

5.7 Exterior Cladding

The exterior cladding consisted of Alumanate LLC's AMERACORE® FR Metal Composite Material (MCM) Panels comprised of a 3 mm (0.12-inch) thick thermoplastic core bonded to pre-finished 0.50 mm (0.020-inch) thick aluminum facers on both sides of the core to complete the 4 mm (0.157-inch) thick composite panel. The panels consisted of the 4mm MCM material riveted to 1-3/4-in. deep, extruded aluminum rails. The MCM panels were installed using Americlاد® AC-1200 BV Back Ventilated panel hanging system. The attachment system consisted of aluminum clips attached to the Z-girts. The panels were then slid into place between the aluminum clip angles. Clip angles were spaced a maximum of 16-in. on-center horizontally along each Z-girt. To complete the MCM panel installation, 4 mm thick, spline comprised of the same FR core were installed in between each panel within the back ventilated hanging system to hide fastener heads, creating a dry joint with spline detail. A nominal 1-7/16-in. air gap was present between the backside of the panels and the front side of the insulation after completed installation.

Per NFPA 285-25, continuous vertical and horizontal joints were present within the panel layout. The vertical joint was positioned in line with the wall assembly vertical centerline and extending from the window header up to the top of the wall assembly. The continuous horizontal joint was positioned approximately 30-in. above the window header and spanned the entire width of the wall assembly.

The perimeter of the wall assembly was capped with 0.040-in. thick, aluminum flashing pieces to complete the panel installation.

5.8 Interior Sheathing

The interior sheathing consisted of 5/8-in. thick, 4-ft. x 10-ft; Type X gypsum wallboard (GWB) panels conforming ASTM C1396 and was installed after instrumentation. The 4-ft. x 10-ft. panels were fastened to the 20-ga. metal studs using #6 - 1-1/4 in. bugle head, Type S drywall screws. Fasteners were spaced 12-in. O.C. in the field and 8-in. O.C. around the perimeter. All GWB joints were treated with a level 2 finish consisting of nominal 2-in. wide paper seam tape and a thin layer of joint compound. All screw heads were covered with joint compound.

5.9 Window Opening

The window opening perimeter was protected using 0.040-in. thick, aluminum angle flashing. The flashing terminated at the leading edge of the exterior cladding system and extended 2-in. over the interior sheathing. The 6-1/2-in. long leg of the flashing was secured to the framing using #8 - 1-1/4-in. long, self-drilling screws with HEX heads spaced 6-in. on-center. The 2-in. leg of the flashing was secured to the studs through the interior sheathing using #8 - 1-1/4-in. long, self-drilling screws with HEX heads spaced 6-in. on-center.

6.0 Calibration Summary

ICC-ES conducted an ISMA calibration on July 21, 2025 with the gas flow rates shown below. Both burners used natural gas. Burner gas flow rates were adjusted accordingly in order to achieve the required temperatures and heat flux as specified within the standard.

Temperatures (°F) During Calibration									
Time (min)		Avg Room Temp	Interior Wall	1-ft	2-ft	3-ft	4-ft	5-ft	6-ft
0 - 5	Range	1036 - 1381	959 - 1278	542 - 722	611 - 815	581 - 775	519 - 692	469 - 625	425 - 566
	Actual	1058	989	697	743	696	645	591	541
5 - 10	Range	1211 - 1615	1168 - 1558	783 - 1044	914 - 1218	874 - 1165	772 - 1030	689 - 918	621 - 828
	Actual	1274	1263	942	988	979	965	908	815
10 - 15	Range	1334 - 1778	1290 - 1720	857 - 1142	1009 - 1345	986 - 1315	884 - 1178	788 - 1050	708 - 944
	Actual	1388	1362	1034	1082	1074	1062	998	890
15 - 20	Range	1440 - 1920	1420 - 1894	893 - 1190	1065 - 1420	1057 - 1409	957 - 1276	854 - 1139	770 - 1027
	Actual	1571	1548	1144	1178	1162	1151	1079	959
20 - 25	Range	1437 - 1916	1418 - 1891	941 - 1255	1121 - 1494	1121 - 1494	1022 - 1362	906 - 1208	824 - 1098
	Actual	1640	1622	1191	1214	1197	1185	1117	1000
25 - 30	Range	1483 - 1978	1490 - 1986	970 - 1294	1166 - 1555	1183 - 1577	1102 - 1469	995 - 1327	909 - 1212
	Actual	1677	1654	1245	1285	1291	1291	1236	1126

Heat Flux (W/cm2) During Calibration				
Time (min)		HF @ 2-ft	HF @ 3-ft	HF @ 4-ft
0 - 5	Range	0.7 - 1.1	0.8 - 1.2	0.6 - 1.0
	Actual	1.0	1.2	0.9
5 - 10	Range	1.5 - 2.3	1.6 - 2.4	1.2 - 1.8
	Actual	1.9	2.1	1.7
10 - 15	Range	2.0 - 3.0	2.1 - 3.1	1.6 - 2.4
	Actual	2.6	2.6	2.0
15 - 20	Range	2.3 - 3.5	2.6 - 3.8	2.0 - 3.0
	Actual	3.1	3.1	2.8
20 - 25	Range	2.7 - 4.1	3.0 - 4.4	2.4 - 3.6
	Actual	3.5	3.1	3.4
25 - 30	Range	3.0 - 4.6	3.2 - 4.8	2.7 - 4.1
	Actual	4.1	4.1	4.0

Time (min)	Room Burner (CFM)	Window Burner (CFM)
0 - 5	33	0
5 - 10	35	7.5
10 - 15	38	10
15 - 20	44	11
20 - 25	44	14
25 - 30	46	17
Note: Window Burner is 3-in. from Wall		

7.0 Test Setup and Procedure

The product(s) were setup and evaluated in accordance with the 2025 version of NFPA 285.

The wall system was assembled and fastened to a movable test frame. The test frame with wall system were placed in front of the test apparatus and secured using ratchet straps. The window burner was set in position at 3-in. away from the wall and 9-in. below the window header. Testing was conducted at ICC-ES Fire Testing Laboratory. The thermocouple leads were connected to the data acquisition system in the control room and the connection was verified prior to ignition. The ambient air temperature within the lab was 74°F, with a relative humidity of 60%.

Deviations from the standard include: None

7.1 Test Observations

At 10:06 AM on October 23, 2025, the room burner was lit, and the gas flow rates for each burner were controlled following the predetermined setpoints for a period of 30 minutes.

Time (min:sec)	Observation
0:00	Room burner lit; test started
1:05	Window header flashing beginning to warp
5:00	Window burner lit
5:56	Slight smoke emitting from between top of window header flashing/panel system
6:52	Window burner flame height approx. 3 to 3.5-ft. above window header
10:25	Slight warping of panels along vertical centerline of assembly above window opening
11:07	Window burner flame height approx. 4 to 4.5-ft.
11:46	Slight discoloration on panels above window opening; window opening jamb flashing discolored
15:20	Flaming around flashing (header and top of jambs) at interface of panel system
16:57	Increased discoloration along vertical centerline of assembly. Flaming at window sill flashing/pane system interface
19:11	Window header flashing beginning to melt. Increased warping of panels
20:21	Window burner flame height approx. 5-ft. above window header
23:27	First course of Panels directly above window header beginning to melt at center of wall assembly. Increased

Time (min:sec)	Observation
	discoloration of panels. Flaming at window sill progressing
28:15	Window burner flame height approx. 6-ft. above window header
30:00	Apparatus burners extinguished. Flame propagation 10-ft. above the window header was not observed

Second-Story Test Room Observations

Time (min:sec)	Observation
0:00	Room burner lit; test started
5:00	Window burner lit
8:02	100% visibility
13:37	100% visibility
18:22	100% visibility
24:31	100% visibility
30:00	Apparatus burners extinguished. No flames observed in second-story test room. Test concluded.

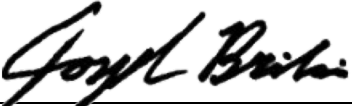
8.0 Summary and Conclusions

The wall assembly as described in this report did meet the Conditions of Acceptance of NFPA 285-2025 when exposed to the gas flow rates of the window and room burners established from annual calibration. The maximum temperature threshold of 1,000°F as measured by TC 11, 14 – 17 at 10-ft. above the window header did not exceed 1,000°F. Wall Cavity Air Space temperatures as measured by thermocouples located half the depth of the air space located between the exterior cladding and the exterior insulation did not exceed the temperature threshold according to Detail H complying to NFPA 285. Thermocouples of the wall assembly within the Second-Story Test Room did not exceed thresholds within the test apparatus test rooms per NFPA 285. Flame height on the exterior face did not exceed 10-ft. above the window header.

9.0 Closing Statement

This report contains only findings and results arrived at after employing the specific test procedures listed herein. It does not constitute a recommendation for, endorsement of, or certification of the product or material tested. Unless differently required, ICC-ES reports apply the "Simple Acceptance" rule, also called "Shared Risk approach", of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity. ICC-ES makes no warranty, expressed or implied, except that the test has been performed, and a report prepared, based upon the specimen specified by the client. Extrapolation of data, from the test data provided herein, to the batch or lot from which the specimens were obtained may not correlate and should be interpreted with extreme caution. ICC-ES assumes no responsibility for variations in quality, composition, appearance, performance, or other features of similar materials produced by the client, other persons, or under conditions over which ICC-ES has no control. ICC-ES has issued this report for the exclusive use of the client to whom it is addressed. Any use or duplication of this report shall not be made without their consent. This report shall only be reproduced in its entirety.

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Appendix A - Photographs



Photo No. 1

Completed installation of 5/8-in. thick, Type X gypsum wallboard (Window Opening not cut out)



Photo No. 2

Completed 20-ga. Steel Stud Framing – 24-in. on-center



Photo No. 3

Completed installation of weather resistive barrier. Beginning installation of exterior insulation and Z-girts



Photo No. 4

Completed installation of exterior insulation and Z-girts



Photo No. 5

Beginning installation of AMERACORE® FR Metal Composite Material (MCM) Panels



Photo No. 6

Completed Panel Installation and Test Set Up

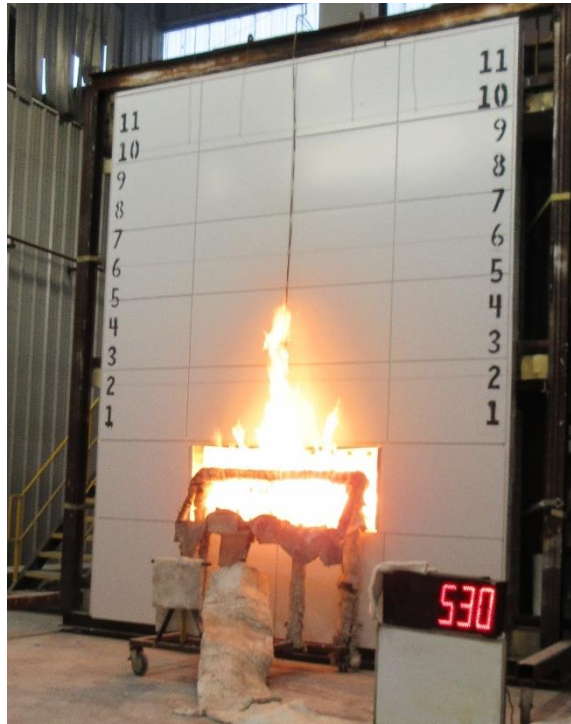


Photo No. 7
Window Burner Flame Height approximately 3.5-ft.

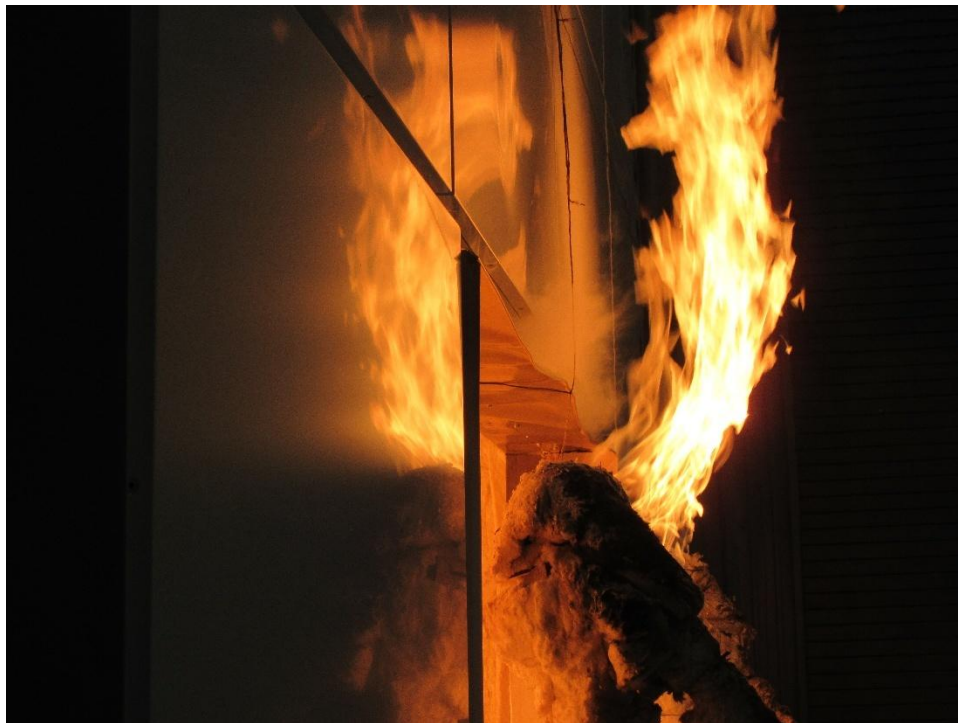


Photo No. 8
Smoke emitting from between header flashing and panel system (5:56 into test)

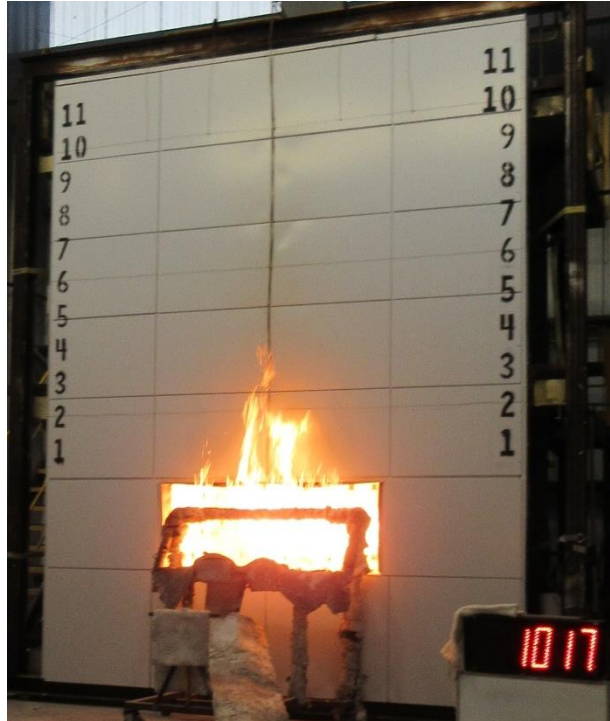


Photo No. 9
Discoloration along vertical centerline and warping of panels



Photo No. 10
Discoloration of panels directly above window header – (11:46)



Photo No. 11

Window header flashing and first course of panels beginning to melt above window header – (18:00)

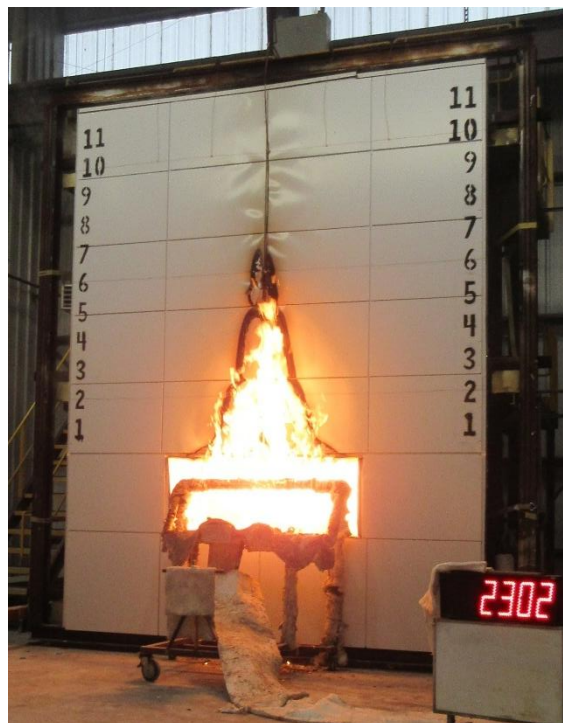


Photo No. 12

Window burner flame height approximately 5-feet above window header



Photo No. 13

Window header flashing fully melted and significant melt of MCM panels above window header – (24:00)

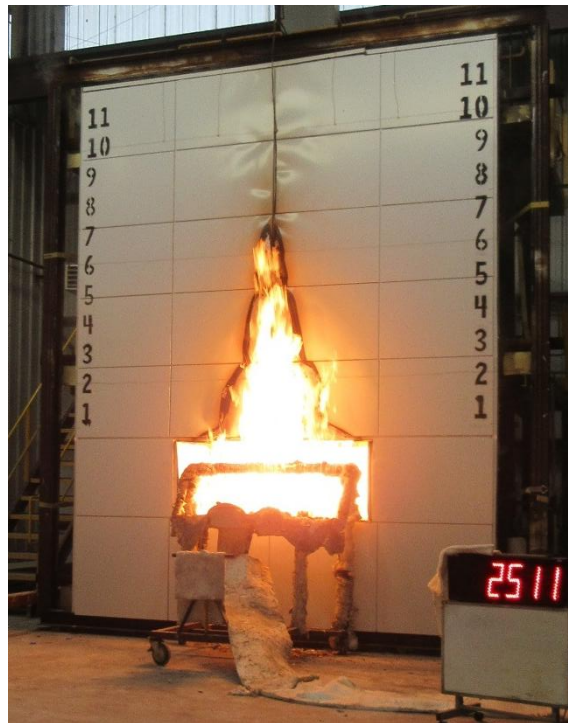


Photo No. 14

Window burner flame height approximately 6-ft. above window header



Photo No. 15
Wall assembly immediately following Test Conclusion



Photo No. 16
Damage Extent of Interior Sheathing – (Post-Mortem Observations)



Photo No. 17
Damage Extent to backside of Exterior Sheathing – (Post-Mortem Observations)

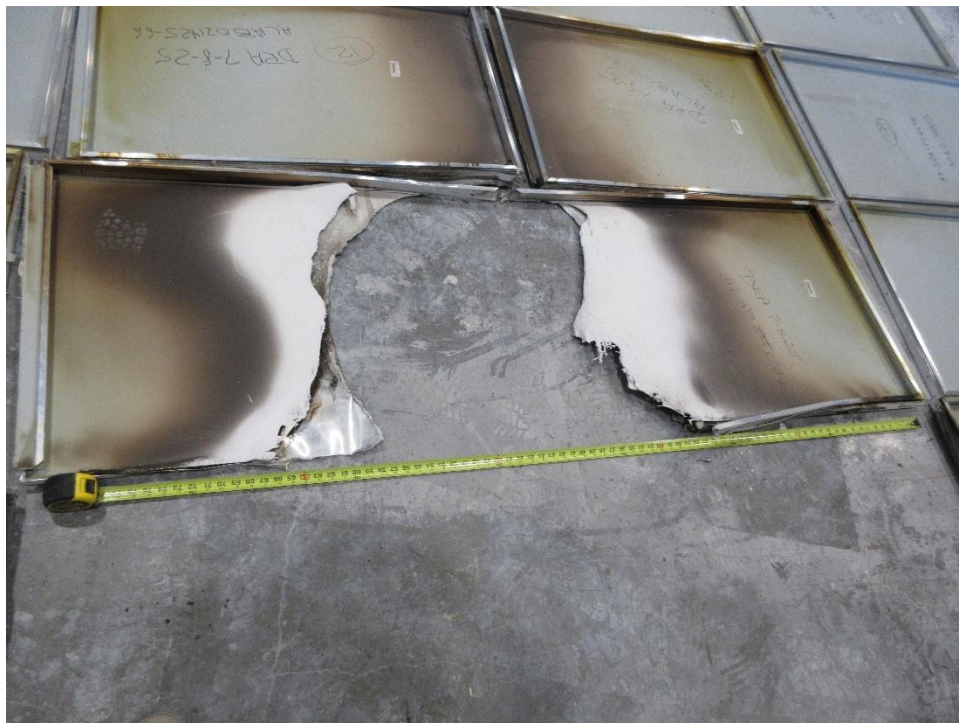


Photo No. 18
Damage Extent to backside of First Course of MCM panels – (Post-Mortem Observations)

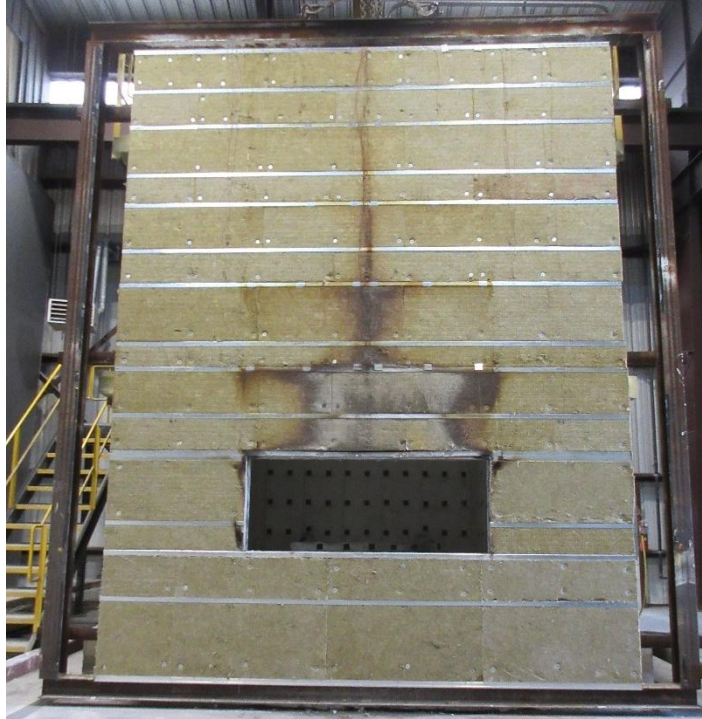


Photo No. 19
Damage Extent of Exterior Insulation – (Post-Mortem Observations)



Photo No. 20
Damage Extent at Window header – (Post-Mortem Observations)

Appendix B - Data

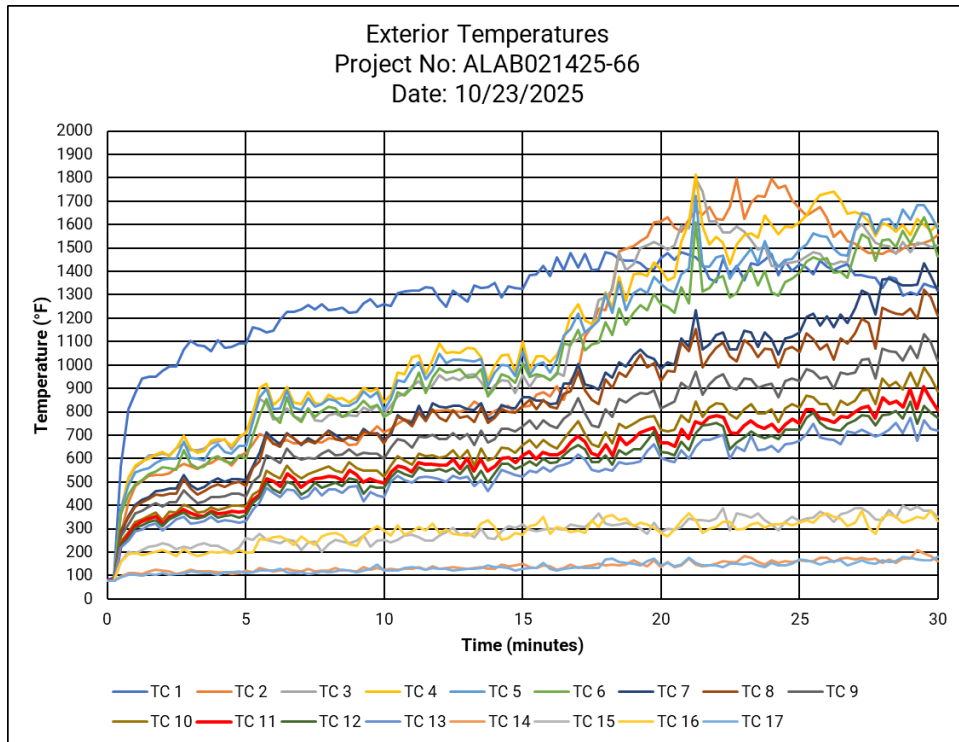


Figure No. 1

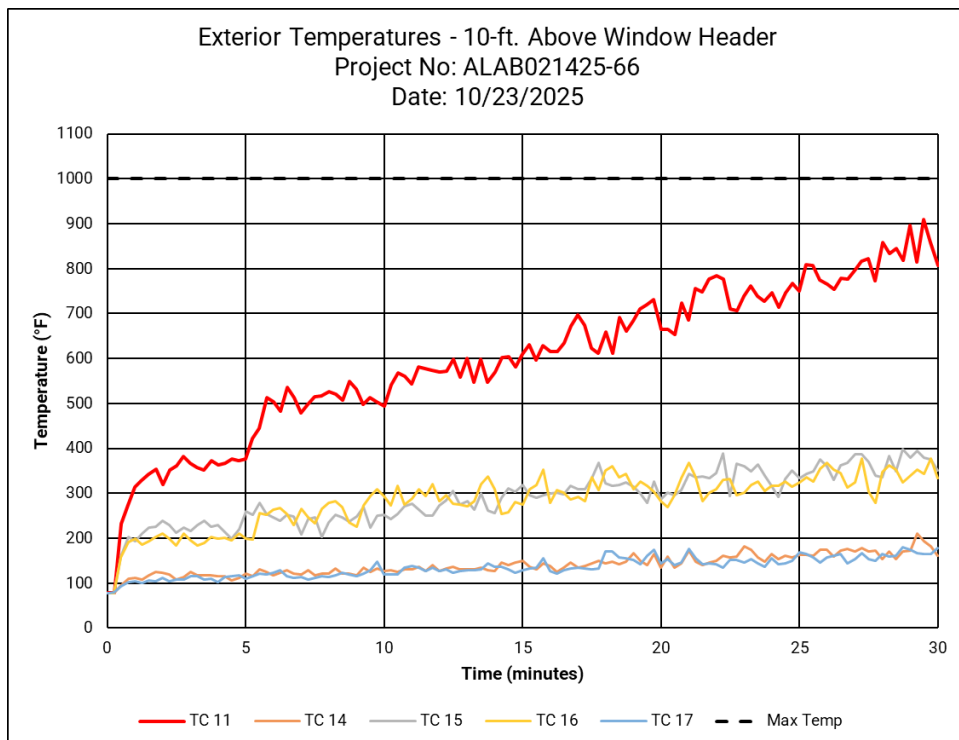


Figure No. 2

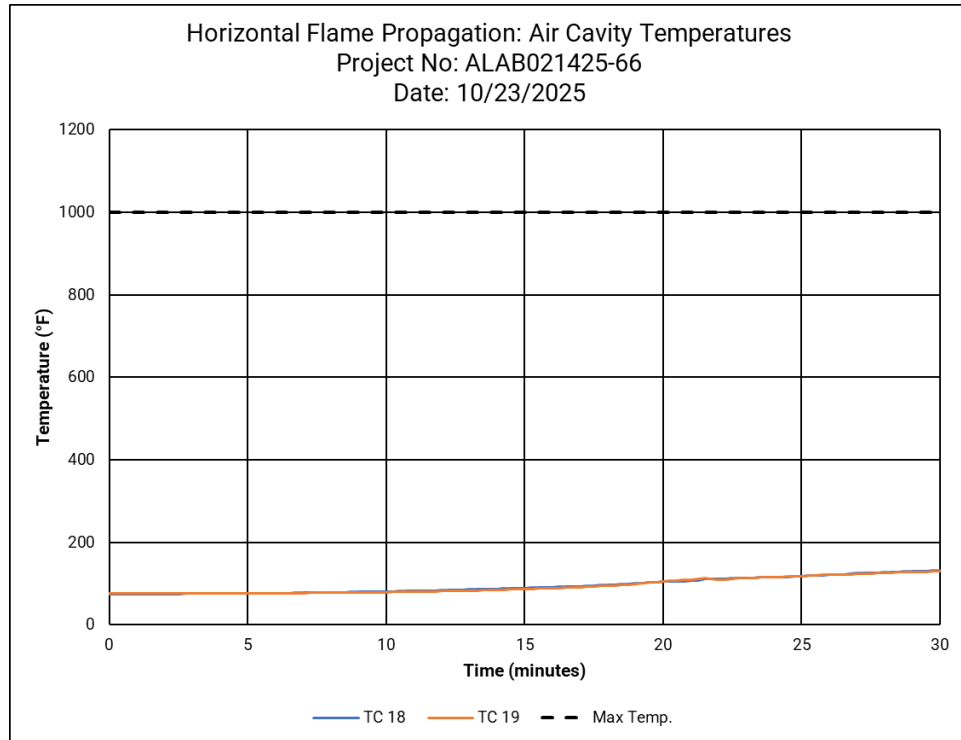


Figure No. 3

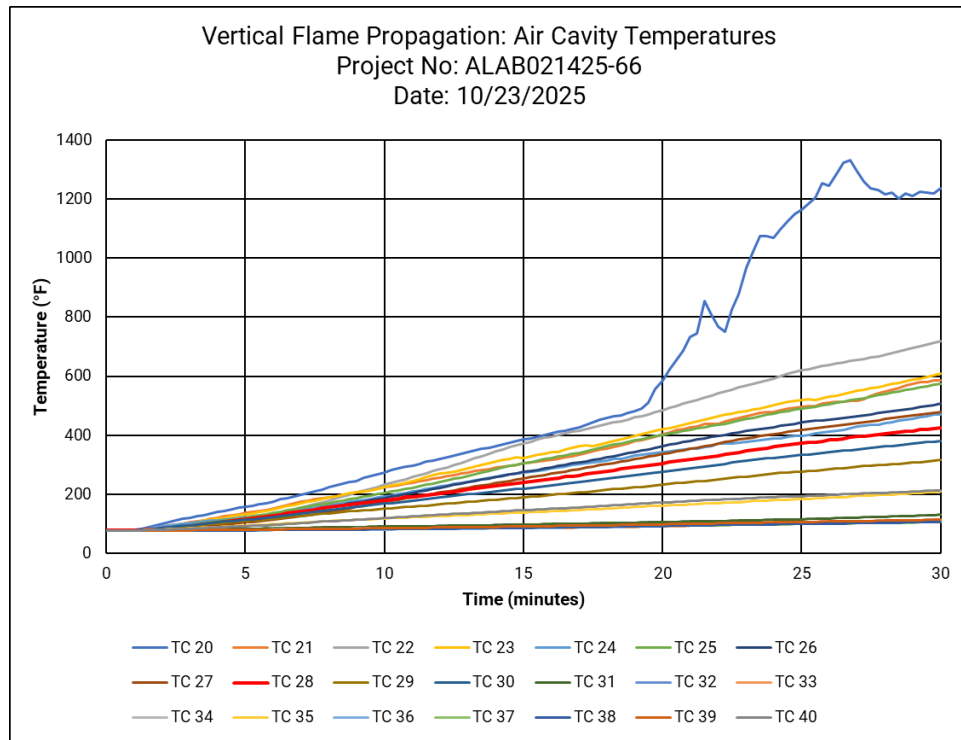


Figure No. 4

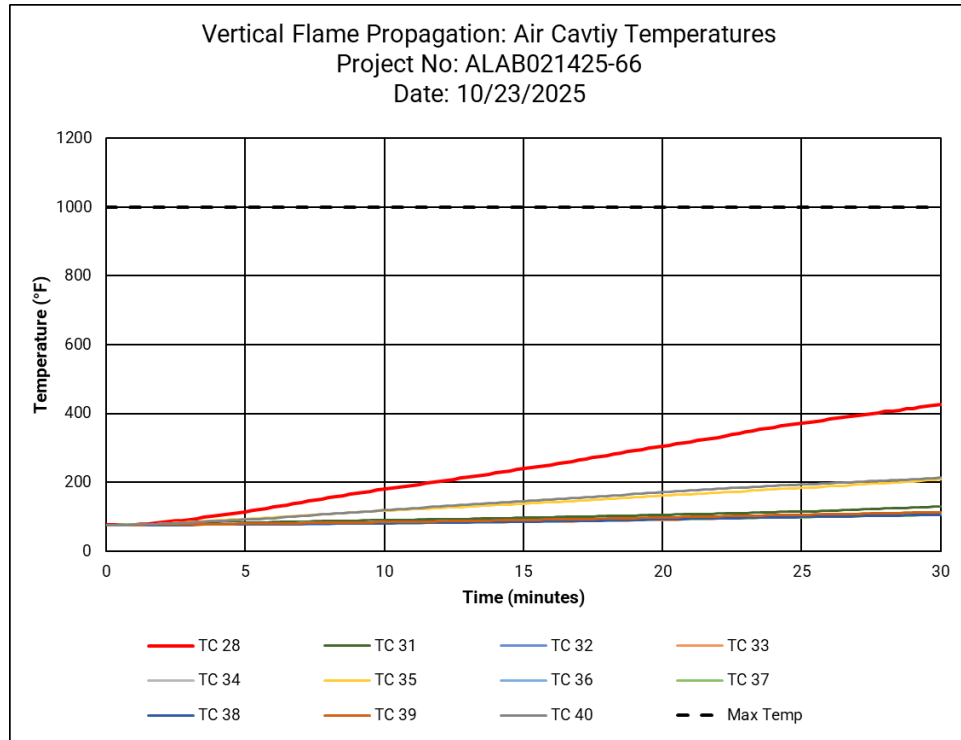


Figure No. 5

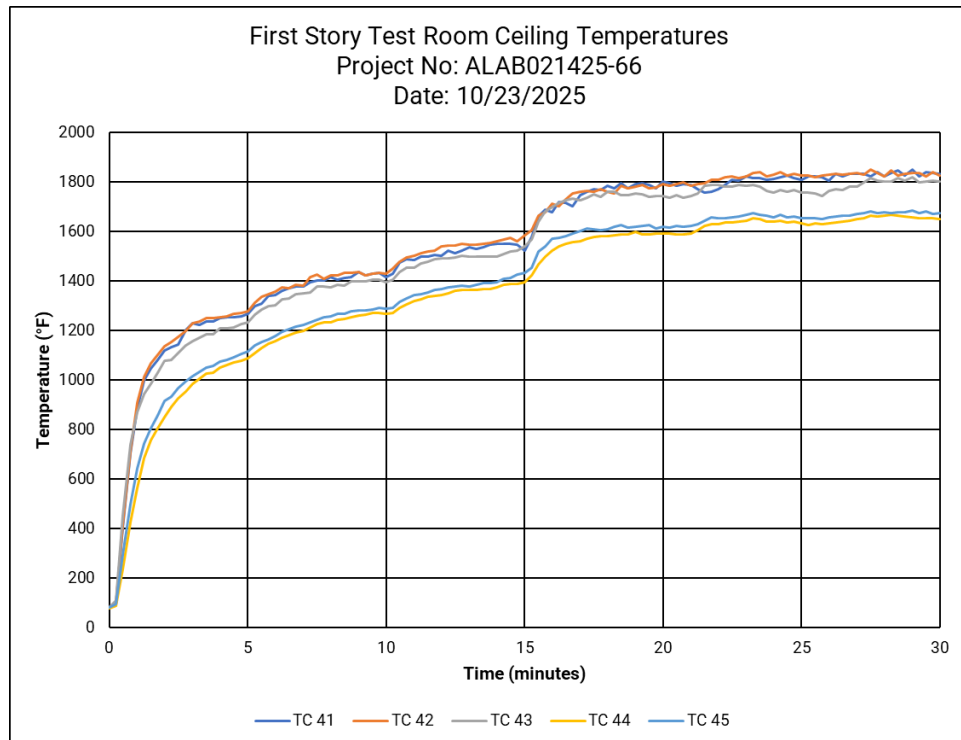


Figure No. 6

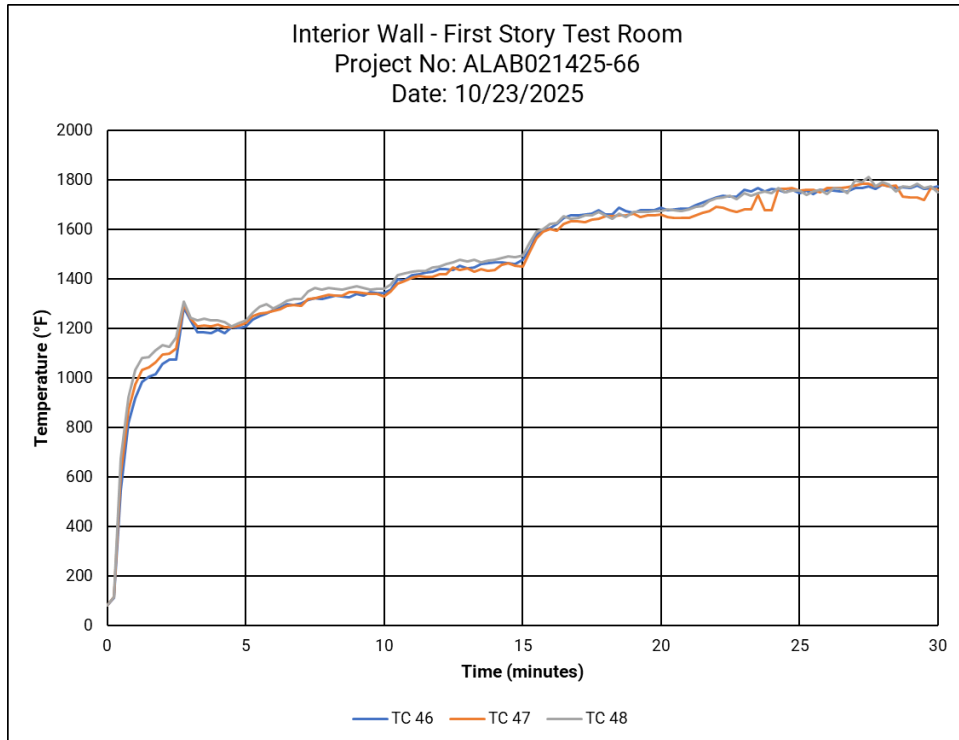


Figure No. 7

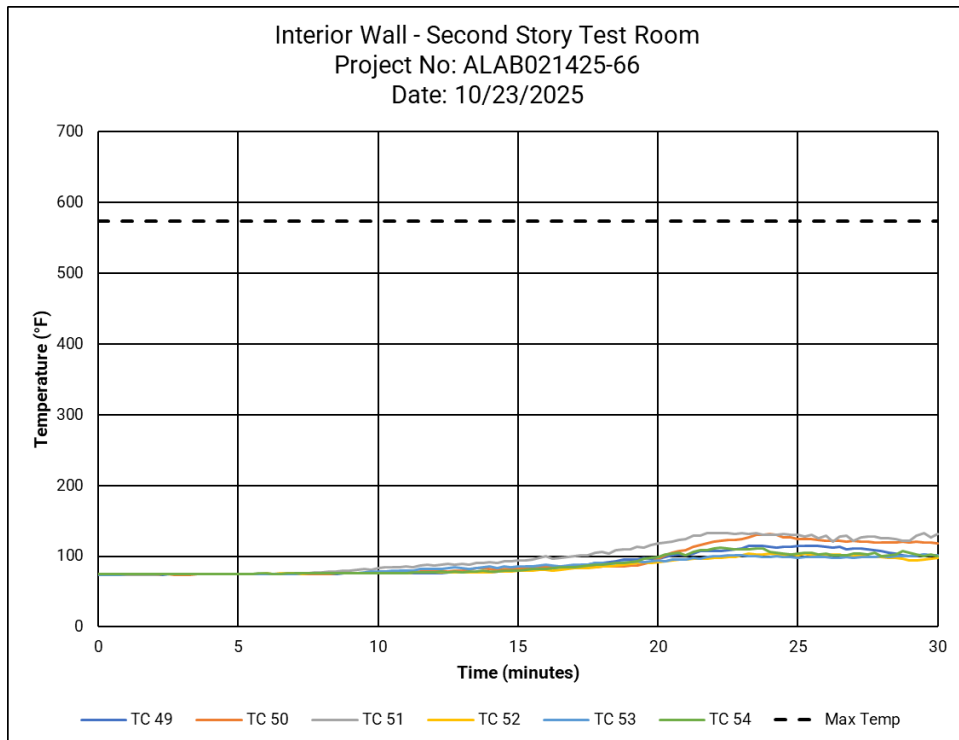


Figure No. 8

Tabular Data – Exterior Temperatures

As measured 1-in. from Exterior Veneer

Time (min)	TC 1	TC 2	TC 3	TC 4	TC 5	TC 6	TC 7	TC 8	TC 9	TC 10	TC 11	TC 12	TC 13	TC 14	TC 15	TC 16	TC 17
0	81	78	78	78	78	78	78	78	78	78	78	78	78	78	78	78	79
1	881	482	564	571	541	491	404	395	365	330	314	305	290	111	193	198	105
2	976	531	620	627	595	562	465	441	396	338	320	310	294	122	239	210	111
3	1102	568	635	644	605	576	488	472	435	391	367	348	323	125	217	195	117
4	1106	600	671	682	660	612	517	490	434	382	363	347	330	116	229	200	103
5	1093	627	713	708	653	600	507	481	440	393	376	360	334	122	260	199	111
6	1148	663	768	831	811	783	682	666	599	531	504	470	452	118	247	263	123
7	1237	664	768	834	808	757	657	663	596	517	478	445	426	119	209	266	114
8	1234	685	787	871	855	824	720	717	634	567	526	487	468	120	235	279	114
9	1227	661	782	861	845	814	681	682	616	558	531	508	482	118	248	226	115
10	1258	712	788	841	806	779	681	666	599	525	494	475	436	126	252	294	120
11	1316	760	910	1033	983	903	751	737	648	572	544	522	496	131	276	288	138
12	1280	805	959	1092	1048	987	823	776	684	603	571	554	512	127	273	283	128
13	1272	812	958	1074	1018	947	813	781	707	635	600	571	521	130	283	272	129
14	1351	803	914	996	967	904	781	774	683	605	569	539	504	127	257	308	136
15	1325	821	955	1099	1061	1009	863	825	737	658	611	571	524	150	318	275	128
16	1379	867	934	1013	968	934	833	823	742	658	616	580	544	139	301	278	127
17	1417	978	1108	1261	1219	1150	1005	971	858	759	696	657	616	134	310	291	135
18	1483	1235	1288	1311	1304	1183	969	940	811	714	660	613	557	145	322	351	170
19	1444	1506	1431	1388	1306	1224	1039	999	867	748	683	640	582	167	315	310	151
20	1457	1614	1511	1408	1347	1259	981	931	816	724	665	630	603	135	286	283	145
21	1472	1621	1583	1608	1414	1263	1078	1060	900	756	686	635	598	173	342	367	176
22	1355	1625	1614	1547	1459	1369	1128	1074	945	835	784	752	690	150	345	309	143
23	1361	1623	1569	1554	1459	1379	1147	1107	944	810	739	689	633	182	360	301	145
24	1476	1796	1424	1601	1460	1312	1112	1065	919	809	746	697	653	165	318	317	155
25	1432	1666	1447	1611	1495	1394	1140	1055	931	820	751	725	675	164	333	325	169
26	1418	1629	1436	1735	1546	1457	1209	1087	949	834	766	731	682	175	360	367	157
27	1385	1518	1572	1655	1578	1483	1243	1134	968	846	797	763	709	171	386	324	154
28	1329	1476	1511	1605	1621	1534	1367	1246	1069	944	859	786	704	154	337	347	164
29	1310	1515	1484	1556	1620	1518	1341	1240	1082	967	897	844	774	173	380	339	175
30	1328	1556	1511	1602	1583	1464	1319	1213	1018	887	807	774	719	162	352	333	179

Tabular Data – Air Cavity Temperatures

As measured half the depth of the air cavity behind MCM panels

Time(min)	Ch18	Ch19	Ch20	Ch21	Ch22	Ch23	Ch24	Ch25	Ch26	Ch27	Ch28
0	75	76	76	75	76	76	76	76	76	76	77
1	75	76	79	77	77	79	78	77	77	77	78
2	75	76	99	91	82	89	91	84	81	81	84
3	75	76	120	104	92	102	103	95	90	87	93
4	76	76	140	121	104	117	112	108	100	95	103
5	76	77	157	136	118	131	122	121	112	104	115
6	77	77	176	152	134	150	132	136	124	114	128
7	78	77	198	174	154	169	148	154	139	126	142
8	79	78	223	191	179	189	164	170	155	139	155
9	80	79	244	206	206	206	177	187	172	156	167
10	81	79	274	223	231	224	192	205	188	173	180
11	82	81	297	239	257	244	209	222	204	190	192
12	84	82	320	256	285	271	226	241	222	205	203
13	86	83	342	274	313	288	242	263	240	221	215
14	88	85	363	291	345	310	259	285	258	237	227
15	90	87	386	304	372	323	273	305	275	253	239
16	92	89	406	318	396	343	289	323	291	269	251
17	94	91	427	333	416	362	301	341	308	285	264
18	97	95	459	355	437	375	315	362	325	302	279
19	101	99	483	379	460	397	332	382	343	319	292
20	104	105	585	403	485	420	343	401	362	336	305
21	107	110	733	427	514	440	354	418	381	353	318
22	111	110	769	439	541	463	372	435	398	372	331
23	114	114	968	464	568	483	376	455	414	389	346
24	115	115	1069	478	593	502	388	473	428	404	360
25	118	119	1163	496	620	520	398	490	443	417	372
26	121	122	1244	511	639	530	411	506	451	430	383
27	125	124	1294	516	655	550	430	522	465	442	395
28	127	126	1218	548	673	568	440	539	478	454	406
29	130	128	1212	573	695	588	456	557	491	467	415
30	132	130	1237	587	720	608	469	575	506	479	426

Tabular Data - Air Cavity Temperatures (cont.)

As measured half the depth of the air cavity behind MCM panels

Time(min)	Ch29	Ch30	Ch31	Ch32	Ch33	Ch34	Ch35	Ch36	Ch37	Ch38	Ch39	Ch40
0	76	76	76	76	76	77	77	76	77	76	76	76
1	77	77	77	76	76	77	77	76	77	76	76	77
2	82	85	78	77	76	77	80	76	77	76	77	79
3	92	95	80	77	76	78	84	77	78	77	78	83
4	101	105	82	78	77	79	89	77	78	77	79	88
5	108	113	83	79	77	80	94	77	79	78	79	92
6	117	123	84	79	78	81	99	78	79	78	80	96
7	127	135	86	80	79	82	104	78	80	79	82	102
8	135	146	87	81	79	83	109	79	81	80	83	108
9	144	157	89	82	80	84	113	80	82	80	84	114
10	151	168	90	83	81	85	117	80	82	81	85	119
11	158	178	91	84	82	86	121	81	83	82	86	124
12	166	188	93	85	82	87	125	82	84	83	87	130
13	173	199	94	86	83	88	130	83	85	84	88	136
14	182	210	95	87	84	89	134	84	86	85	89	141
15	189	220	97	88	85	90	138	85	87	86	91	146
16	197	230	99	89	86	91	142	86	88	87	92	150
17	205	241	100	90	87	92	147	87	89	88	93	155
18	215	253	102	91	88	94	151	89	90	89	95	160
19	224	264	104	92	89	95	157	90	91	91	96	167
20	233	277	106	93	91	96	162	92	92	92	98	172
21	241	288	107	95	92	98	165	94	93	94	100	177
22	250	300	109	96	95	99	170	95	95	96	101	181
23	260	313	111	97	96	101	175	97	96	97	103	186
24	269	324	114	99	98	102	180	98	97	98	104	190
25	276	333	115	100	100	104	184	100	98	99	106	194
26	284	342	118	102	102	106	188	102	100	100	107	197
27	292	352	121	104	103	107	194	103	101	102	109	202
28	300	362	124	106	105	109	198	105	103	103	110	205
29	307	371	126	108	107	111	203	107	104	104	112	209
30	315	381	131	110	110	113	208	109	105	106	114	213

Tabular Data – Apparatus Temperatures

First-Story Ceiling Temperatures

Time(min)	Ch41	Ch42	Ch43	Ch44	Ch45
0	78	79	80	79	81
1	885	909	870	564	644
2	1120	1138	1077	850	915
3	1229	1230	1157	986	1017
4	1251	1255	1208	1050	1076
5	1268	1278	1233	1089	1115
6	1345	1356	1301	1157	1179
7	1376	1382	1350	1199	1224
8	1417	1422	1374	1234	1256
9	1435	1435	1398	1261	1282
10	1417	1428	1394	1269	1289
11	1483	1502	1455	1318	1344
12	1503	1539	1493	1343	1369
13	1535	1547	1497	1363	1379
14	1550	1559	1500	1375	1394
15	1523	1585	1538	1396	1433
16	1679	1712	1697	1524	1572
17	1748	1760	1727	1561	1602
18	1784	1760	1762	1581	1610
19	1793	1782	1755	1599	1618
20	1800	1790	1744	1590	1619
21	1789	1783	1742	1592	1623
22	1771	1810	1790	1630	1653
23	1822	1824	1785	1645	1668
24	1814	1830	1756	1640	1658
25	1810	1825	1758	1632	1654
26	1806	1830	1765	1634	1658
27	1834	1837	1783	1649	1671
28	1824	1824	1800	1662	1677
29	1849	1836	1819	1658	1683
30	1833	1825	1802	1651	1673

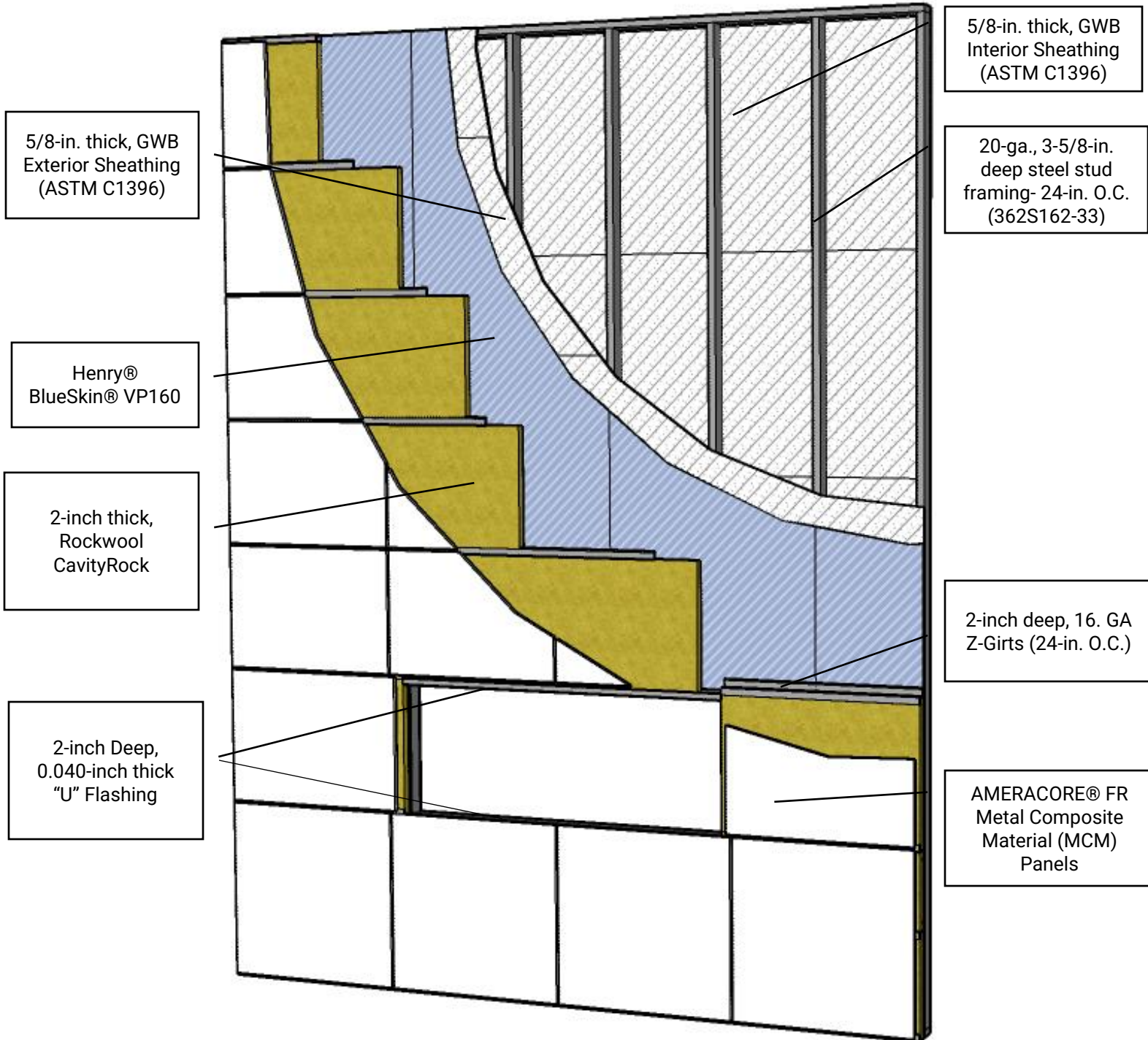
Tabular Data – Apparatus Temperatures (cont.)

Interior Sheathing Temperatures as measured 1-in. away from sheathing

First-Story Test Room				Second-Story Test Room					
Time(min)	Ch46	Ch47	Ch48	Ch49	Ch50	Ch51	Ch52	Ch53	Ch54
0	80	74	82	74	74	74	74	74	74
1	919	85	1033	74	74	74	75	74	75
2	1058	92	1132	74	74	74	75	75	75
3	1234	107	1244	74	74	74	75	74	75
4	1196	117	1234	75	74	74	75	75	75
5	1209	167	1234	75	75	75	75	75	75
6	1273	1270	1280	75	75	75	75	75	75
7	1300	1293	1319	75	75	76	75	75	76
8	1327	1336	1365	75	75	77	76	76	76
9	1340	1346	1372	75	76	80	76	76	76
10	1344	1328	1360	76	77	83	76	78	76
11	1417	1405	1430	76	77	85	77	79	77
12	1441	1418	1449	76	78	87	77	82	78
13	1443	1443	1471	77	80	90	77	84	78
14	1467	1438	1476	78	82	91	77	85	79
15	1479	1451	1497	80	84	94	79	86	80
16	1606	1602	1621	83	85	100	81	88	83
17	1659	1634	1646	87	85	101	83	88	85
18	1660	1655	1656	91	85	106	85	91	88
19	1669	1663	1671	96	86	110	89	91	92
20	1688	1661	1676	96	97	118	92	94	99
21	1683	1647	1681	101	109	124	95	95	102
22	1729	1693	1727	108	121	133	97	100	112
23	1762	1682	1745	111	124	132	102	101	110
24	1765	1679	1748	114	132	130	104	98	106
25	1746	1759	1758	114	124	130	101	98	104
26	1759	1769	1743	114	122	129	101	99	104
27	1769	1778	1800	111	122	122	100	97	103
28	1783	1782	1792	107	120	125	99	100	101
29	1767	1730	1772	100	119	121	95	100	105
30	1773	1760	1751	102	118	131	97	101	100

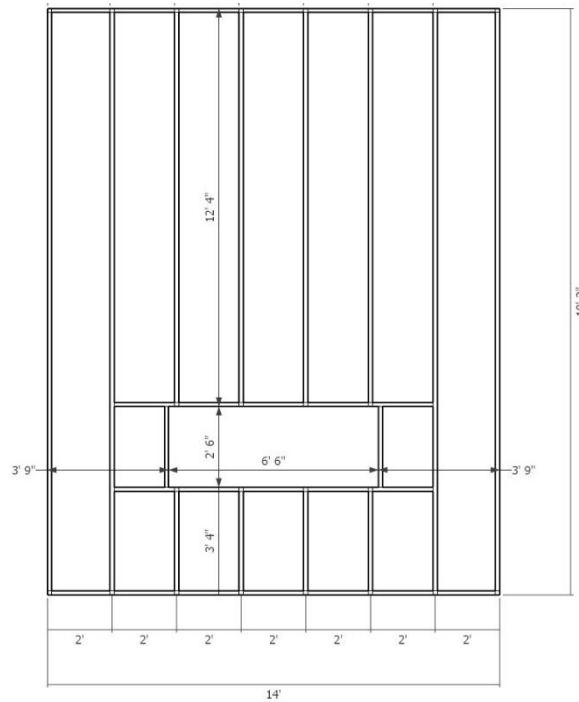
Note: Tabular data reported in one (1) minute intervals. Full tabular data measured and recorded in 15-second intervals available upon request.

Appendix C - Drawings

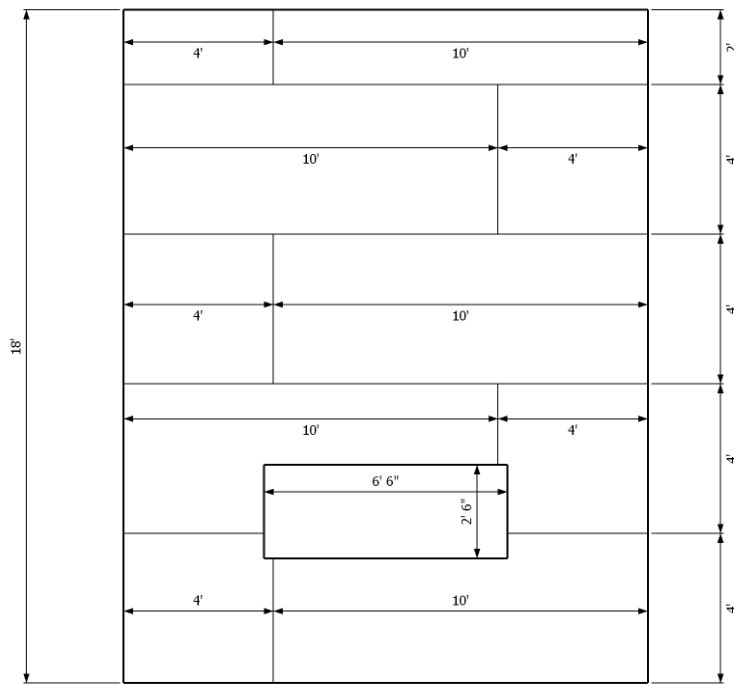


Drawing No. 1
Wall Assembly Plan View

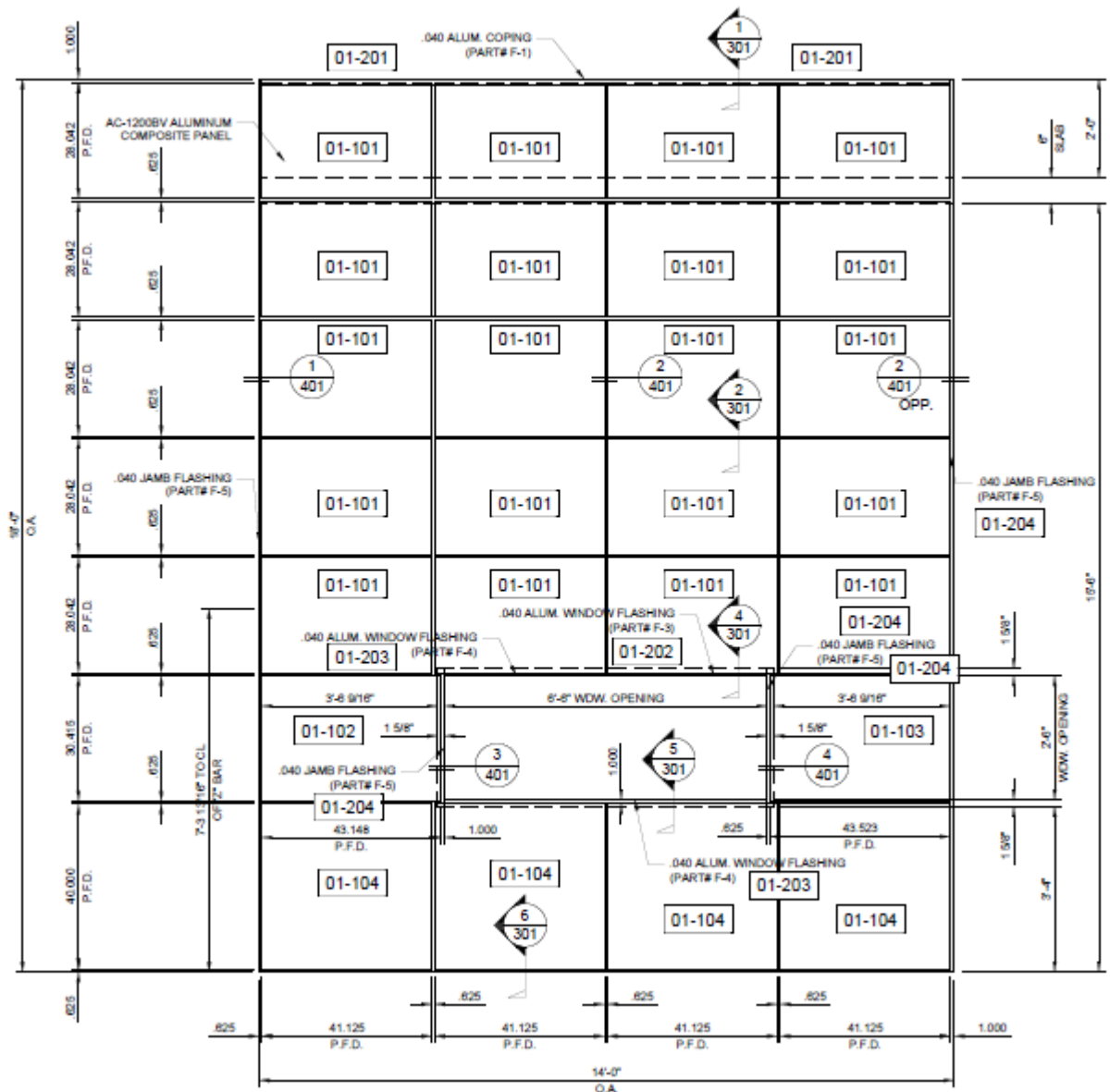
Note: Window Trim Flashing and perimeter flashing note shown for clarity.



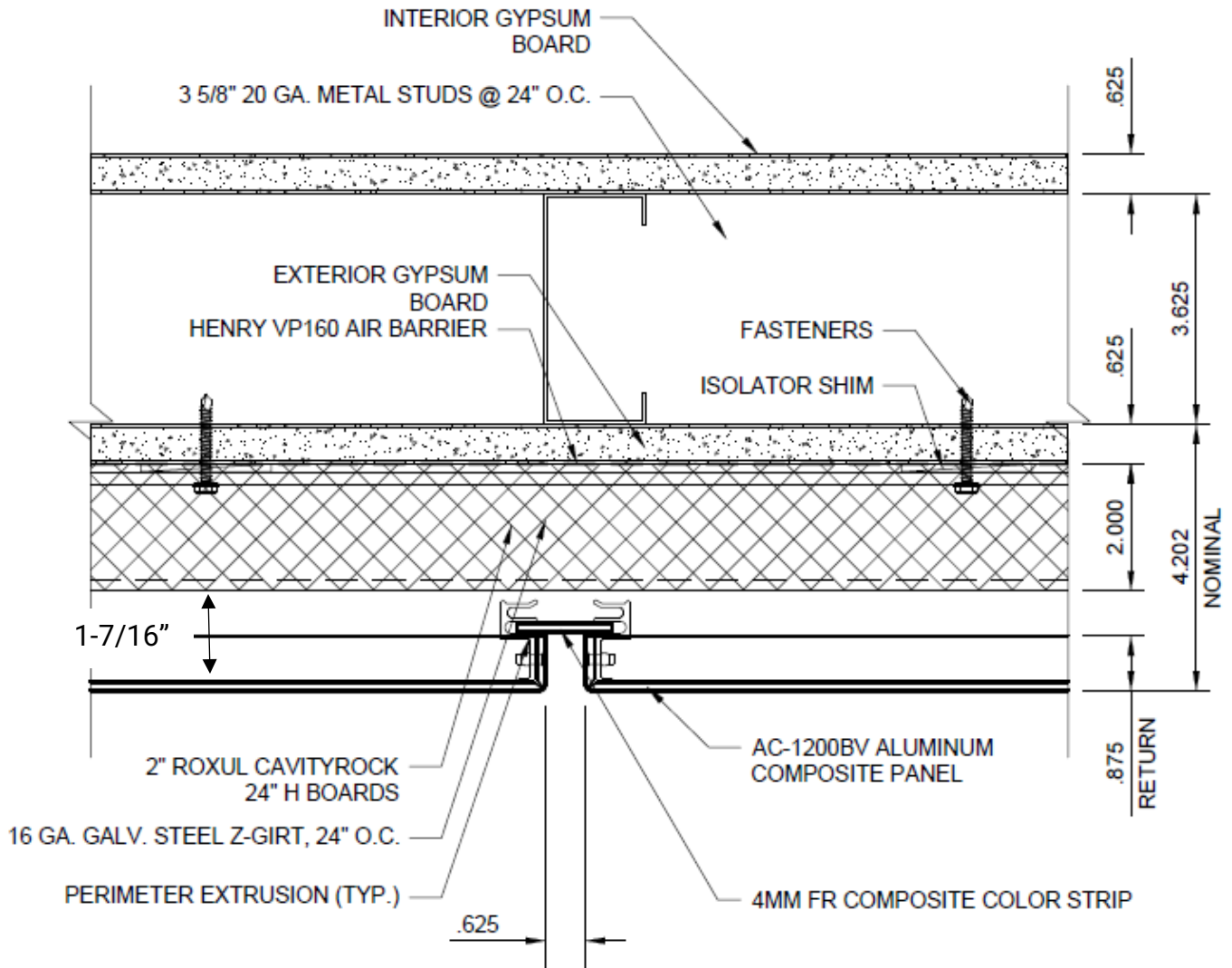
Drawing No. 2
Steel Stud Framing Layout



Drawing No. 3
5/8-in. thick, Type X exterior GWB sheathing layout



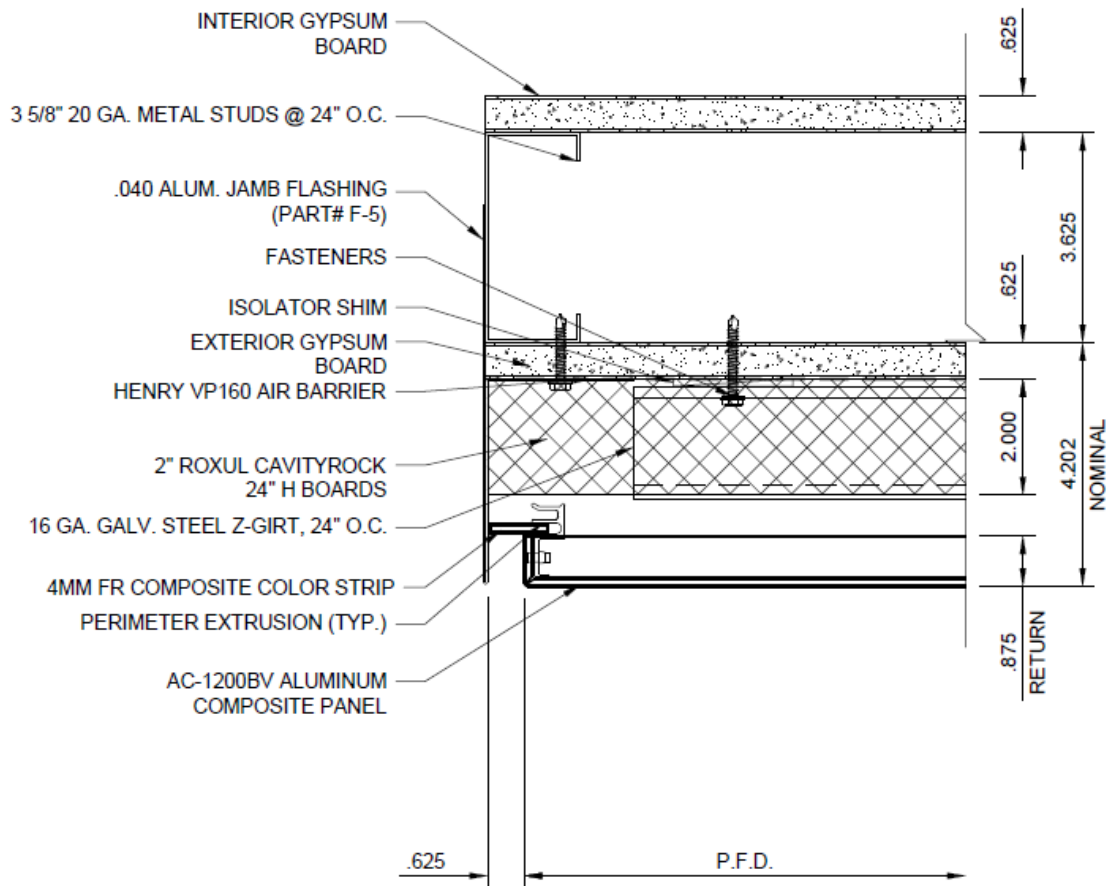
Drawing No. 4
AMERACORE® FR Metal Composite Material (MCM) Panel Layout (Provided by Client)



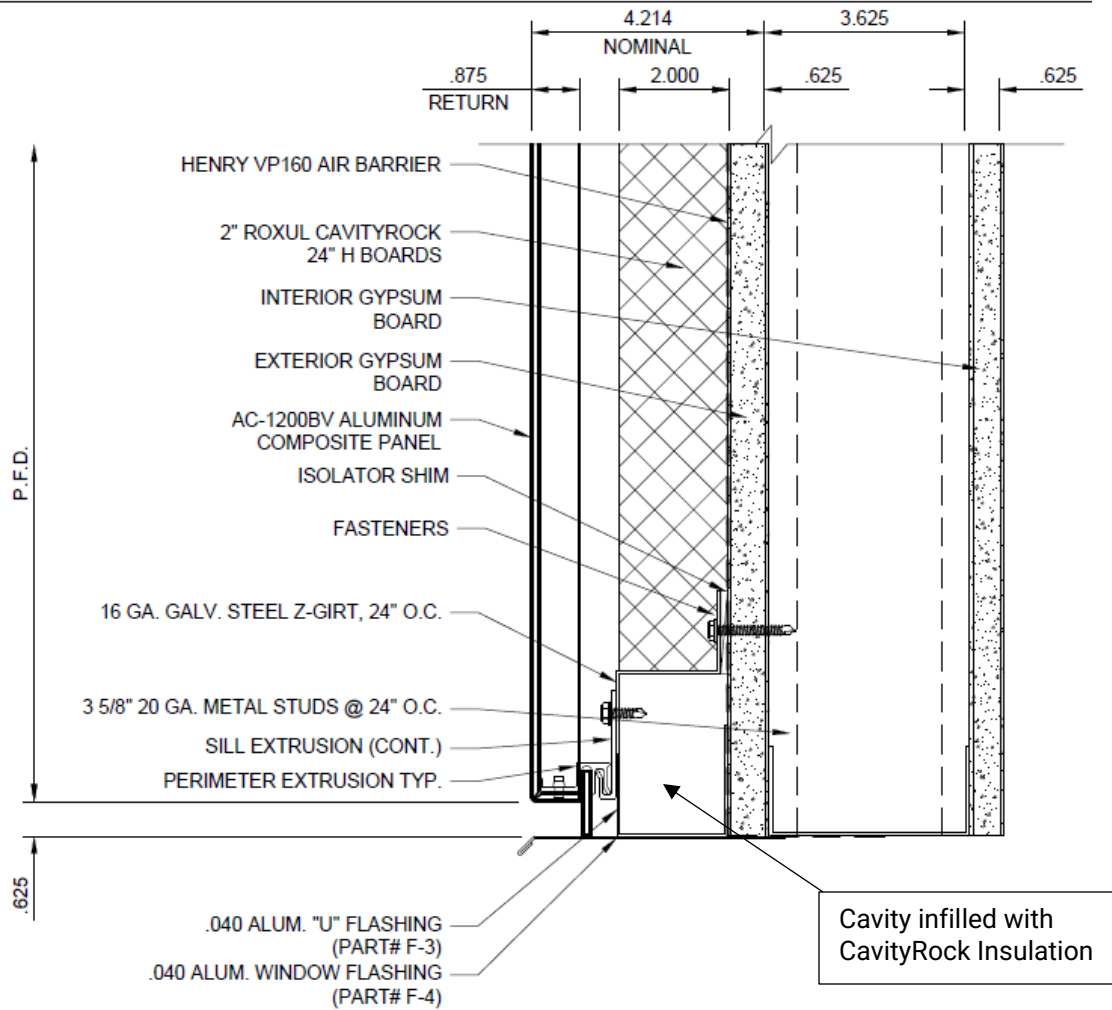
Drawing No. 5

Top View of Assembly Components and Vertical Joint Detail

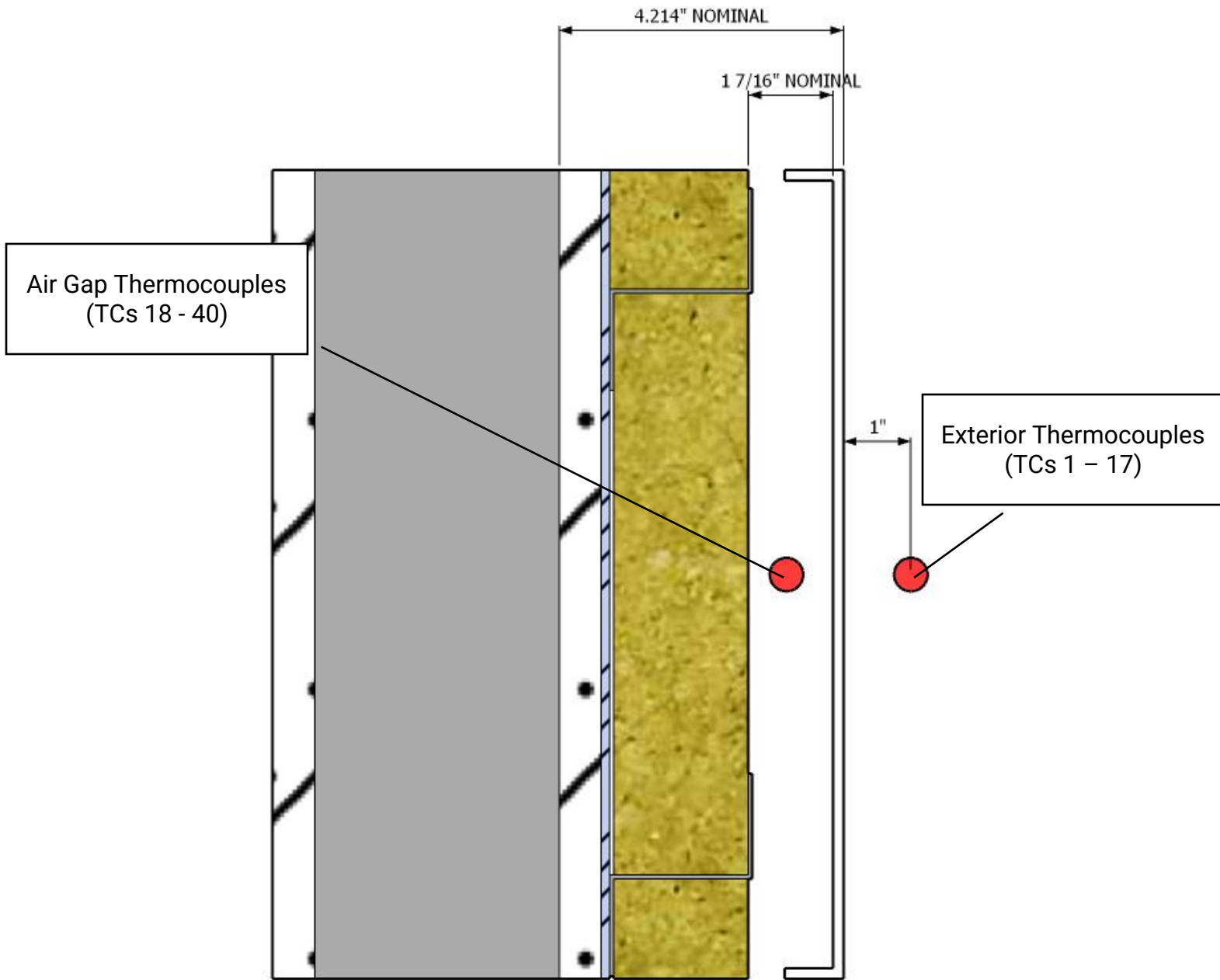
Note: Approximately 1-7/16-inch air cavity detail



Drawing No. 6
Window Opening Jamb Detail



Drawing No. 7
Window Opening Header Detail



Drawing No. 8
Assembly Instrumentation Detail – Complying to Detail H (NFPA 285-25)

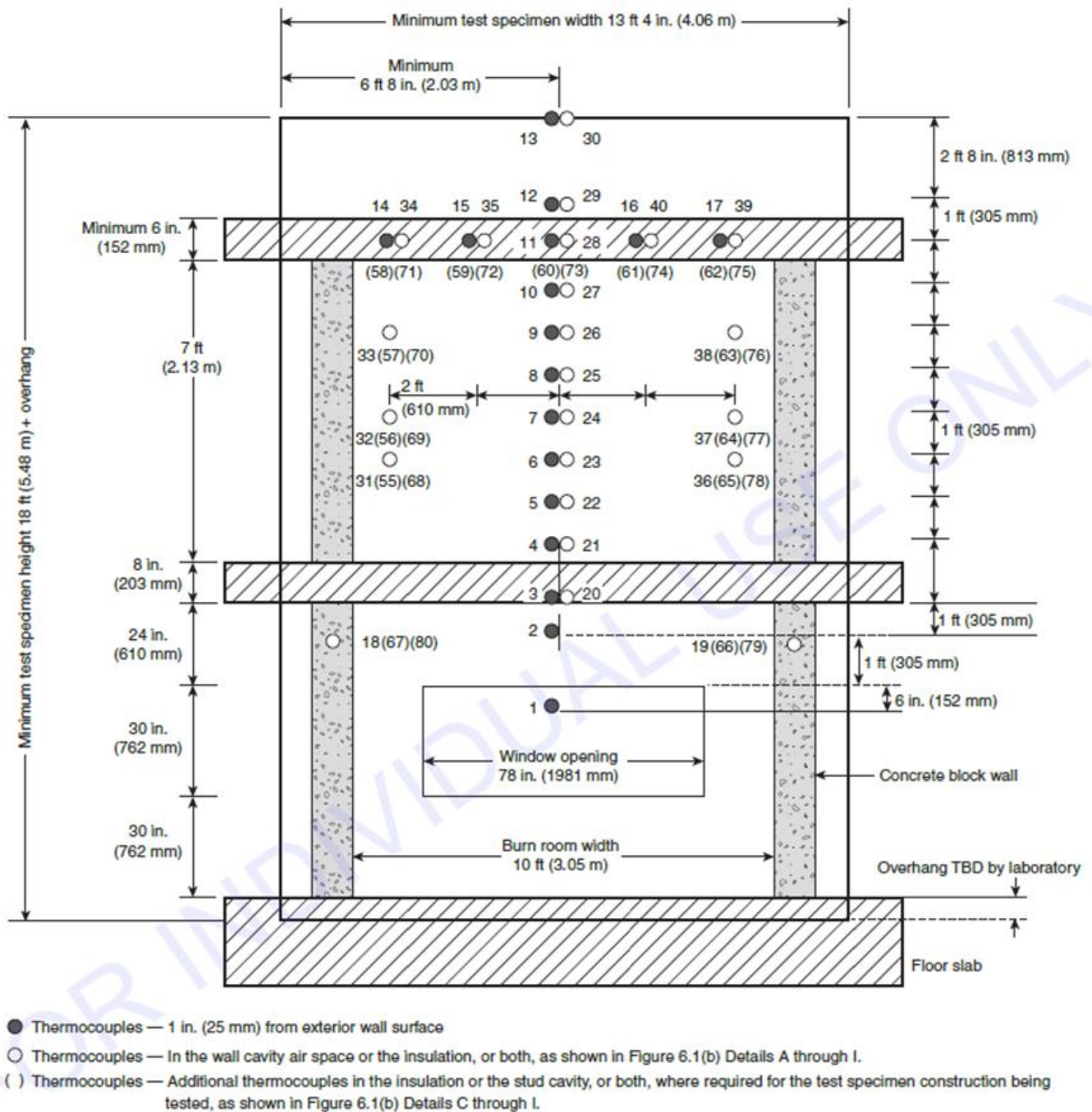


Figure not to scale

Drawing No. 9
Assembly Instrumentation Layout Superimposed over Test Apparatus complying with NFPA 285-25

Appendix D – Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	02/18/2026	N/A	Original report issue