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FIRE PERFORMANCE EVALUATION OF A WALL ASSEMBLY TESTED IN ACCORDANCE WITH NFPA 285, 2012 EDITION, *STANDARD FIRE TEST METHOD FOR FIRE PROPAGATION CHARACTERISTICS OF EXTERIOR NON-LOAD-BEARING WALL ASSEMBLIES CONTAINING COMBUSTIBLE COMPONENTS*

FINAL REPORT REVISED
Consisting of 40 Pages

SwRI® Project No. 01.22384.17.602[1]
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Revised Report Date: August 21, 2019

Prepared for:

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ABSTRACT

Southwest Research Institute's (SwRI) Fire Technology Department, located in San Antonio, Texas, conducted an Intermediate-Scale Multistory Test Apparatus fire performance evaluation test for Grand View Distributions, Corp., located in Vancouver, British Columbia, Canada and Custom Metals Contracting, Ltd., located in Calgary, Alberta, Canada. Testing was conducted on May 18, 2017, on a wall assembly utilizing Custom Metal Contracting Ltd.'s Panel System and Alucolam Aluminum Composite Panel Material, as distributed by Grand View Distribution Corp., Blueskin® SA air and vapor barrier, and other construction materials. This report was revised at the request of the Client. The revisions are made to add construction details, which can be found throughout Section 3.0, Test Assembly.

Testing was performed in accordance with the National Fire Protection Association 285, *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components*, 2012 Edition.

This report contains a description of the test procedure followed, assembly tested, and the results obtained. The results apply specifically to the specimens tested, in the manner tested, and not to similar materials, nor to the performance when used in combination with other materials. The wall assembly **met** the acceptance criteria stated in the standard.

1.0 INTRODUCTION

Southwest Research Institute's (SwRI) Fire Technology Department, located in San Antonio, Texas, conducted an Intermediate-Scale Multistory Test Apparatus (ISMA) fire performance evaluation test for Grand View Distributions, Corp., located in Vancouver, British Columbia, Canada and Custom Metal Contracting Ltd., located in Calgary, Alberta, Canada, on May 18, 2017. Testing was performed in accordance with the National Fire Protection Association (NFPA) 285, *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components,* 2012 Edition. The wall assembly successfully **met** the acceptance criteria stated in the standard. This report was revised at the request of the Client. The revisions are made to add construction details, which can be found throughout Section 3.0, Test Assembly.

This report contains a description of the test procedure followed, assembly tested, and the results obtained. The results apply specifically to the specimens tested, in the manner tested, and not to similar materials, nor to the performance when used in combination with other materials.

2.0 SCOPE

NFPA 285 provides a method of determining the flammability characteristics of exterior, non-load-bearing wall assemblies, which contain combustible components.

The test method is intended to simulate the "full-scale" fire performance of the wall assembly being evaluated. The primary performance characteristics evaluated in this test are the capability of the test wall assembly to resist the following:

1. Flame propagation over the exterior face of the system,
2. Vertical flame spread within the combustible core components from one story to the next,
3. Vertical flame spread over the interior (room side) surface of the wall assembly from one story to the next, and
4. Lateral flame spread from the compartment of fire origin to adjacent spaces.

The above are assessed through visual observations and temperature data obtained during the test.

3.0 TEST ASSEMBLY

SwRI received the test materials from Custom Metal Contracting Ltd., on May 15, 2017. The test material consisted of aluminum composite panels and siding, galvanized steel sub-girts, and fasteners.

Prior to installation of the test material, SwRI personnel constructed a base wall consisting of the following:

- 3⅝-in. C-channel steel studs framed vertically 24 in. on center
- One layer of ½-in. thick Densglass® Gold exterior sheathing, installed horizontally with offset joints
    - Screw spacing is 8 in. on center (O.C.) in the perimeter, 12 in. O.C. in the field
    - Joints were left untreated

- 4-in. thick, 4-pcf - mineral wool fire safing installed within the stud cavity to cover the 8-in. deep second story floor and ceiling cement slabs
- One layer of ⅝-in. thick Type X interior gypsum wallboard installed vertically and finished with 2-in. tape and treated with joint compound compliant to ASTM C475, *Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board*
    - Screw spacing is 8 in. O.C. in the perimeter, 12 in. O.C. in the field

A Blueskin® SA air and vapor barrier was installed over the exterior sheathing layer according to the manufacturer's instruction, using Blueskin® Adhesive, a rubber based primer. Laps were at least 2 in. (51 mm) wide. The sub-girt and panel installation was performed under the supervision of Kelly Anderson, representing Custom Metals Contracting. The galvanized steel sub-girts were installed horizontally and fastened to the wall with one #14 × 1½-in. HWH self-drilling screw at every stud. Each sub-girt extruded from the wall, pointing either up or down, according to the assembly drawing provided by the Client, shown in Appendix D. Figure D-1 and Figure D-2 are the assembly drawings. Figures D-3 through Figure D-7 are part drawings which show the sub-girt and clips. Aluminum j-tracks were connected horizontally to each sub-girt, using #12 × 1-in. pancake head self-drilling screws, and spaced 16-in. on center. The tracks were located at the base of the wall and above the window. Aluminum j-tracks were also connected vertically at the sides of the wall on the exterior facing surface, using two #12 × 1-in. pancake head self-drilling screws at every sub-girt. In addition, 2-in. aluminum clips were fastened at all other horizontal sub-girt levels and vertical joints. The aluminum composite panels were connected to the j-tracks and clips using several variations of aluminum composite slides, shown in Figure D-5 and Figure D-6. Roxul® 2-in. × 8-pcf mineral wool insulation was fastened to the wall assembly to fill the cavity created by the sub-girt, using #8 × 3-in. coarse thread drywall screws and ¼ × 1¼-in. stainless steel washers, spaced according to Custom Metals' standard installation practices.

The window opening perimeter was then finished with aluminum flashing. The perimeter of the wall assembly was capped by the aluminum composite slides connecting the panels to the sub-girt. The test wall assembly for the ISMA test was built into a movable frame system that was installed and secured to the test apparatus. Appendix A provides a sketch of the location of the test wall assembly when mounted to the test apparatus.

4.0 CALIBRATION

NFPA 285, Section 7.2, requires the apparatus to be calibrated (a) initially, prior to the first wall assembly test, (b) when significant changes to the gas flow system are made, (c) within 1 year prior to the test on an actual product wall assembly, or (d) whenever ceramic blanket covering more than 50% of the wall or ceiling surface in the burn room is replaced.

SwRI conducted an ISMA calibration test on November 3, 2016, with the burner regime shown in Table 1. This calibration confirmed the burner regime necessary to reach the required temperatures and heat flux levels.

Table 1. Burner Regime.

Time Interval (min:s)	Room Burner SCFM	Room Burner kW (Btu/min)	Window Burner SCFM	Window Burner kW (Btu/min)
00:00–05:00	37.7	662 (37,684)	–	–
05:00–10:00	37.8	663 (37,759)	7.1	125 (7,138)
10:00–15:00	42.3	743 (42,290)	9.9	174 (9,903)
15:00–20:00	45.5	799 (45,487)	11.4	201 (11,450)
20:00–25:00	45.7	803 (45,706)	13.5	236 (13,451)
25:00–30:00	46.3	813 (46,282)	14.8	261 (14,843)

Table 2 compares the average heat flux data obtained during the calibration test with the allowable heat flux ranges specified in Table 7.1.8 of NFPA 285 for the indicated period.

Table 2. Heat Flux Values for ISMA Calibration (Average Values for Time Period Indicated).

Time (min)		0–5	5–10	10–15	15–20	20–25	25–30
Calorimeter 1 (2 ft above Window, W/cm²)	Range	0.7-1.1	1.5-2.3	2.0-3.0	2.3-3.5	2.7-4.1	3.0-4.6
	Actual	**1.2**	2.2	2.9	3.1	3.7	4.1
Calorimeter 2 (3 ft above Window, W/cm²)	Range	0.8-1.2	1.6-2.4	2.1-3.1	2.6-3.8	3.0-4.4	3.2-4.8
	Actual	1.2	2.2	2.8	3.3	3.6	3.9
Calorimeter 3 (4 ft above Window, W/cm²)	Range	0.6-1.0	1.2-1.8	1.6-2.4	2.0-3.0	2.4-3.6	2.7-4.1
	Actual	**1.2**	**2.1**	**2.7**	**3.1**	3.4	3.7

Notes: Window Burner's centerline placed 1 in. away from the face of wall assembly. Values in bold are outside the required range.

Table 3 compares the average temperature data obtained during the calibration test with the allowable temperature range specified in Table 7.1.8 of NFPA 285 for the indicated time period. The allowable temperature range is ± 10% of the temperature values specified in Table 7.1.8.

Table 3. Average Temperature Values for ISMA Calibration (Average Values for Time Period Indicated).

Time (min)		0–5	5–10	10–15	15–20	20–25	25–30
Burner Room Average of 5 TCs (ºF)	Range	1036–1266	1211–1481	1334–1630	1440–1760	1437–1757	1483–1813
	Actual	1184	1347	1483	1582	1620	1647
Interior Wall Surface Average of 3 TCs (ºF)	Range	959–1172	1168–1428	1290–1576	1420–1736	1418–1734	1490–1821
	Actual	1106	1289	1421	1532	1582	1621
1 ft above Window (ºF)	Range	542–662	782–957	857–1047	893–1091	941–1151	970–1186
	Actual	**668**	922	1020	1080	1123	1157
2 ft above Window (ºF)	Range	611–747	914–1117	1009–1233	1065–1301	1121–1370	1166–1426
	Actual	699	961	1055	1109	1155	1189
3 ft above Window (ºF)	Range	581–711	874–1068	986–1206	1057–1291	1121–1370	1183–1445
	Actual	665	948	1054	1124	1167	1209
4 ft above Window (ºF)	Range	519–635	772–944	884–1080	957–1169	1022–1249	1102–1346
	Actual	599	863	977	1065	1119	1175
5 ft above Window (ºF)	Range	469–573	689–842	788–963	854–1044	906–1108	995–1217
	Actual	516	751	868	964	1016	1075
6 ft above Window (ºF)	Range	425–519	621–759	708–866	770–942	822–1004	909–1111
	Actual	468	673	783	881	929	980

Notes: Window Burner placed 1 in. away from face of wall assembly. Values in bold are outside the required range.

In summary, the calibration test provides documented evidence that SwRI's ISMA successfully demonstrated the ability to achieve the fire exposure conditions specified in NFPA 285, and that the facility can perform the fire evaluation described in NFPA 285.

5.0 INSTRUMENTATION

No instrumentation layout is detailed in NFPA 285, specifically for the type of wall assembly described within this report. The most representative instrumentation layout is illustrated in Detail G of Figure 6.1(b) of NFPA 285. The instrumentation layout of the tested system included TCs installed 1 in. off the front face of the aluminum composite panel system and at the midpoint of the air gap inside the aluminum composite panels. The TC locations for this test are summarized by the following diagrams:

- Exterior surface and core of wall assembly, as shown in Figure A-2.
- Interior face of observation room, as shown in Figure A-3.
- Burn room ceiling area, as shown in Figure A-4.
- Profile view illustrating exterior surface and wall assembly core TCs, as shown in Figure A-5.

The temperature measurements were made using 18-ga, Type "K" TCs in the burn room and 20-ga, Type "K" TCs in all other locations. All data was recorded at intervals not exceeding 15 s. Flow rate of natural gas to each of the burners was monitored and recorded using turbine meters and frequency converters.

6.0 TEST PROCEDURE

Testing was conducted on May 18, 2017, in accordance with NFPA 285. Prior to testing, instrumentation connections were verified, and the window burner was positioned such that the vertical centerline of the window burner was offset 1 in. from the exterior face of the test wall assembly. The test conditions were recorded as an ambient temperature of 76.2 °F and a relative humidity of 82.5% on May 18, 2017. The airflow across the exterior face of the test assembly was less than 4 ft/s as determined by an anemometer placed at right angles to the exterior face.

Documentation for the test consisted of digital photographs taken of the test wall assembly during the test, and during post-test to include dissection of the test assembly. Color video of the exterior face of the test wall assembly was taken prior to, during, and post-test. Color video of the test wall/floor intersection in the second-floor level was taken during the test period. Information from the second-floor video is used to assist in determination of flame penetration and/or smoke development.

7.0 TEST RESULTS

The ISMA performance evaluation test for Grand View Distributions, Corp. and Custom Metal Contracting Ltd. was performed on May 18, 2017. Visual observations made during the test appear in Tables 4 and 5. Flame propagation observations are based on sustained flames on the surface of the wall. Intermittent flaming above the sustained flames is not considered for estimating the extent of flame propagation.

Table 4. Test Observations of Front Wall.

Time (min:s)	Visual Observations
0:00	Test begins at 10:22 a.m.
1:25	Flashing is starting to droop.
1:55	Flashover occurs at the window.
3:58	Window burner is ignited away from the wall.
5:02	Window burner is in place.
7:17	Flashing is melting.
8:36	Pieces fall from the flashing into the burn room.
10:30	Panels at vertical centerline are starting to ripple.
19:45	Melted flashing falls onto the window burner.
22:30	Sustained flames reach 8 ft height measured from furnace floor.
23:40	Wall core is flaming.
24:25	Panel above the window partially disengages connection with rest of wall.
24:50	A section of the panel approximately 2 ft in height, located above the window, detaches and falls off.
27:55	Sustained flames reach 10 ft height measured from furnace floor.
28:30	Panel located immediately above window is hanging off the wall.
30:00	Burners turned off. Test terminated.
31:22	Residual flames reach 10 ft height measured from furnace floor.
40:00	Recording period is terminated. Residual flames are extinguished.

Table 5. Test Observations of Second-Floor Room.

Time (min:s)	Visual Observations
0:00	Start of Test. Visibility in observation room at 100%.
10:00	Visibility in observation room at 60%.
15:00	Visibility in observation room at 50%.
20:00	Visibility in observation room at 30%.
25:00	Visibility in observation room at 0%.
30:00	End of test. Visibility in observation room at 0%.

The following sections outline the performance of the wall assembly with respect to the conditions of acceptance detailed in NFPA 285.

7.1.1 Flame Propagation, Exterior Face of Wall Assembly:

1. TCs 11 and 14–17 did not exceed 1000 °F at any time during the test.
2. Flames emitting from the surface of the exterior face did not reach a vertical elevation of 10 ft above the top of the window opening at any time during the test.
3. Flames emitting from the surface of the exterior face did not reach a lateral distance of 5 ft from the vertical centerline of the window opening any time during the test.

7.1.2 Flame Propagation, Core Components:

1. The temperatures in the air cavity inside the aluminum composite panels, as measured by TCs 28 and 31–40, did not exceed 1000 °F at any time during the test.

7.1.3 Flame Propagation, Beyond First-Story Test Room:

1. Flames did not occur over the surface of the exterior face beyond the concrete block walls or beyond the intersection of the test wall assembly, and the concrete block fixture walls.
2. Lateral temperatures of the air cavity inside the aluminum composite panels, as measured by TCs 18 and 19, did not exceed 1000 °F at any time during the test.

7.1.4 Temperatures in Second-Story Test Room:

1. Temperatures 1 in. from the interior surface of the wall assembly within the second floor test room, as measured by TCs 49–54, did not exceed 500 °F above the ambient temperature at any time during the test.

7.1.5 Flames in Second-Story Test Room:

1. Review of the pertinent TC data, second-floor videotape, and post-test inspection indicated that flame propagation did not occur in the second story test room at any time during the test.

Appendix A contains diagrams detailing the instrumentation and construction of the wall assembly. See Appendix B for photographic documentation of the test and post-test inspection. Graphical temperature data can be located in Appendix C. Appendix D contains Client-provided drawings detailing the components and the assembly instructions of the aluminum composite panel system on the test wall.

8.0 CONCLUSION

SwRI's Fire Technology Department, located in San Antonio, Texas, conducted an ISMA fire performance evaluation test for Grand View Distributions, Corp., located in Vancouver, British Columbia, Canada, and Custom Metal Contracting Ltd., located in Calgary, Alberta, Canada. The test performed on May 18, 2017, was conducted on a wall assembly utilizing Custom Metal Contracting Ltd.'s Panel System and Alucolam Aluminum Composite Panel Material, as distributed by Grand View Distribution Corp., Blueskin® SA air and vapor barrier, and other construction materials. Using the methods described in this report on the wall constructed as described in this report, it was shown that the wall assembly **met** the acceptance criteria stated in the NFPA 285 standard.

APPENDIX A

TEST ASSEMBLY DRAWINGS AND INSTRUMENTATION LAYOUT

(CONSISTING OF 3 PAGES)

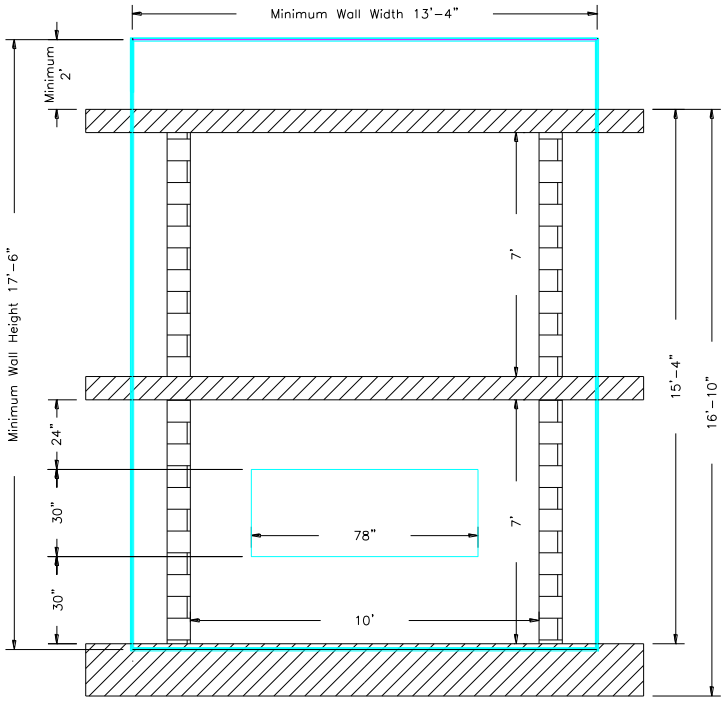


Figure A-1. Front View of Wall System in Place on Test Structure.

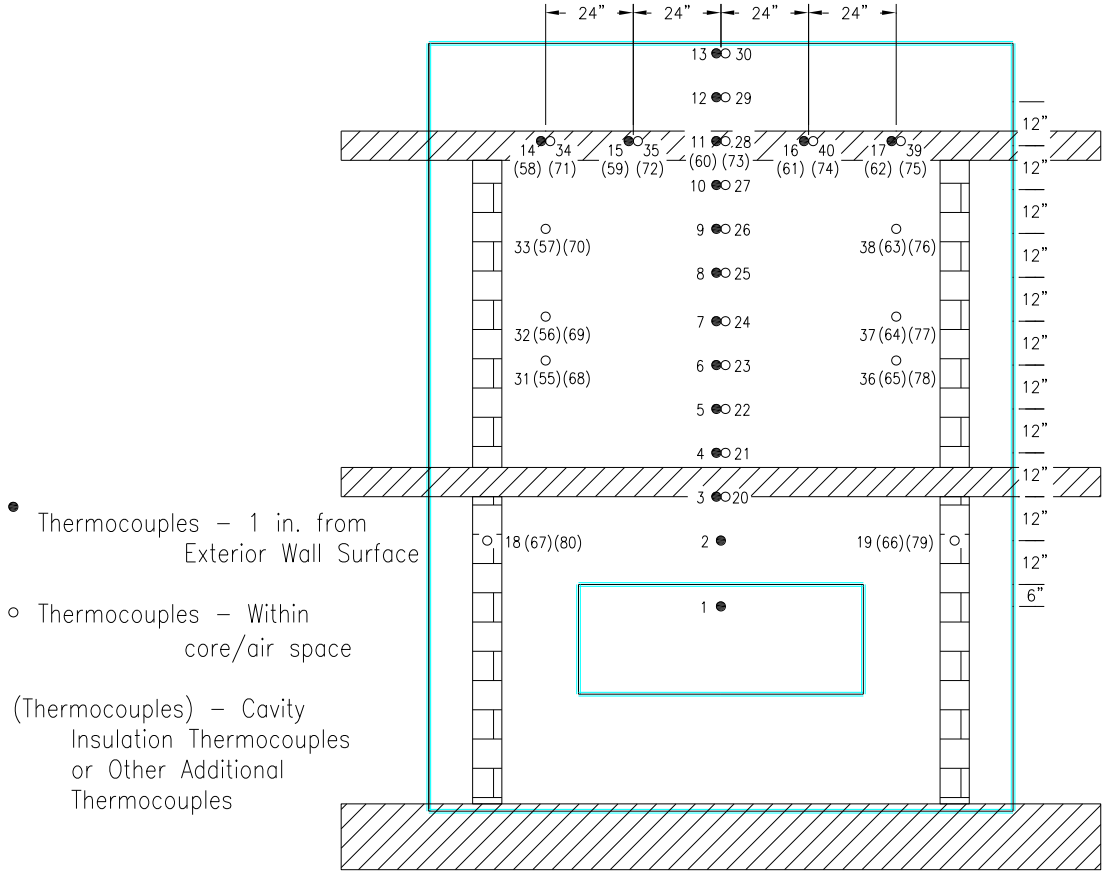


Figure A-2. Instrumentation Arrangement (Exterior Face, Air Cavity, and Extra TCs if Needed).

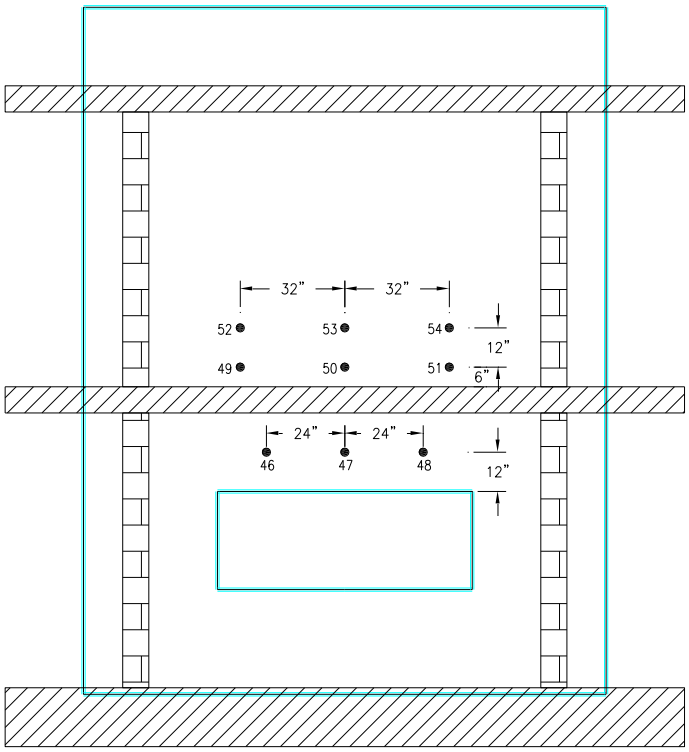


Figure A-3. Instrumentation Arrangement (Interior Face of Wall Assembly on Second Floor Room and Burn Room).

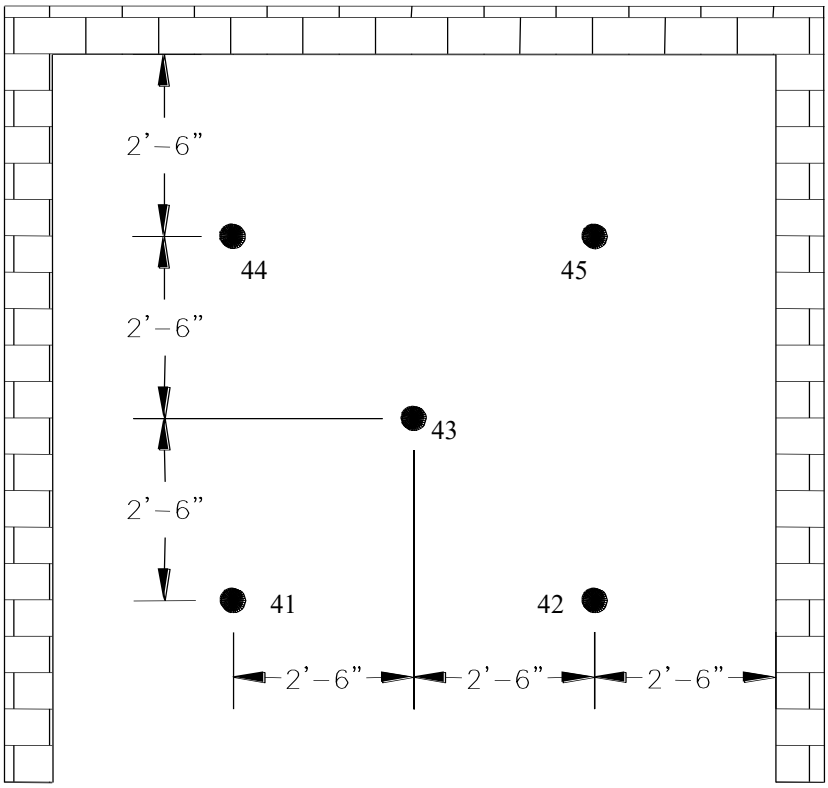


Figure A-4. Instrumentation Arrangement (Burn Room Ceiling).

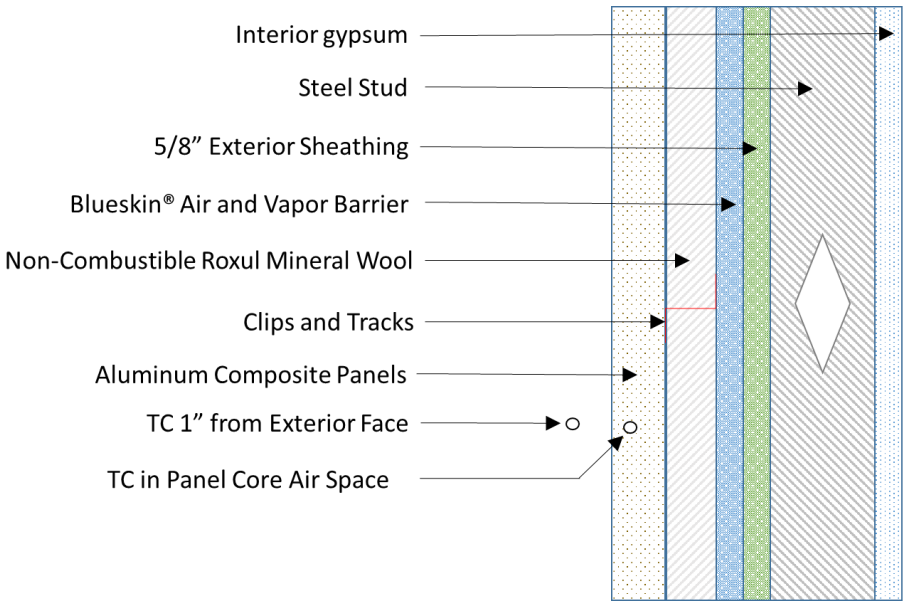


Figure A-5. Instrumentation Arrangement – Profile View System (TCs on Exterior Face and Within Wall Core).

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

(CONSISTING OF 11 PAGES)

Figure B-1. Metal Stud Framing of Wall Assembly.

Figure B-2. Installation of Blueskin® SA Air and Vapor Barrier.

Figure B-3. Aluminum Composite Panel Installation.

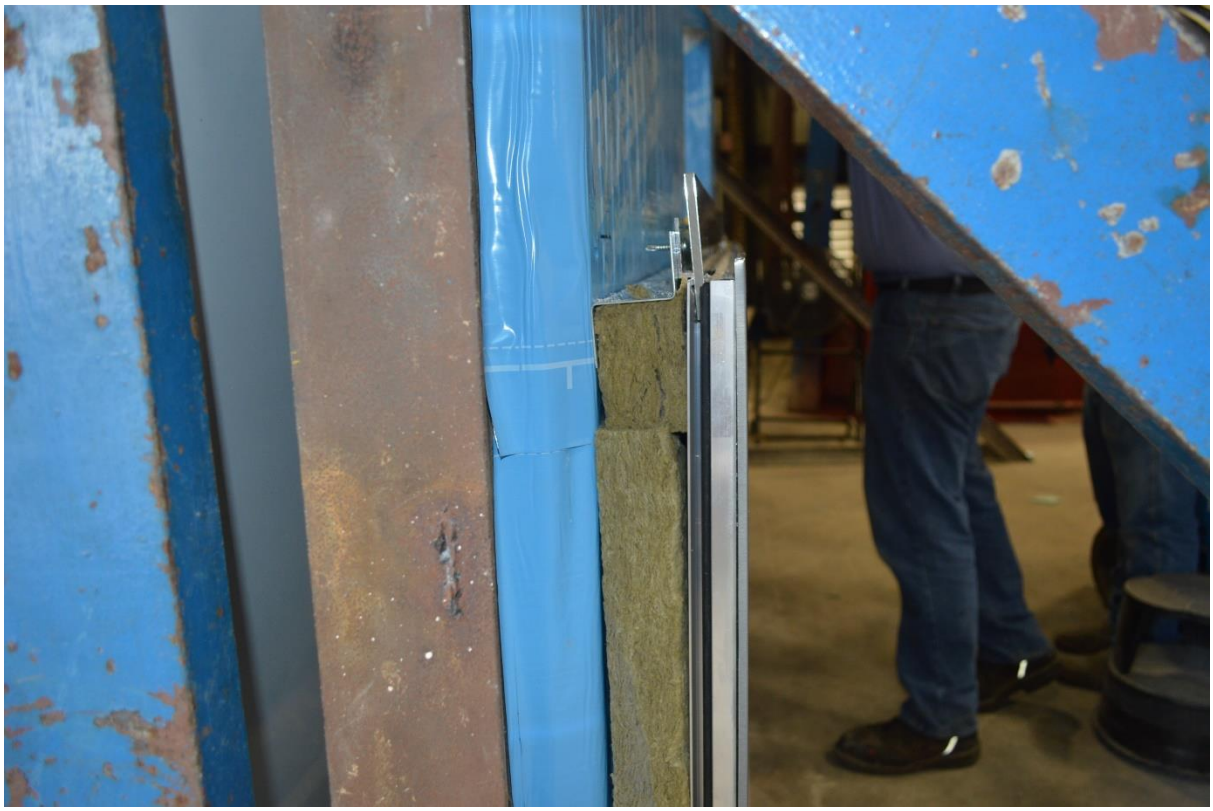


Figure B-4. Clip and Slide and Mineral Wool inside Sub-Girt Air Space.

Figure B-5. Instrumented Exterior Face of Wall.

Figure B-6. Interior View of Second Story prior to Test.

Figure B-7. Exterior View of Wall Assembly at Start of Test.

Figure B-8. Exterior View of Wall Assembly 6 min into Test.

Figure B-9. Exterior View of Assembly 8 min 5 s into Test.

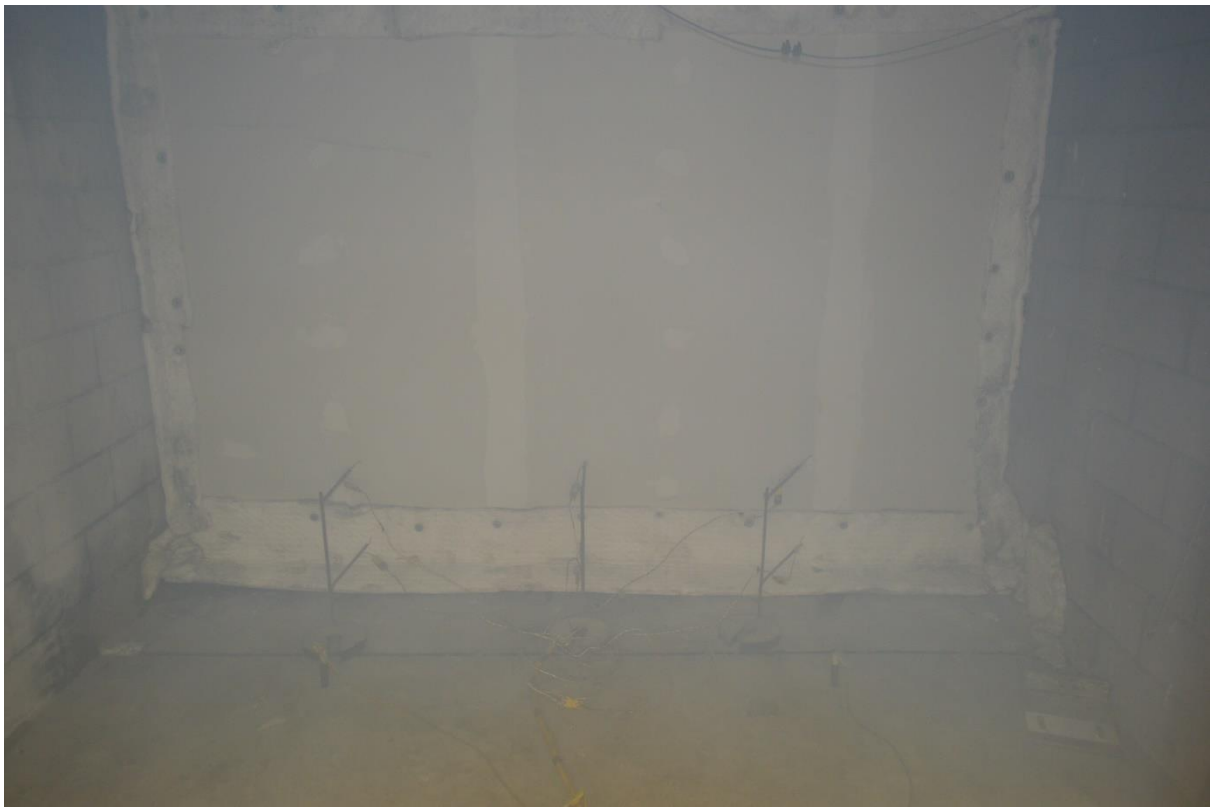


Figure B-10. Interior View of Second Story Approximately 10 min into Test.

Figure B-11. Interior View of Second Story Approximately 15 min into Test.

Figure B-12. Exterior View of Wall Assembly Approximately 19 min into Test.

Figure B-13. Interior View of Second Story Approximately 20 min into Test.

Figure B-14. Exterior View of Wall Assembly Approximately 27 min into Test.

Figure B-15. Exterior View of Wall Assembly and Residual Flames after Burn Period.

Figure B-16. Exterior Face of Wall Assembly 8 min after Burn Period.

Figure B-17. Exterior Face of Wall Assembly immediately after Testing.

Figure B-18. Mineral Wool Insulation after Fire Exposure.

Figure B-19. Interior Face of Aluminum Composite Panels Posttest.

Figure B-20. Exterior View of Blueskin® SA Air and Vapor Barrier.

Figure B-21. Interior Face of Wall Assembly in Burn Room.

APPENDIX C

GRAPHICAL TEMPERATURE DATA

(CONSISTING OF 6 PAGES)

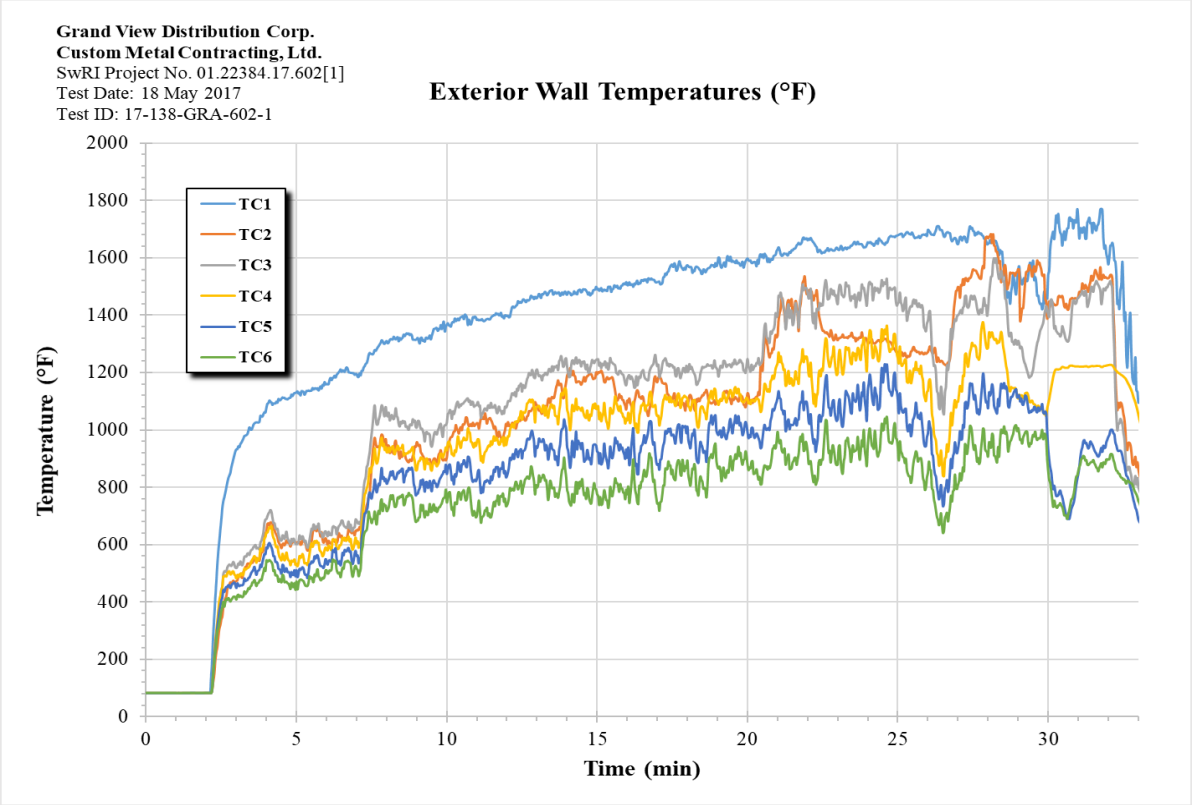


Figure C-1. Exterior Wall Temperatures (TCs 1–6).

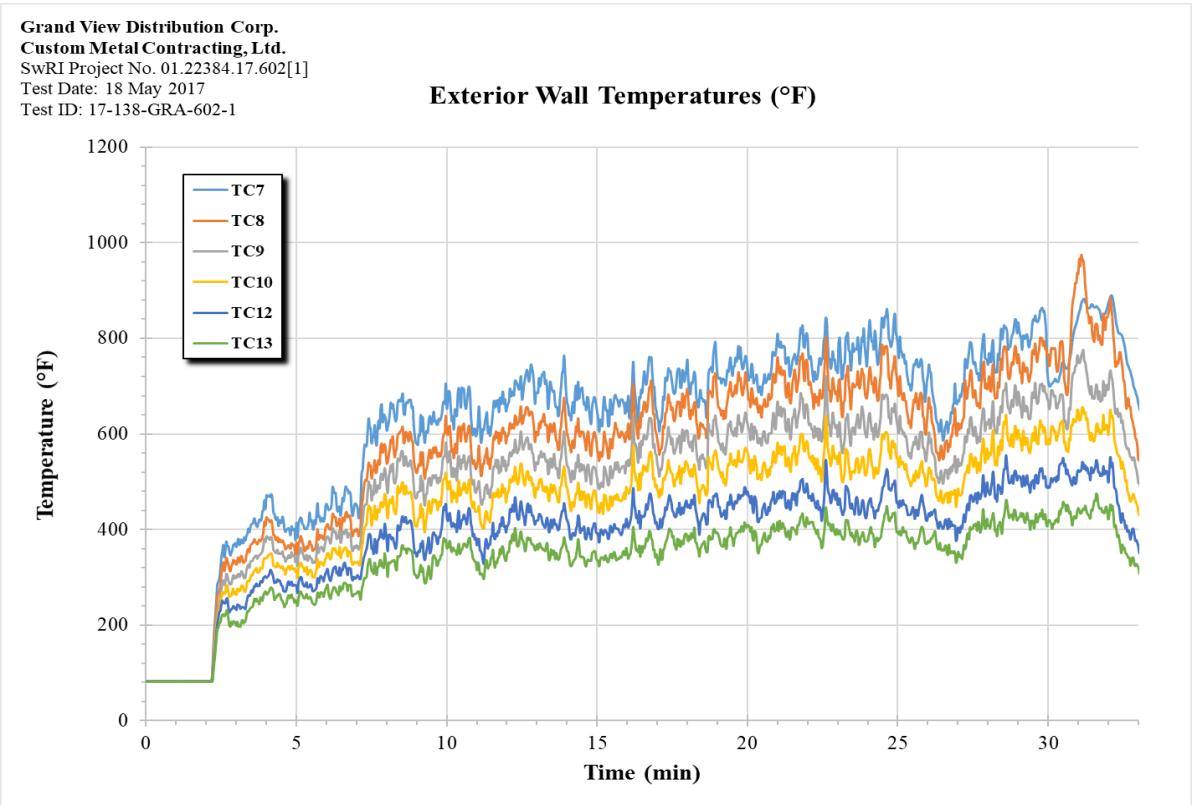


Figure C-2. Exterior Wall Temperatures (TCs 7–10, 12, and 13).

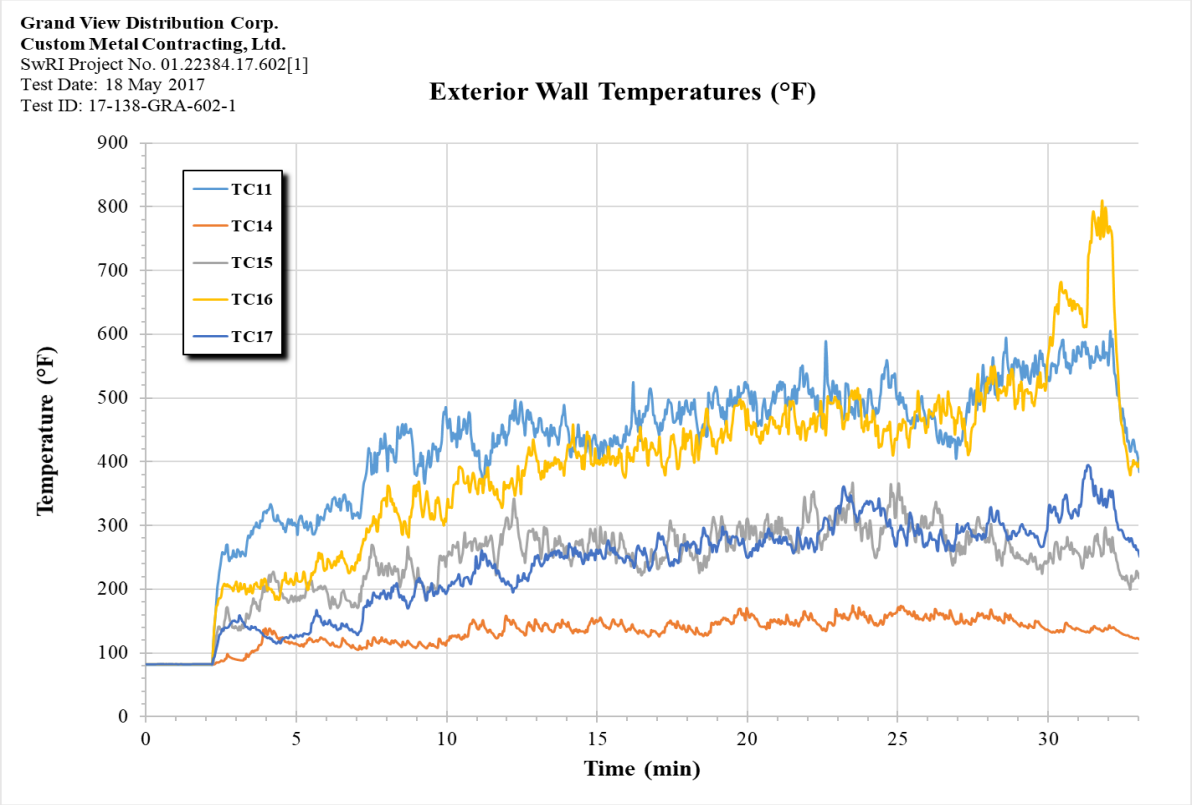


Figure C-3. Exterior Wall Temperatures (TCs 11 and 14–17).

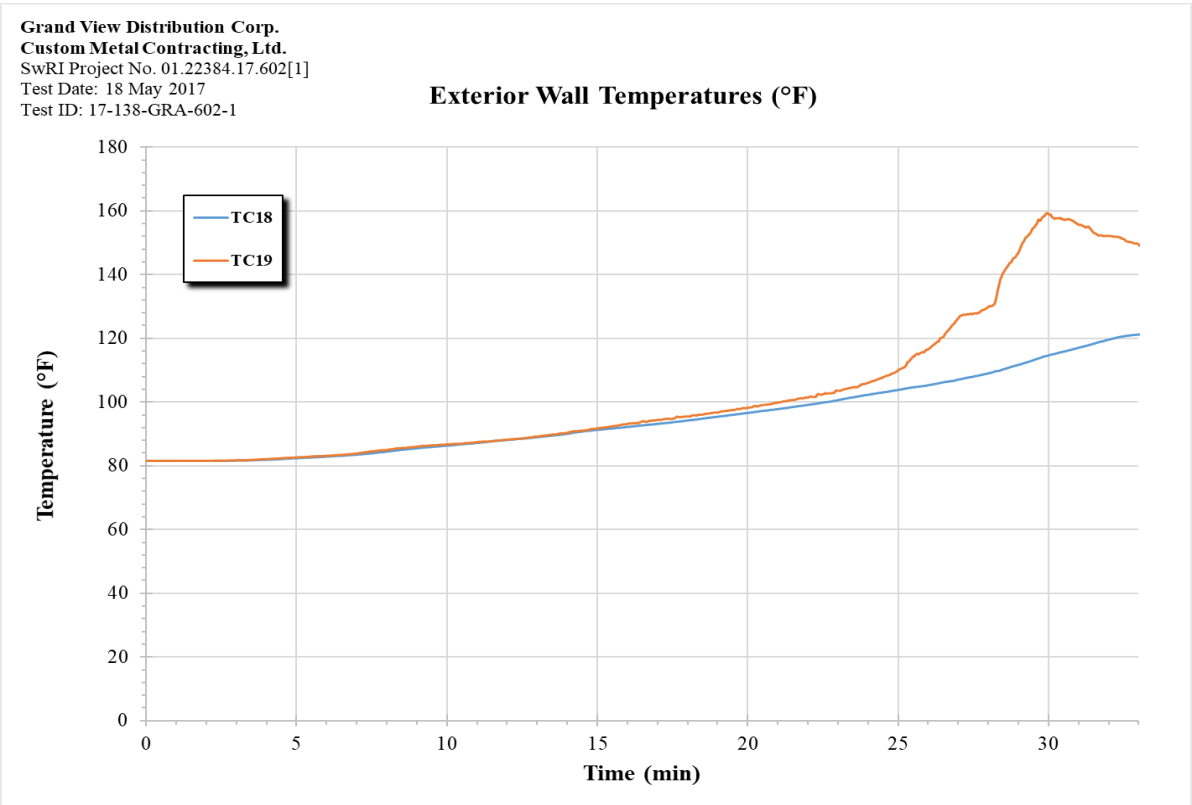


Figure C-4. Exterior Wall Temperatures (TCs 18 and 19).

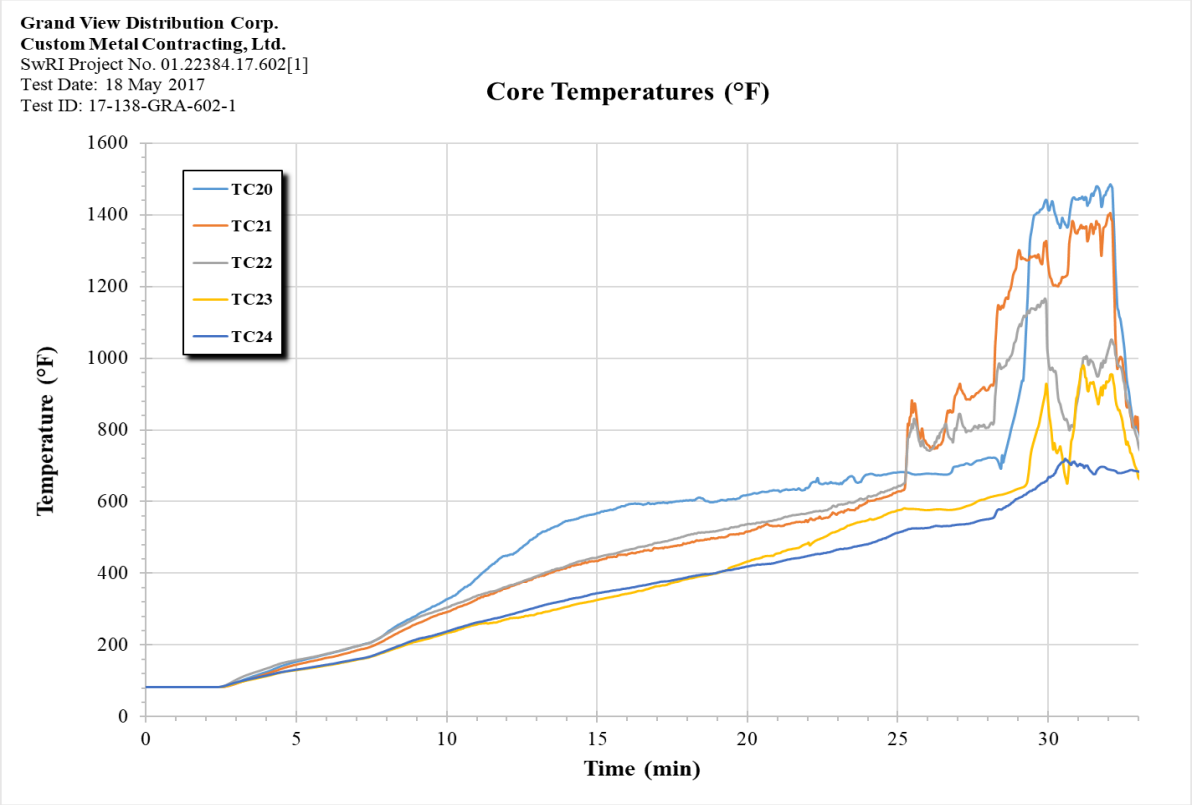


Figure C-5. Core Temperatures (TCs 20–24).

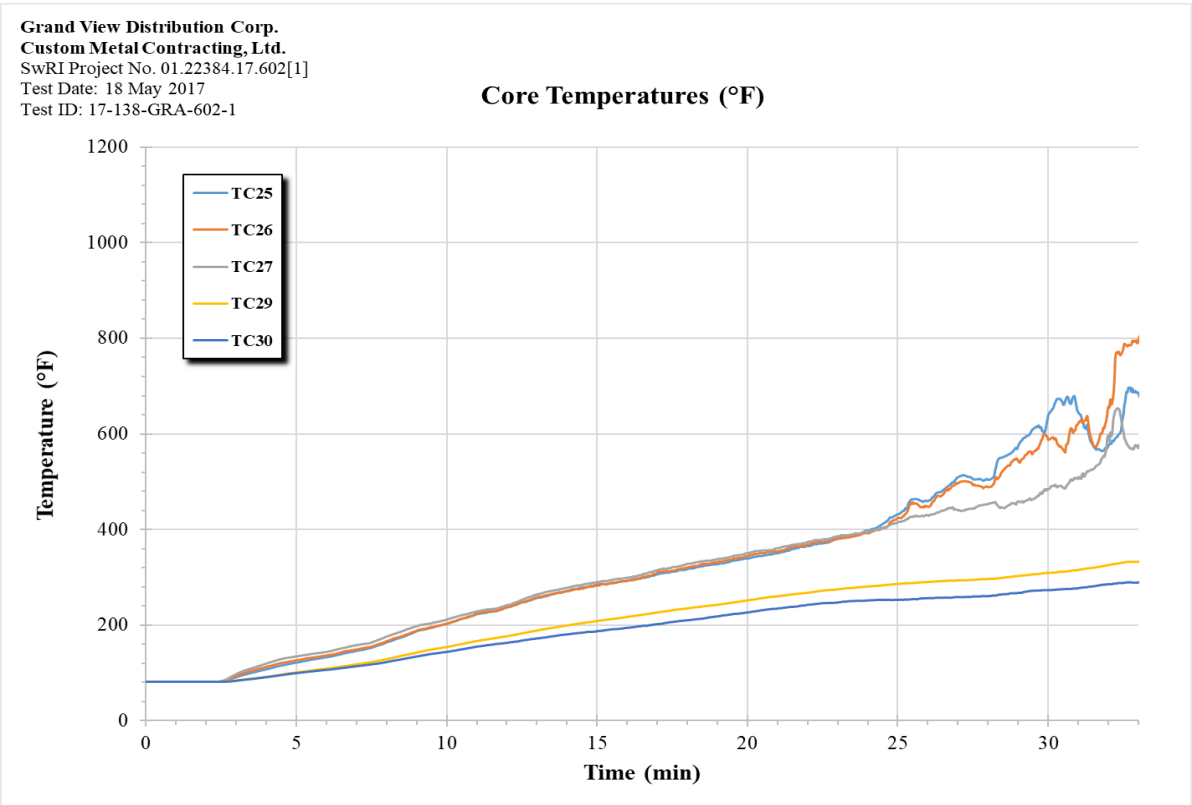


Figure C-6. Core Temperatures (TCs 25–27, 29, and 30).

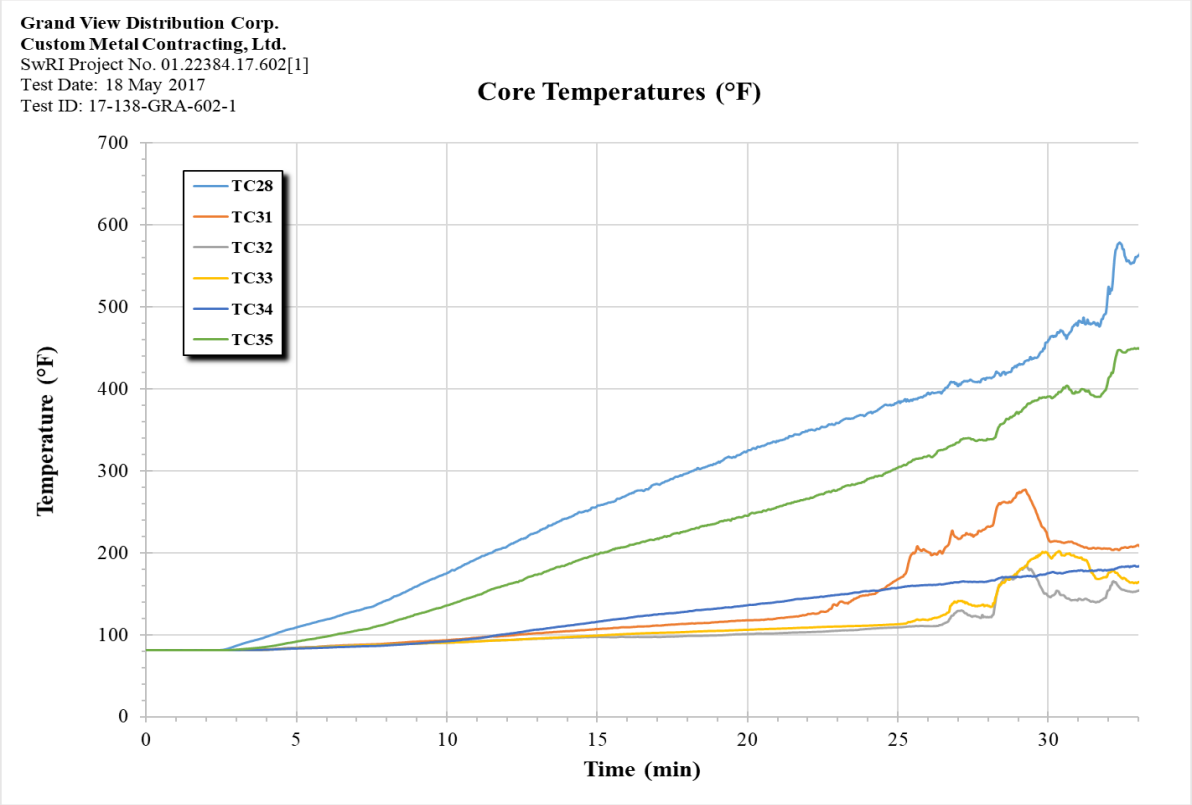


Figure C-7. Core Temperatures (TCs 28 and 31–35).

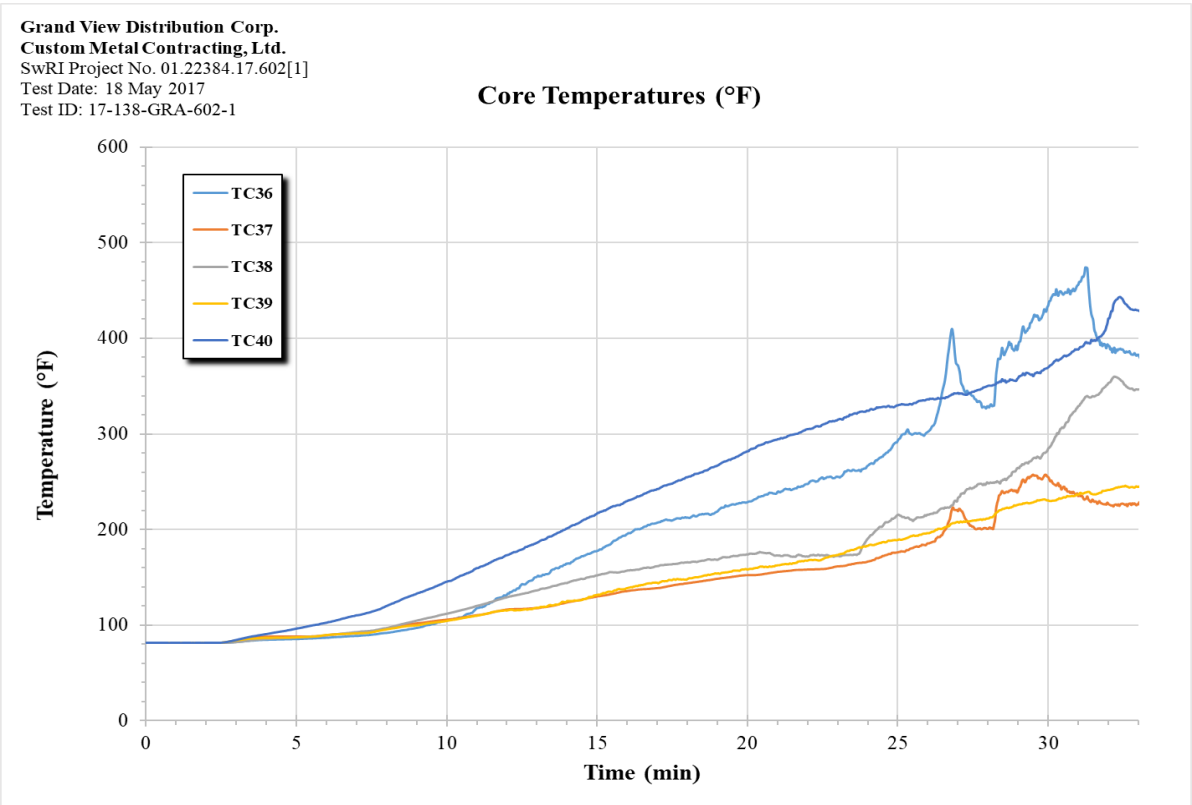


Figure C-8. Core Temperatures (TCs 36–40).

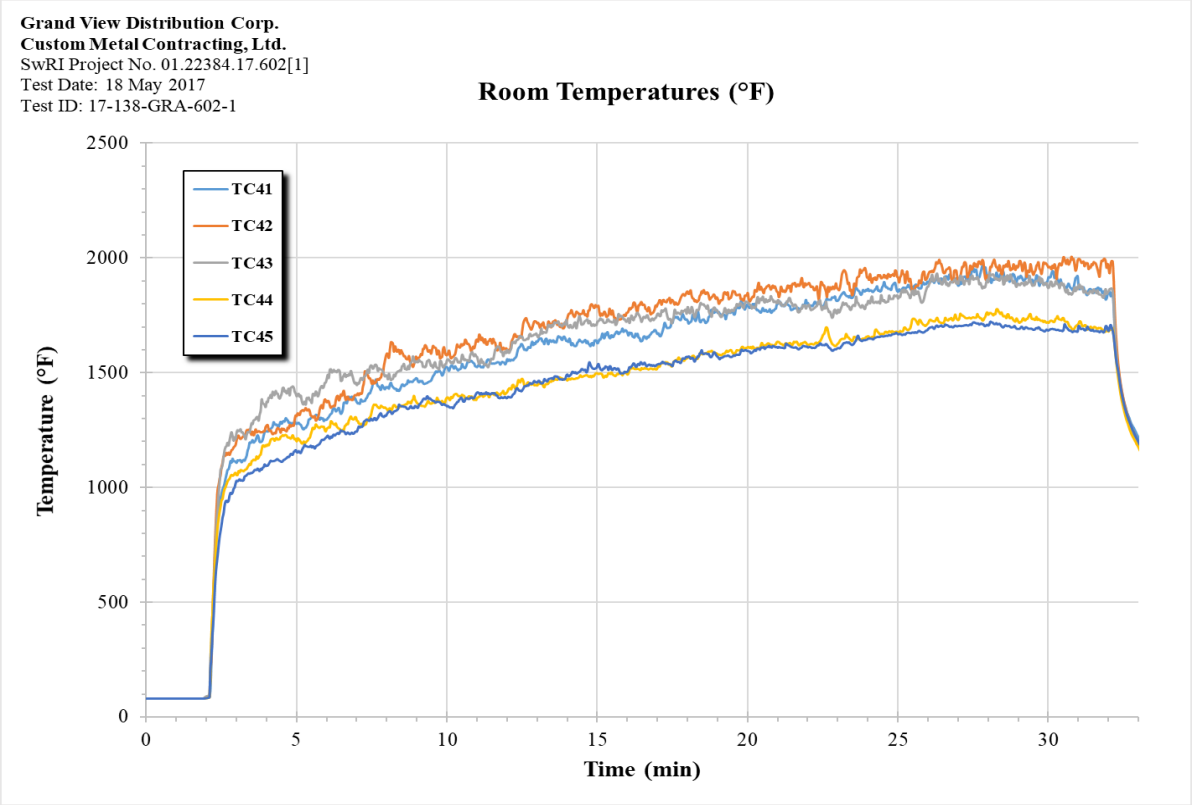


Figure C-9. Room Temperatures (TCs 41–45).

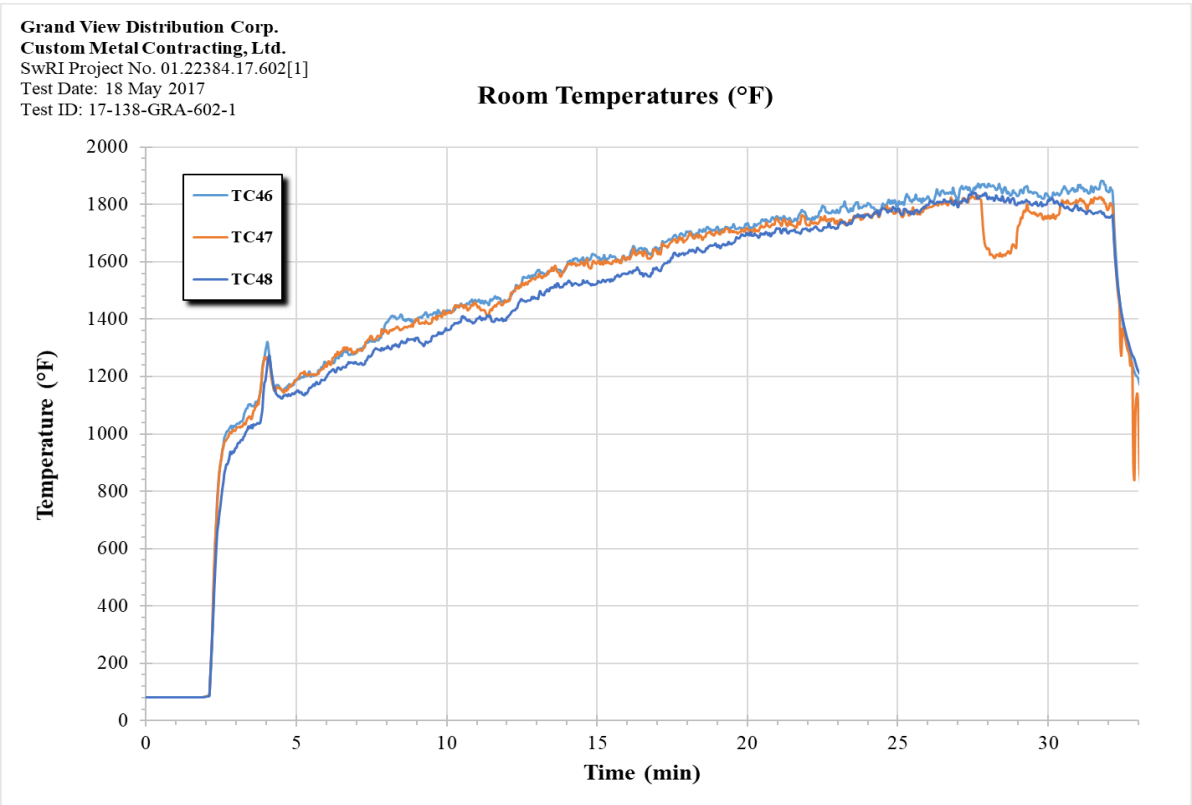


Figure C-10. Room Temperatures (TCs 46–48).

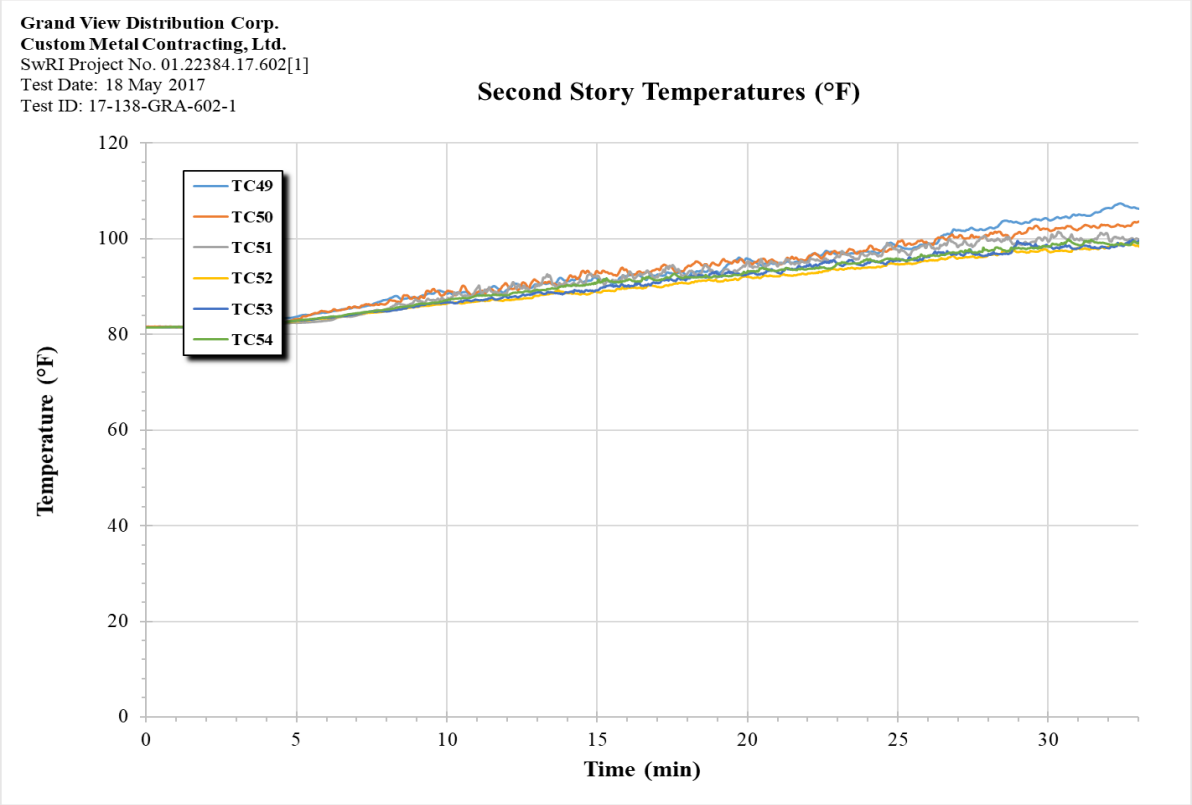


Figure C-11. Second Story Temperatures (TCs 49–54).

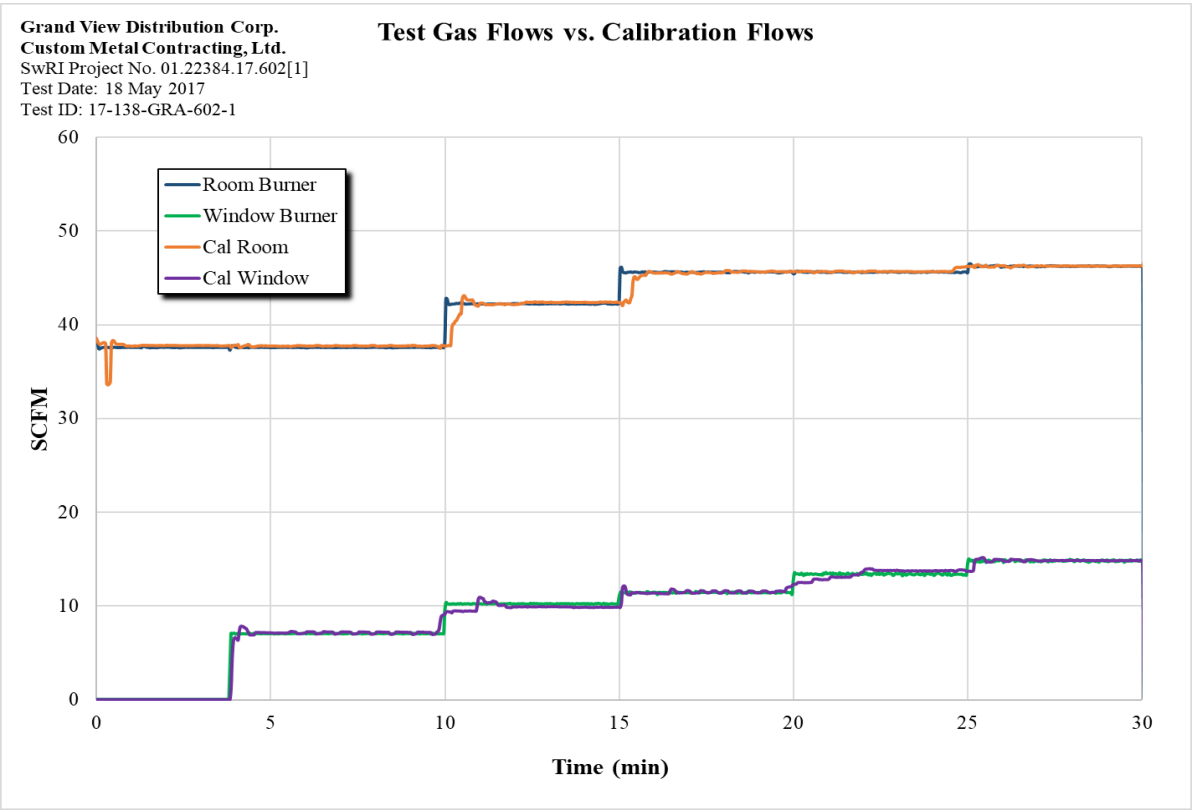


Figure C-12. Gas Flows.

APPENDIX D

CLIENT-PROVIDED DRAWINGS

(CONSISTING OF 7 PAGES)

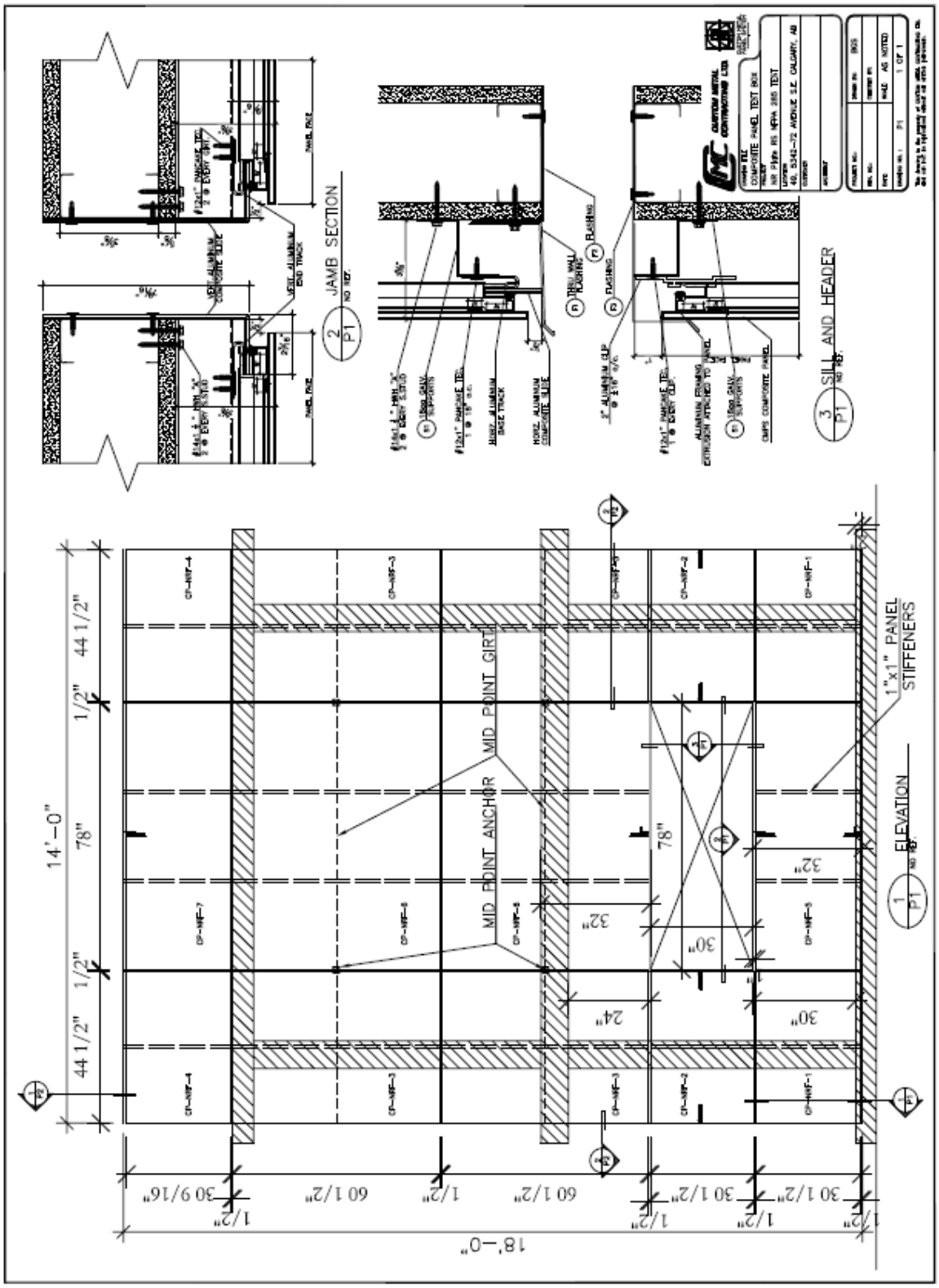


Figure D-1. Client-Provided Drawing.

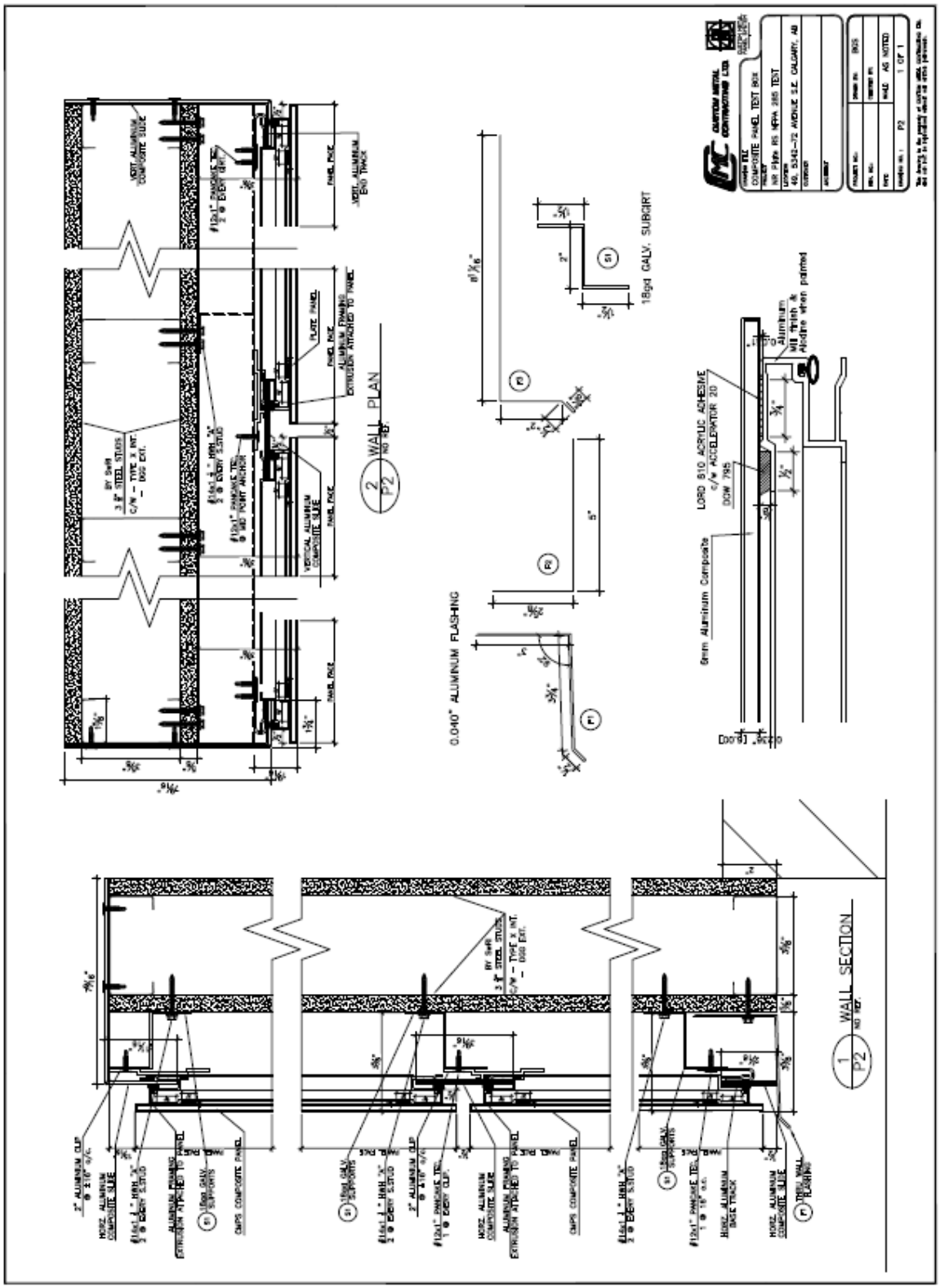
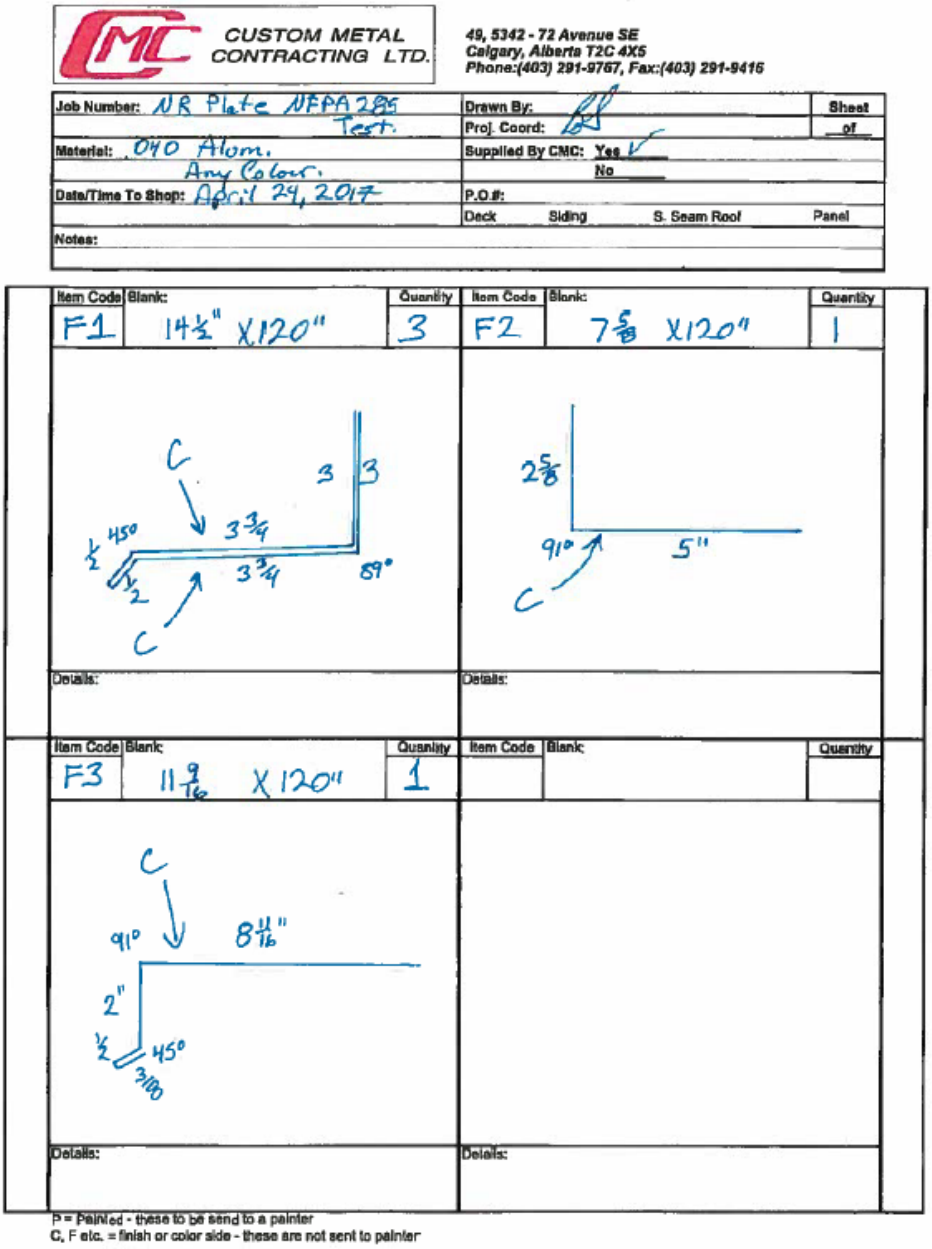


Figure D-2. Client-Provided Drawing.



CUSTOM METAL CONTRACTING LTD.

49, 5342 - 72 Avenue SE
Calgary, Alberta T2C 4X5
Phone:(403) 291-9767, Fax:(403) 291-9416

Job Number: NR Plate NFPA 285 Test.
Drawn By:
Proj. Coord:
Sheet of
Material: .040 Alum. Any Colour.
Supplied By CMC: Yes ✓ No
Date/Time To Shop: April 24, 2017
P.O.#:
Deck Siding S. Seam Roof Panel
Notes:

Item Code	Blank:	Quantity
F1	14½" X 120"	3

Details:

Item Code	Blank:	Quantity
F2	7⅝ X 120"	1

Details:

Item Code	Blank:	Quantity
F3	11 9/16 X 120"	1

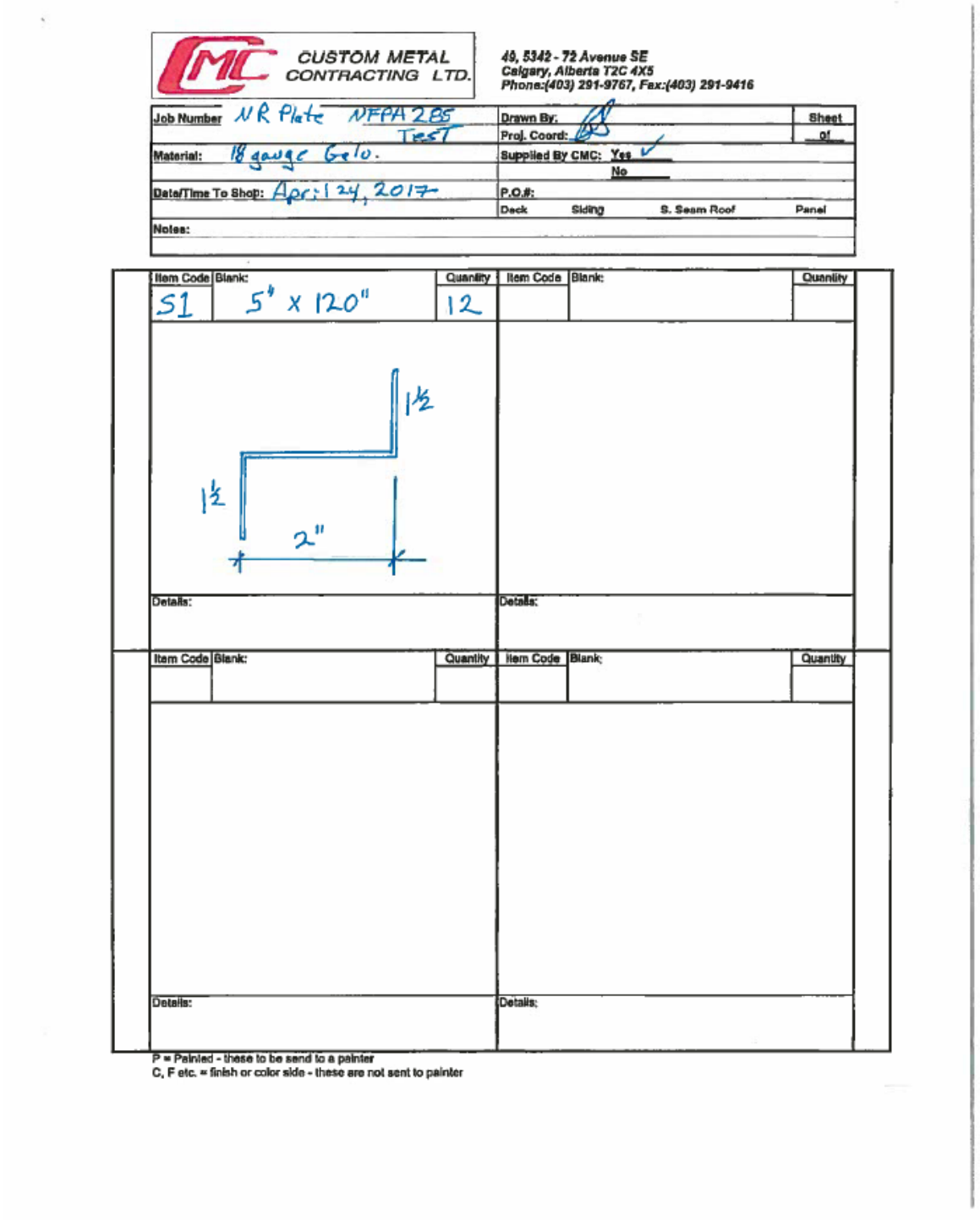
Details:

Item Code	Blank:	Quantity

Details:

P = Painted - these to be send to a painter
C, F etc. = finish or color side - these are not sent to painter

Figure D-3. Client-Provided Drawing.



CUSTOM METAL CONTRACTING LTD.

49, 5342 - 72 Avenue SE
Calgary, Alberta T2C 4X5
Phone:(403) 291-9767, Fax:(403) 291-9416

Job Number: NR Plate NFPA 285 Test
Drawn By:
Proj. Coord:
Sheet: of
Material: 18 gauge Galv.
Supplied By CMC: Yes ✓ No
Date/Time To Shop: Apr. 24, 2017
P.O.#:
Deck Siding S. Seam Roof Panel
Notes:

Item Code	Blank:	Quantity	Item Code	Blank:	Quantity
S1	5" x 120"	12			

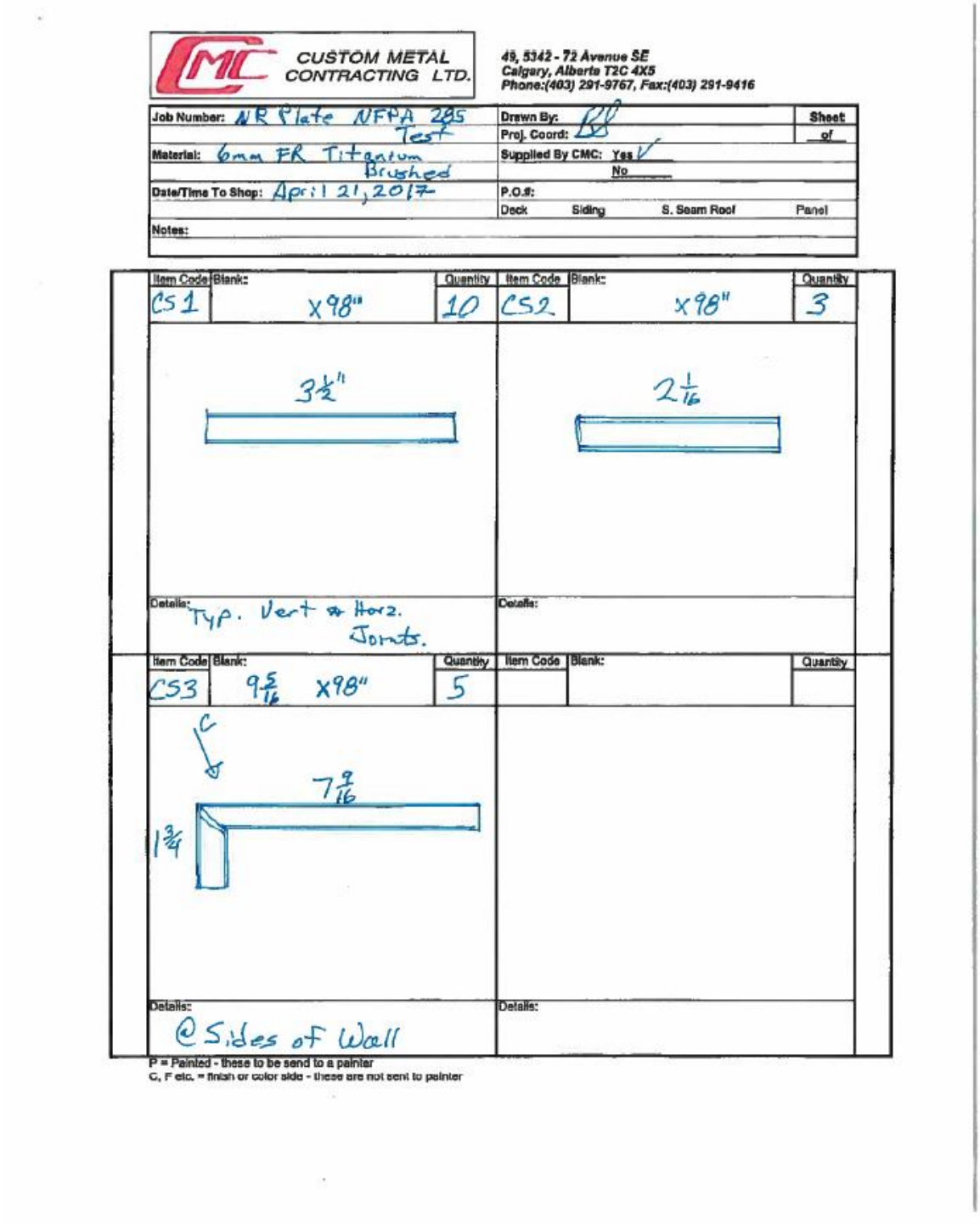
Details:

Item Code	Blank:	Quantity	Item Code	Blank:	Quantity

Details:

P = Painted - these to be send to a painter
C, F etc. = finish or color side - these are not sent to painter

Figure D-4. Client-Provided Drawing.



CUSTOM METAL CONTRACTING LTD.

49, 5342 - 72 Avenue SE
Calgary, Alberta T2C 4X5
Phone:(403) 291-9767, Fax:(403) 291-9416

Job Number: NR Plate NFPA 285 Test
Material: 6mm FR Titanium Brushed
Date/Time To Shop: April 21, 2017
Drawn By:
Proj. Coord:
Supplied By CMC: Yes ✓ No
P.O.#:
Deck Siding S. Seam Roof Panel
Sheet: of
Notes:

Item Code	Blank:	Quantity
CS1	x98"	10

3½"

Details: Typ. Vert & Horz. Joints.

Item Code	Blank:	Quantity
CS2	x98"	3

2 1/16

Details:

Item Code	Blank:	Quantity
CS3	9 5/16 x98"	5

C

7 9/16

1 3/4

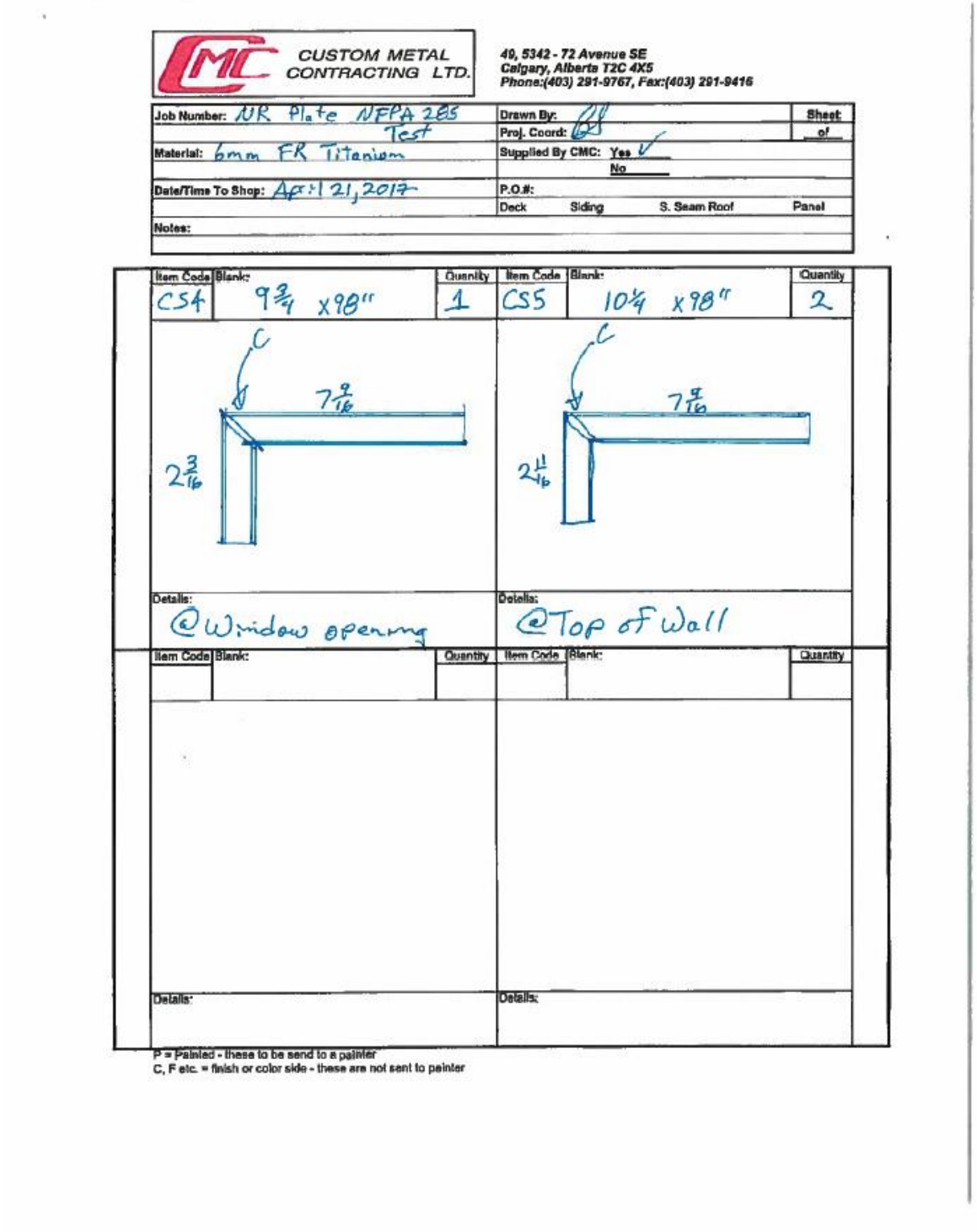
Details: @ Sides of Wall

Item Code	Blank:	Quantity

Details:

P = Painted - these to be send to a painter
C, F etc. = finish or color side - these are not sent to painter

Figure D-5. Client-Provided Drawing.



CUSTOM METAL CONTRACTING LTD.

49, 5342 - 72 Avenue SE
Calgary, Alberta T2C 4X5
Phone:(403) 291-9767, Fax:(403) 291-9416

Job Number: NR Plate NFPA 285 Test
Drawn By:
Proj. Coord:
Sheet: of
Material: 6mm FR Titanium
Supplied By CMC: Yes ✓ No
Date/Time To Shop: April 21, 2017
P.O.#:
Deck Siding S. Seam Roof Panel
Notes:

Item Code	Blank:	Quantity
CS4	9 3/4 x 98"	1

C
7 9/16
2 3/16

Details: @ Window opening

Item Code	Blank:	Quantity
CS5	10 1/4 x 98"	2

C
7 9/16
2 11/16

Details: @ Top of Wall

Item Code	Blank:	Quantity

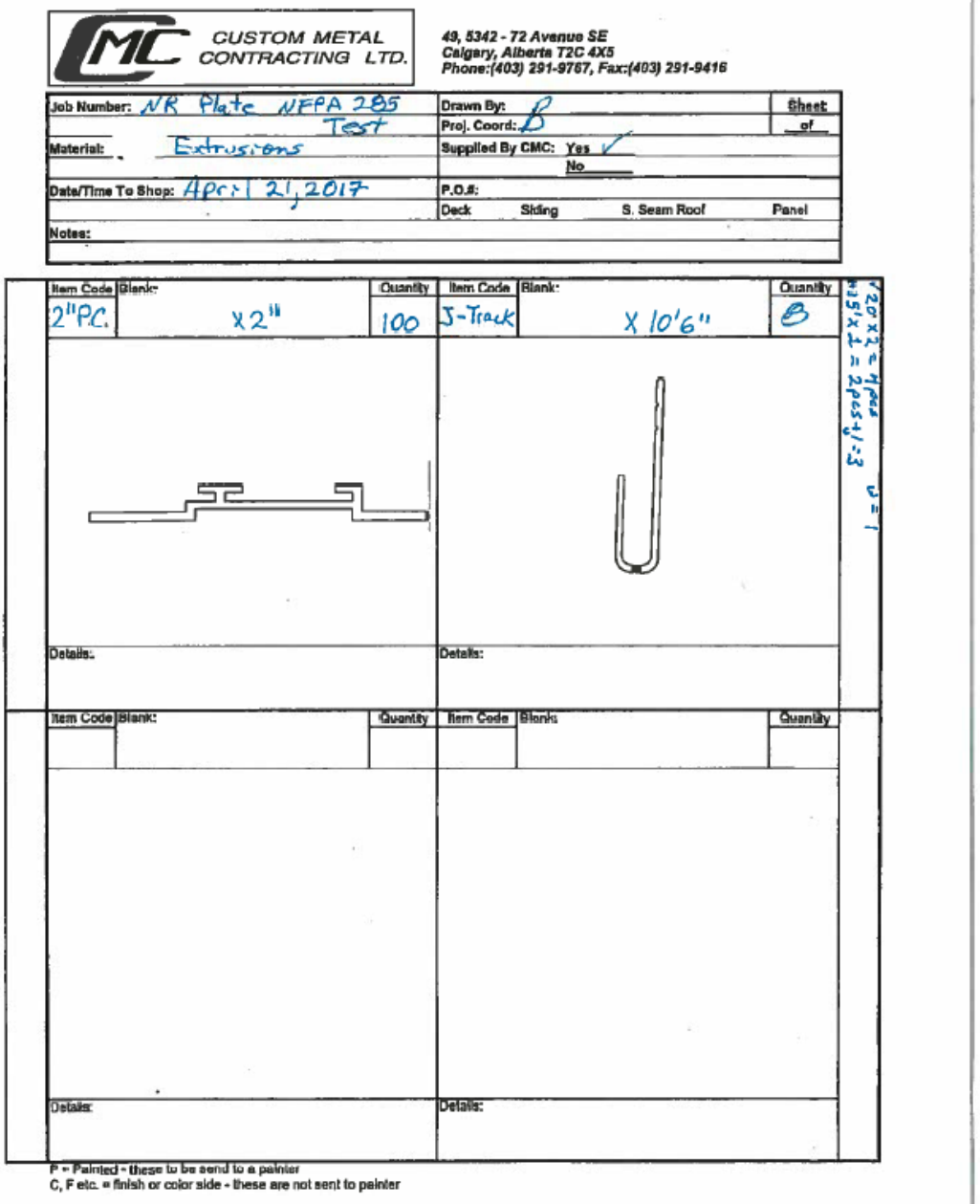
Details:

Item Code	Blank:	Quantity

Details:

P = Painted - these to be send to a painter
C, F etc. = finish or color side - these are not sent to painter

Figure D-6. Client-Provided Drawing.



CUSTOM METAL CONTRACTING LTD.

49, 5342 - 72 Avenue SE
Calgary, Alberta T2C 4X5
Phone:(403) 291-9767, Fax:(403) 291-9416

Job Number: NR Plate NFPA 285 Test
Material: Extrusions
Date/Time To Shop: April 21, 2017
Drawn By: B
Proj. Coord: B
Supplied By CMC: Yes ✓ No
P.O.#:
Deck Siding S. Seam Roof Panel
Notes:
Sheet of

Item Code	Blank:	Quantity
2"PC.	X 2"	100

Details:

Item Code	Blank:	Quantity
J-Track	X 10'6"	8

Details:

Item Code	Blank:	Quantity

Details:

Item Code	Blank:	Quantity

Details:

P = Painted - these to be send to a painter
C, F etc. = finish or color side - these are not sent to painter

Figure D-7. Client-Provided Drawing.