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CONTEGO INTERNATIONAL INC
TEST REPORT

SCOPE OF WORK
ASTM E119-20, CAN/ULC S101, AND UL 263 TESTING OF CONTEGO INTERNATIONAL INC.'S PASSIVE FIRE BARRIER (PFB) HS

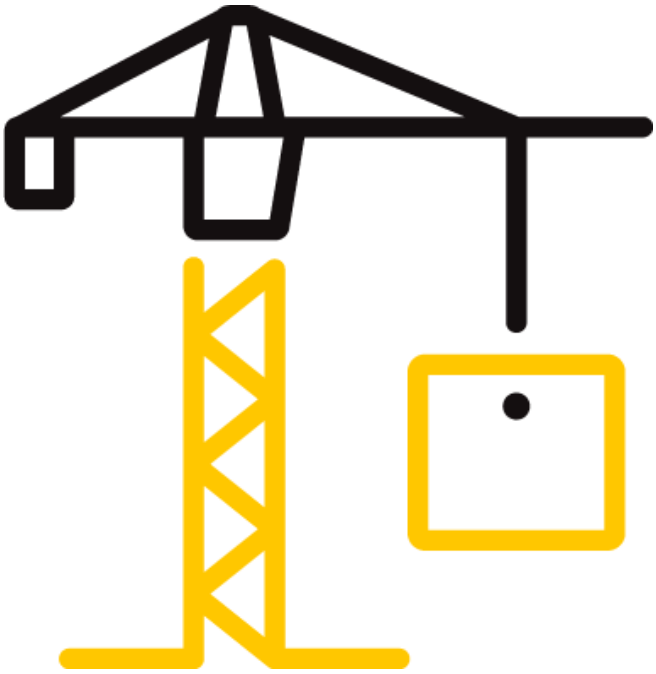
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G105052267SAT-003 R2

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Report No.: G105052267SAT-003 R2
Date: 08/31/22

REPORT ISSUED TO

CONTEGO INTERNATIONAL INC
PO Box 49
Rochester, IN 46975
USA

SECTION 1

SCOPE

Intertek Testing Services NA Ltd. dba Intertek Building & Construction (B&C) was contracted by Contego International Inc., PO Box 49, Rochester, IN 46975 to perform testing in accordance with ASTM E119, *Standard Fire Test Method for Fire Tests of Building Construction and Materials* on their Passive Fire Barrier (PFB) HS. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek test facility in Elmendorf, Texas.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule also called “Shared Risk approach,” of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens (where required by Certification or Accreditation bodies), or other pertinent project documentation, will be retained for the entire test record retention period.

SECTION 2

SUMMARY OF TEST RESULTS

The I-joist assembly described within this test report **met** a fire endurance period of **50 minutes** before flaming was seen through the top of the sample.

For INTERTEK B&C:

COMPLETED BY:	Emmanuel Ogoe	**REVIEWED BY:**	Abel de Hoyos
TITLE:	Project Engineer – Building and Construction	**TITLE:**	Senior Project Manager – Fire Resistance
SIGNATURE:		**SIGNATURE:**	
DATE:	08/31/22	**DATE:**	08/31/22

AAA:bbb

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SECTION 3
TEST METHOD(S)

The specimen was evaluated in accordance with the following:

ASTM E119-20, *Standard Test Methods for Fire Tests of Building Construction and Materials*[1]

CAN/ULC S101, *Standard Methods of Fire Endurance Tests of Building Construction and Materials*

UL 263, *Standard for Safety for Fire Tests of Building Construction and Materials*

SECTION 4
MATERIAL SOURCE/INSTALLATION

Test samples were provided by the client. The results outlined in this report apply to the sample as received. The specimens were witnessed during production and tagged prior to shipment on 06/28/2022, (Reference Intertek B&C Product sampling/Witnessing Report No. G105052267, dated 06/28/2022).

The test samples were received by the test facility on 7/14/22 and given Sample ID SAT2207141625-001 - 002. Construction of the assembly was done by Contego International Inc.

SECTION 5
EQUIPMENT

ASSET #	DESCRIPTION	MODEL	CAL DUE DATE
48JF0082	DAQ Unit	Yokogawa	10/15/22
10319133	Thermo/Hygrometer	Omega	09/02/22
170199534	Stopwatch	Fisherbrand	03/23/23
15222113	Deflection Meter	McDaniel's	04/01/23
ASH300-1	Pressure gauge	Ashcroft	05/31/23

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Aaron French	Contego International Inc.
Juan M. Flores	Intertek B&C
Abel de Hoyos	Intertek B&C
Colby Friant	Intertek B&C
Emmanuel Ogoe	Intertek B&C

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SECTION 7
TEST PROCEDURE

The ASTM E119 standard measures the fire-resistance performance by quantifying the temperature rise on the unexposed face of the building element when the exposed side is subjected to the standardized ASTM E119 Time vs. Temperature curve.

The unexposed surface of the floor assembly was instrumented with a total of nine (9), 24 GA. Type K, fiberglass jacketed TCs as per Section 7.3 of ASTM E119-20. Ten (10) Furnace Probes as described in Section 7.2 of ASTM E119-20 were utilized to read furnace temperatures. The output of the thermocouples and the furnace probes were monitored by a 100-channel Yokogawa, Inc., Darwin Data Acquisition Unit. The computer was programmed to save data every 30 seconds. Following the test, the files were imported into MS Excel for tabular and graphical display. The sample deflection was also measured and recorded every 30 seconds.

The application of loading the floor was conducted per CAN/ULC S101-14 section 12.3. The test specimen was tested load bearing with a 40 lb/ft^2 superimposed load applied in four increments of 25% before the fire exposure, allowing for stabilization of deflection after each increment. The full superimposed load was applied for 30 minutes before the start of the fire test.

When the indicated resistance period is ½ h or over, determined by the average or maximum temperature rise on the unexposed or maximum temperature rise on the unexposed surface or within the test specimen, or by failure under load, a correction shall be applied for variation of the furnace exposure from that prescribed, where it will affect the classification, by multiplying the indicated period by two thirds of the difference in area between the curve of average furnace temperature and the standard curve for the first three fourths of the period and dividing the product by the area between the standard curve and a base line of 68°F for the same part of the indicated period, the latter area increased by 54°F*h (3240°F*min) to compensate for the thermal lag of the furnace thermocouples during the first part of the test. For fire exposure in the test higher than the standard, the indicated resistance period shall be increased by the amount of the correction and be similarly decreased for fire exposure below standard.
The correction can be expressed by the following equation:

$$C = \frac{2I(A - As)}{3(As + L)}$$

where:
C=correction in the same units as I,
I=indicated fire-resistance period,
A=area under the curve of indicated average furnace temperature for the first three fourths of the indicated period,
AS=area under the standard furnace curve for the same part of the indicated period, and
L=lag correction in the same units as A and AS (54°F*h or 30°C*h (3240°F*min or 1800°C*min))

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VARIABLE	DESCRIPTION	VALUE	UNITS
C	Correction Factor	5	seconds
I	Indicated FR Period	50	minutes
A	Area under Indicated FR Period for first 3/4 of test period	46788	°F*min
As	Area under Standard E119 Time vs. Temp. Curve for first 3/4 of test period	46661	°F*min
L	Lag Correction	3240	°F*min
FR Period	**Fire-Resistance Period**	**50**	**minutes**

SECTION 7
TEST SPECIMEN DESCRIPTION

The floor assembly consisted of the following:

- 13ft x 19ft overall area
- 2x12 wood joists spaced 16-in. oc spanning the 13-ft width. Center joist was a double 2x12. Fourth joist from the center in either direction was also a double 2x12 joist.
- 23/32 Category OSB tongue and groove OSB subfloor attached to wood framing with #9 deck screws spaced 12 in. oc.
- 7/8-in. Red Oak flooring planks, tongue and groove installed as finish flooring, fastened with 2-in. long brad nails. Three brad nails evenly spaced along width of each board at each joist location.
- Underside of the floor assembly was primed with a water base interior and exterior primer.
- Contego Passive Fire Barrier HS, Lot No. HS-1053, was sampled by Intertek's Frances Martinez on June 28, 2022. This coating was first applied by brush along the wood seams. Then it was spray-applied in three coats. The coating was applied to the overall fire side of the sample with an overall average of 55.3 wet mils.
- 100% silicone was used as filler between double joists. The silicone sealant was then coated with the Contego Passive Fire Barrier HS with brush application.
- The assembly was then allowed to cure for 32 days before fire testing.

SECTION 8
TEST RESULTS

The test was initiated on August 30, 2022. The ambient temperature at the start of the test was 84.9 °F and the humidity was 75.9 %R.H.

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Observations made during the test are listed below:

FIRE-RESISTANCE TEST OBSERVATIONS	
Time (Min:Sec)	**Observations**
	Test Sample pre-loaded per CAN/ULC S101
00:00	Test Started at 9:28 am
02:09	Smoke from all seams
04:35	Internal sample ignited
05:50	2 burners turned off
07:45	2 more burners turned off
17:51	Steam coming from top of sample
27:40	Sample crackling
37:17	Sample deflecting inwards
41:20	Smoke intensifying across sample
50:20	Flame thru at top of sample
50:30	Test terminated for safety

SECTION 9
CONCLUSION

The Contego International floor/ceiling assembly described within this test report met a fire endurance period of **50 minutes**, as per the specified performance requirements of **ASTM E119,** *Standard Test Methods for Fire Tests of Building Construction and Materials*[1]***, UL263,*** *Standard for Safety for Fire Tests of Building Construction and Materials,* and ***CAN/ULC S101,*** *Standard Methods of Fire Endurance Tests of Building Construction and Materials***.**

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SECTION 10
PHOTOGRAPHS



Photo No. 1
Assembly framing



Photo No. 2
Joist spacing

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Photo No. 3
Primer used on assembly



Photo No. 4
Applying coating

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Photo No. 5
Coating used on assembly



Photo No. 6
Internal view of assembly on furnace

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Photo No. 7
External view of assembly on furnace



Photo No. 8
Start of test

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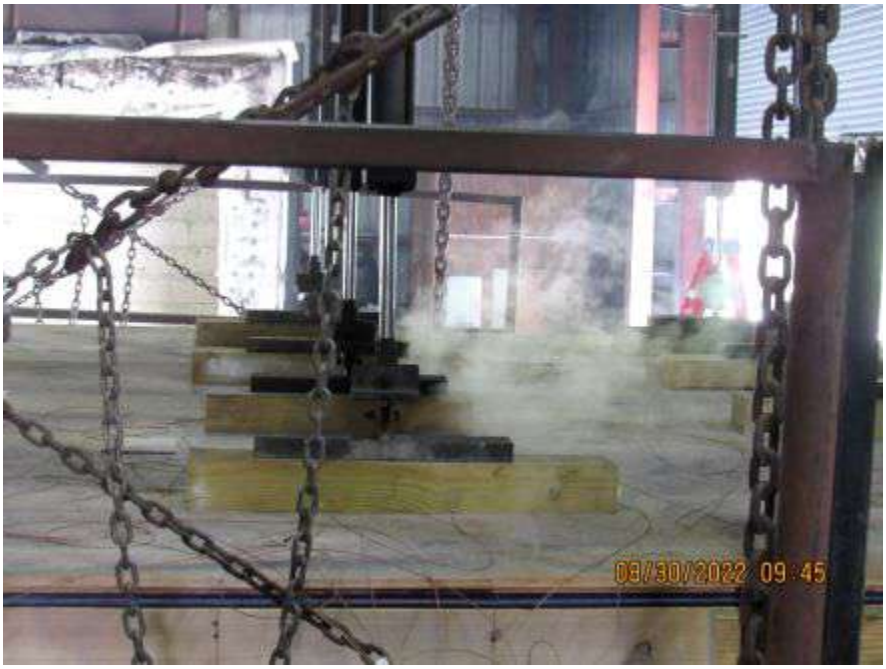


Photo No. 9
Smoking from sample



Photo No. 10
Flaming on unexposed side of sample

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SECTION 11
DATA (GRAPHS AND TABULAR)

G105052267SAT-003 Contego International August 30, 2022

Time (min)	E119 Std Average (°F)	Furnace Average (°F)	Integration of Furnace Average (°F•min)	Integration of E119 Std Average (°F•min)	Error (%)
0	68	83	0	0	0
0.5	161	85	8	23	-59.50
1	254	107	22	93	-77.63
1.5	348	163	56	210	-76.10
2	441	259	127	373	-69.06
2.5	534	398	257	583	-59.07
3	627	561	463	839	-47.89
3.5	720	734	753	1142	-36.80
4	814	885	1123	1491	-26.76
4.5	907	995	1559	1887	-18.86
5	1000	1077	2043	2330	-13.29
5.5	1030	1142	2564	2804	-9.33
6	1060	1190	3113	3292	-6.06
6.5	1090	1223	3682	3796	-3.46
7	1120	1250	4266	4314	-1.47
7.5	1150	1267	4862	4848	0.04
8	1180	1277	5463	5396	1.08
8.5	1210	1285	6070	5960	1.75
9	1240	1292	6680	6538	2.12
9.5	1270	1301	7294	7132	2.27
10	1300	1311	7913	7740	2.25
10.5	1317	1322	8537	8360	2.12
11	1328	1334	9167	8988	2.00
11.5	1337	1345	9803	9620	1.90
12	1347	1354	10444	10257	1.82
12.5	1356	1359	11088	10898	1.74
13	1364	1362	11734	11545	1.65
13.5	1373	1365	12382	12195	1.54
14	1381	1368	13031	12849	1.43
14.5	1388	1374	13683	13507	1.31
15	1396	1383	14338	14170	1.20
15.5	1403	1390	14997	14835	1.10
16	1410	1397	15660	15505	1.01
16.5	1417	1402	16326	16177	0.92
17	1424	1408	16994	16854	0.84
17.5	1430	1416	17666	17533	0.76
18	1436	1422	18341	18215	0.69
18.5	1442	1428	19020	18901	0.63
19	1448	1435	19701	19590	0.57
19.5	1454	1445	20387	20281	0.52
20	1459	1455	21078	20975	0.48
20.5	1465	1465	21774	21672	0.46

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Time (min)	E119 Std Average (°F)	Furnace Average (°F)	Integration of Furnace Average (°F•min)	Integration of E119 Std Average (°F•min)	Error (%)
21	1470	1471	22474	22372	0.45
21.5	1475	1478	23177	23074	0.44
22	1480	1482	23883	23779	0.43
22.5	1485	1485	24591	24487	0.42
23	1490	1490	25301	25196	0.41
23.5	1495	1492	26012	25909	0.40
24	1499	1496	26725	26623	0.38
24.5	1504	1498	27440	27340	0.36
25	1508	1500	28156	28059	0.34
25.5	1513	1509	28874	28781	0.32
26	1517	1518	29597	29504	0.31
26.5	1521	1524	30323	30230	0.30
27	1525	1529	31052	30957	0.30
27.5	1529	1534	31784	31687	0.30
28	1533	1538	32518	32419	0.30
28.5	1537	1543	33255	33153	0.30
29	1541	1547	33993	33888	0.31
29.5	1545	1551	34734	34626	0.31
30	1549	1554	35476	35365	0.31
30.5	1552	1559	36220	36106	0.31
31	1556	1564	36967	36850	0.31
31.5	1559	1566	37716	37594	0.32
32	1563	1570	38466	38341	0.32
32.5	1566	1571	39217	39089	0.32
33	1570	1575	39969	39839	0.32
33.5	1573	1577	40723	40591	0.32
34	1576	1580	41478	41344	0.32
34.5	1579	1580	42234	42099	0.32
35	1583	1581	42990	42856	0.31
35.5	1586	1585	43748	43614	0.30
36	1589	1587	44507	44373	0.30
36.5	1592	1588	45267	45135	0.29
37	1595	1590	46027	45897	0.28
37.5	1598	1589	46788	46661	0.27
38	1601	1591	47549	47427	0.26
38.5	1604	1594	48311	48194	0.24
39	1606	1596	49074	48963	0.23
39.5	1609	1598	49838	49733	0.21
40	1612	1602	50605	50504	0.20
40.5	1615	1608	51373	51277	0.19
41	1617	1616	52145	52051	0.18
41.5	1620	1624	52921	52826	0.18

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Time (min)	E119 Std Average (°F)	Furnace Average (°F)	Integration of Furnace Average (°F•min)	Integration of E119 Std Average (°F•min)	Error (%)
42	1623	1631	53700	53603	0.18
42.5	1625	1636	54483	54381	0.18
43	1628	1638	55268	55160	0.19
43.5	1631	1633	56051	55941	0.19
44	1633	1625	56832	56723	0.19
44.5	1636	1623	57610	57506	0.18
45	1638	1630	58389	58290	0.17
45.5	1640	1636	59171	59076	0.16
46	1643	1640	59956	59863	0.15
46.5	1645	1645	60744	60651	0.15
47	1648	1654	61535	61440	0.15
47.5	1650	1664	62330	62230	0.16
48	1652	1671	63130	63022	0.17
48.5	1655	1675	63932	63815	0.18
49	1657	1678	64737	64608	0.19
49.5	1659	1677	65542	65403	0.21
50	1661	1677	66346	66199	0.22

Max
Max allowed

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Time (min)	Furnace Probe #1 (°F)	Furnace Probe #2 (°F)	Furnace Probe #3 (°F)	Furnace Probe #4 (°F)	Furnace Probe #5 (°F)
0	84	84	83	83	83
0.5	84	85	85	85	84
1	100	99	104	108	103
1.5	144	137	152	168	148
2	220	199	242	289	234
2.5	352	303	375	450	362
3	497	428	544	634	533
3.5	659	573	728	822	728
4	806	715	884	983	894
4.5	927	833	992	1099	1005
5	1023	925	1077	1180	1086
5.5	1100	999	1147	1240	1149
6	1157	1054	1193	1275	1194
6.5	1208	1094	1220	1289	1219
7	1251	1129	1242	1300	1238
7.5	1283	1159	1254	1300	1250
8	1295	1176	1255	1294	1260
8.5	1293	1184	1255	1294	1271
9	1290	1192	1260	1305	1288
9.5	1290	1203	1269	1320	1306
10	1295	1214	1280	1335	1323
10.5	1301	1222	1290	1349	1338
11	1307	1232	1301	1362	1354
11.5	1313	1240	1310	1374	1368
12	1317	1245	1318	1384	1374
12.5	1322	1251	1324	1391	1373
13	1328	1254	1330	1397	1368
13.5	1333	1257	1333	1398	1365
14	1342	1261	1336	1397	1366
14.5	1350	1267	1339	1394	1374
15	1375	1279	1345	1394	1378
15.5	1389	1288	1349	1398	1387
16	1400	1296	1358	1408	1396
16.5	1400	1306	1369	1421	1402
17	1402	1316	1380	1434	1410
17.5	1398	1334	1398	1452	1423
18	1399	1349	1412	1466	1439
18.5	1406	1359	1425	1479	1450
19	1414	1368	1435	1493	1461
19.5	1427	1376	1443	1504	1475
20	1437	1386	1455	1516	1486
20.5	1446	1386	1458	1523	1491

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21	1452	1381	1458	1528	1491
21.5	1465	1373	1460	1532	1493
22	1477	1370	1464	1538	1495
22.5	1483	1365	1465	1540	1495
23	1486	1369	1469	1546	1494
23.5	1488	1367	1469	1547	1491
24	1493	1367	1467	1551	1494
24.5	1491	1371	1468	1555	1501
25	1487	1380	1469	1555	1500
25.5	1491	1387	1473	1565	1509
26	1506	1391	1483	1576	1514
26.5	1497	1402	1495	1588	1518
27	1502	1406	1506	1597	1527
27.5	1498	1407	1506	1599	1534
28	1494	1412	1509	1604	1535
28.5	1505	1414	1516	1608	1537
29	1494	1418	1517	1612	1539
29.5	1490	1419	1516	1616	1541
30	1480	1425	1524	1626	1545
30.5	1488	1426	1526	1628	1546
31	1509	1424	1533	1624	1546
31.5	1511	1427	1533	1623	1545
32	1535	1425	1536	1626	1550
32.5	1543	1426	1536	1626	1553
33	1556	1423	1528	1622	1549
33.5	1562	1422	1521	1622	1548
34	1569	1421	1521	1620	1548
34.5	1568	1428	1525	1623	1548
35	1557	1430	1524	1627	1546
35.5	1570	1433	1520	1621	1543
36	1576	1435	1519	1620	1543
36.5	1588	1434	1521	1620	1547
37	1598	1439	1524	1622	1546
37.5	1589	1442	1526	1623	1543
38	1582	1444	1531	1626	1541
38.5	1579	1449	1533	1630	1540
39	1577	1453	1535	1638	1541
39.5	1578	1448	1543	1655	1551
40	1581	1450	1548	1670	1564
40.5	1571	1453	1558	1692	1584
41	1571	1456	1576	1716	1595
41.5	1577	1461	1595	1731	1613

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TEST REPORT FOR CONTEGO INTERNATIONAL INC
Report No.: G105052267SAT-003 R2
Date: 08/31/22

G105052267SAT-003 Contego International August 30, 2022

Time (min)	Furnace Probe #1 (°F)	Furnace Probe #2 (°F)	Furnace Probe #3 (°F)	Furnace Probe #4 (°F)	Furnace Probe #5 (°F)
42	1588	1466	1608	1741	1633
42.5	1586	1474	1621	1750	1653
43	1581	1475	1629	1752	1669
43.5	1577	1461	1629	1756	1664
44	1576	1447	1631	1754	1651
44.5	1589	1440	1636	1766	1655
45	1600	1434	1649	1788	1679
45.5	1590	1453	1665	1808	1696
46	1571	1471	1681	1809	1719
46.5	1537	1506	1700	1817	1737
47	1526	1511	1707	1831	1749
47.5	1527	1516	1720	1832	1749
48	1532	1520	1722	1831	1750
48.5	1555	1524	1730	1810	1736
49	1564	1538	1732	1802	1723
49.5	1583	1546	1724	1789	1714
50	1600	1538	1701	1767	1698

Max
Max allowe

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G105052267SAT-003 Contego International August 30, 2022

Time (min)	Furnace Probe #6 (°F)	Furnace Probe #7 (°F)	Furnace Probe #8 (°F)	Furnace Probe #9 (°F)	Furnace Probe #10 (°F)
0	83	83	83	83	83
0.5	84	86	85	86	85
1	115	111	109	118	107
1.5	167	176	170	198	165
2	249	283	273	339	266
2.5	355	427	416	523	414
3	482	587	588	715	598
3.5	624	754	768	899	788
4	766	901	921	1041	935
4.5	878	1003	1045	1136	1032
5	961	1074	1137	1204	1102
5.5	1034	1134	1207	1258	1156
6	1091	1179	1261	1292	1199
6.5	1126	1213	1298	1316	1242
7	1153	1246	1330	1337	1276
7.5	1175	1261	1349	1344	1295
8	1196	1282	1365	1344	1299
8.5	1216	1300	1381	1356	1297
9	1235	1308	1389	1363	1289
9.5	1256	1316	1394	1368	1287
10	1274	1326	1399	1375	1290
10.5	1289	1337	1409	1386	1296
11	1305	1353	1423	1398	1301
11.5	1321	1373	1437	1410	1307
12	1333	1386	1452	1420	1311
12.5	1334	1392	1462	1423	1317
13	1331	1395	1468	1429	1323
13.5	1328	1398	1473	1435	1329
14	1330	1397	1475	1436	1341
14.5	1336	1408	1483	1442	1350
15	1341	1409	1487	1450	1369
15.5	1347	1407	1490	1460	1383
16	1355	1403	1490	1467	1392
16.5	1363	1403	1492	1477	1391
17	1373	1397	1491	1483	1392
17.5	1384	1401	1492	1486	1388
18	1396	1403	1492	1479	1384
18.5	1405	1404	1491	1477	1381
19	1414	1407	1493	1479	1383
19.5	1424	1430	1499	1483	1387
20	1433	1443	1502	1492	1402
20.5	1443	1454	1506	1513	1427

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Report No.: G105052267SAT-003 R2
Date: 08/31/22

G105052267SAT-003 Contego International August 30, 2022

Time (min)	Furnace Probe #6 (°F)	Furnace Probe #7 (°F)	Furnace Probe #8 (°F)	Furnace Probe #9 (°F)	Furnace Probe #10 (°F)
21	1447	1466	1511	1533	1442
21.5	1448	1488	1516	1544	1457
22	1449	1495	1518	1548	1470
22.5	1447	1509	1518	1551	1477
23	1446	1520	1522	1566	1484
23.5	1440	1528	1535	1577	1482
24	1435	1537	1548	1582	1483
24.5	1438	1536	1563	1582	1479
25	1431	1528	1589	1583	1475
25.5	1429	1543	1611	1599	1486
26	1434	1551	1620	1607	1501
26.5	1433	1567	1634	1609	1495
27	1438	1566	1627	1614	1510
27.5	1439	1572	1646	1630	1511
28	1434	1589	1661	1634	1510
28.5	1439	1592	1658	1646	1519
29	1440	1603	1676	1654	1512
29.5	1441	1617	1688	1664	1513
30	1446	1626	1695	1670	1506
30.5	1446	1635	1699	1682	1518
31	1449	1636	1688	1690	1541
31.5	1448	1644	1690	1694	1545
32	1450	1643	1669	1700	1564
32.5	1448	1645	1666	1699	1570
33	1450	1656	1683	1707	1572
33.5	1449	1664	1698	1709	1573
34	1454	1669	1697	1716	1581
34.5	1457	1666	1697	1712	1576
35	1451	1675	1710	1717	1573
35.5	1456	1682	1713	1730	1581
36	1465	1680	1712	1734	1588
36.5	1465	1667	1697	1737	1600
37	1462	1663	1695	1742	1605
37.5	1457	1670	1707	1739	1596
38	1457	1676	1717	1740	1595
38.5	1455	1683	1731	1745	1593
39	1455	1681	1743	1740	1592
39.5	1460	1669	1739	1739	1601
40	1463	1653	1745	1740	1605
40.5	1473	1638	1758	1748	1605
41	1478	1632	1770	1756	1607
41.5	1487	1617	1776	1759	1620

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Time (min)	Furnace Probe #6 (°F)	Furnace Probe #7 (°F)	Furnace Probe #8 (°F)	Furnace Probe #9 (°F)	Furnace Probe #10 (°F)
42	1507	1606	1776	1761	1627
42.5	1519	1597	1768	1761	1628
43	1530	1596	1761	1757	1625
43.5	1529	1594	1749	1751	1620
44	1517	1584	1738	1733	1622
44.5	1519	1552	1720	1723	1634
45	1537	1532	1712	1723	1641
45.5	1553	1529	1709	1720	1636
46	1572	1521	1712	1714	1627
46.5	1592	1517	1717	1716	1614
47	1612	1531	1737	1729	1610
47.5	1618	1564	1760	1737	1617
48	1619	1598	1770	1744	1626
48.5	1611	1616	1771	1752	1644
49	1601	1643	1774	1754	1653
49.5	1598	1636	1765	1757	1661
50	1598	1651	1763	1771	1681

Max
Max allowe

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Time (min)	Unexposed Side TC #1 (°F)	Unexposed Side TC #2 (°F)	Unexposed Side TC #3 (°F)	Unexposed Side TC #4 (°F)	Unexposed Side TC #5 (°F)
0	84	84	84	84	84
0.5	84	84	84	84	84
1	84	84	84	84	84
1.5	84	84	84	84	84
2	84	84	84	84	84
2.5	84	84	84	84	84
3	84	84	84	84	84
3.5	84	84	84	84	84
4	84	84	84	84	84
4.5	84	84	84	84	84
5	84	84	84	84	84
5.5	84	84	84	84	84
6	84	84	84	84	84
6.5	84	84	84	84	84
7	84	84	84	84	84
7.5	84	84	84	84	84
8	84	84	84	84	84
8.5	84	84	84	84	84
9	84	84	85	85	85
9.5	84	84	85	85	85
10	84	84	85	85	86
10.5	85	85	86	85	86
11	85	85	86	86	87
11.5	85	85	86	86	87
12	85	85	87	86	88
12.5	85	86	88	86	89
13	85	86	89	87	89
13.5	86	86	89	87	91
14	86	86	90	88	92
14.5	86	87	91	89	93
15	86	87	92	89	94
15.5	87	88	93	90	95
16	87	88	94	91	96
16.5	88	89	95	92	97
17	88	90	96	93	99
17.5	89	91	97	94	100
18	89	92	98	96	101
18.5	90	94	100	97	103
19	91	95	101	99	104
19.5	91	97	102	100	105
20	92	98	103	101	107
20.5	93	100	104	103	108

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Time (min)	Unexposed Side TC #1 (°F)	Unexposed Side TC #2 (°F)	Unexposed Side TC #3 (°F)	Unexposed Side TC #4 (°F)	Unexposed Side TC #5 (°F)
21	94	101	106	104	109
21.5	94	103	107	106	111
22	95	104	108	107	112
22.5	96	105	109	108	113
23	97	107	110	109	114
23.5	98	108	112	111	116
24	99	110	113	112	117
24.5	100	111	114	113	118
25	101	114	115	115	119
25.5	102	118	116	116	120
26	103	121	118	117	121
26.5	104	124	119	118	122
27	105	127	121	120	123
27.5	106	130	122	121	124
28	107	133	123	122	125
28.5	108	135	124	123	126
29	109	137	125	124	127
29.5	110	139	127	125	128
30	111	141	127	126	129
30.5	113	143	129	127	130
31	113	145	130	128	131
31.5	115	146	131	129	132
32	116	147	132	130	133
32.5	117	149	133	131	133
33	118	150	134	132	134
33.5	119	151	135	133	135
34	120	152	136	134	136
34.5	121	153	137	135	137
35	122	154	138	136	138
35.5	123	155	138	137	138
36	124	156	139	138	139
36.5	125	157	140	139	140
37	126	158	141	140	141
37.5	126	158	142	140	142
38	127	159	143	141	142
38.5	128	160	144	142	143
39	129	161	144	143	144
39.5	130	162	145	144	145
40	131	162	146	145	146
40.5	132	163	147	145	147
41	133	164	148	146	147
41.5	134	165	148	147	148

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Time (min)	Unexposed Side TC #1 (°F)	Unexposed Side TC #2 (°F)	Unexposed Side TC #3 (°F)	Unexposed Side TC #4 (°F)	Unexposed Side TC #5 (°F)
42	135	165	149	147	149
42.5	136	166	150	148	150
43	136	166	150	149	151
43.5	137	167	151	150	152
44	138	168	152	150	153
44.5	139	168	153	151	155
45	140	169	153	152	157
45.5	140	169	154	153	159
46	142	170	155	153	160
46.5	142	170	155	155	162
47	143	171	156	155	163
47.5	144	171	157	156	165
48	145	172	157	157	166
48.5	146	173	159	158	167
49	147	173	159	158	168
49.5	147	174	159	159	171
50	148	175	160	160	173
Max	148	175	160	160	173
Max allowe	409	409	409	409	409

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Time (min)	Unexposec Side TC #6 (°F)	Unexposec Side TC #7 (°F)	Unexposec Side TC #8 (°F)	Unexposec Side TC #9 (°F)	Unexposec Side Avg (°F)
0	84	84	84	83	84
0.5	84	84	84	84	84
1	84	84	84	83	84
1.5	84	84	84	83	84
2	84	84	84	84	84
2.5	84	84	84	84	84
3	84	84	84	84	84
3.5	84	84	84	84	84
4	84	84	84	84	84
4.5	84	84	84	84	84
5	84	84	84	84	84
5.5	84	84	84	84	84
6	84	84	84	84	84
6.5	84	84	84	84	84
7	84	84	84	84	84
7.5	84	84	84	84	84
8	84	84	84	84	84
8.5	85	84	84	84	84
9	85	84	85	84	85
9.5	86	84	85	84	85
10	86	85	85	84	85
10.5	87	85	86	85	86
11	88	86	86	85	86
11.5	89	86	87	85	86
12	90	86	87	86	87
12.5	91	87	88	86	87
13	93	87	89	87	88
13.5	94	88	90	88	89
14	96	89	91	89	90
14.5	97	89	92	90	90
15	99	90	93	91	91
15.5	100	91	94	92	92
16	102	91	96	93	93
16.5	103	92	98	94	94
17	105	93	100	95	95
17.5	106	94	102	96	97
18	108	95	104	98	98
18.5	109	96	107	99	99
19	111	97	109	100	101
19.5	112	98	110	102	102
20	113	99	112	103	103
20.5	115	100	114	104	105

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Time (min)	Unexposed Side TC #6 (°F)	Unexposed Side TC #7 (°F)	Unexposed Side TC #8 (°F)	Unexposed Side TC #9 (°F)	Unexposed Side Avg (°F)
21	116	101	116	106	106
21.5	117	103	117	107	107
22	118	104	119	108	108
22.5	120	105	120	110	110
23	121	106	121	111	111
23.5	122	108	123	112	112
24	123	109	124	114	113
24.5	124	110	125	115	114
25	125	112	126	116	116
25.5	126	113	128	117	117
26	127	114	129	118	119
26.5	128	115	130	120	120
27	129	116	131	121	121
27.5	130	118	132	122	123
28	131	119	133	123	124
28.5	132	120	134	124	125
29	133	121	134	125	126
29.5	134	123	135	126	127
30	135	124	136	127	128
30.5	136	125	137	128	130
31	137	126	138	129	131
31.5	138	127	139	130	132
32	139	128	140	131	133
32.5	140	129	140	131	134
33	140	130	141	132	135
33.5	141	131	142	133	136
34	142	132	143	134	137
34.5	143	133	144	135	138
35	144	134	145	136	139
35.5	145	135	145	136	139
36	145	136	146	138	140
36.5	146	137	147	138	141
37	147	138	147	139	142
37.5	147	139	148	140	142
38	148	140	149	140	143
38.5	149	141	150	142	144
39	150	142	150	142	145
39.5	151	143	151	143	146
40	151	143	152	144	147
40.5	152	145	152	145	148
41	153	146	153	145	148
41.5	153	146	154	146	149

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Time (min)	Unexposed Side TC #6 (°F)	Unexposed Side TC #7 (°F)	Unexposed Side TC #8 (°F)	Unexposed Side TC #9 (°F)	Unexposed Side Avg (°F)
42	154	147	155	147	150
42.5	155	148	155	147	151
43	156	149	156	148	151
43.5	156	150	157	148	152
44	157	151	157	149	153
44.5	158	152	158	150	154
45	159	153	159	151	155
45.5	159	154	159	151	155
46	160	155	160	152	156
46.5	161	156	161	153	157
47	161	157	162	153	158
47.5	162	158	162	154	159
48	163	160	163	155	160
48.5	164	161	164	155	161
49	164	162	165	156	161
49.5	165	164	165	157	162
50	166	165	166	157	163
Max	166	165	166	157	163
Max allowe	409	409	409	408	334

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G105052267SAT-003 **Contego International** **August 30, 2022**

Time (min.)	Deflection (in.)
0	0
0.5	-0.028366615
1	0.002363885
1.5	-0.007091654
2	-0.013789326
2.5	0.009849519
3	-0.011031461
3.5	0.025608749
4	0.004333788
4.5	0.036246229
5	0.004727769
5.5	0.059885073
6	0.033094383
6.5	0.058703131
7	0.075644303
7.5	0.054369343
8	0.086675763
8.5	0.075250322
9	0.09573732
9.5	0.121740048
10	0.100465089
10.5	0.118588202
11	0.147348794
11.5	0.126861797
12	0.149712678
12.5	0.172169579
13	0.182019096
13.5	0.159562196
14	0.176109386
14.5	0.227326876
15	0.18989871
15.5	0.232448625
16	0.214325514
16.5	0.224569012
17	0.256481447
17.5	0.245449988
18	0.25254164
18.5	0.289575824
19	0.29312165
19.5	0.277756404
20	0.277756404
20.5	0.31085078
21	0.331337775
21.5	0.332913698

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G105052267SAT-003 **Contego International** **August 30, 2022**

Time (min.)	Deflection (in.)
22	0.349460885
22.5	0.328973891
23	0.367583995
23.5	0.349066905
24	0.345915059
24.5	0.396738563
25	0.373887686
25.5	0.418801479
26	0.407770021
26.5	0.432984782
27	0.435742647
27.5	0.43140886
28	0.48774809
28.5	0.485778187
29	0.503113334
29.5	0.515720714
30	0.524388287
30.5	0.562604406
31	0.586637223
31.5	0.594122854
32	0.603184408
32.5	0.626035282
33	0.688284213
33.5	0.720984601
34	0.724530426
34.5	0.791901101
35	0.824207505
35.5	0.891578176
36	0.977859909
36.5	1.062565716
37	1.086598525
37.5	1.151211323
38	1.252464301
38.5	1.296984091
39	1.35962698
39.5	1.443150829
40	1.501065948
40.5	1.561738929
41	1.650384515
41.5	1.747697665
42	1.792611425
42.5	1.887560688
43	1.988025671
43.5	2.073125419

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Report No.: G105052267SAT-003 R2
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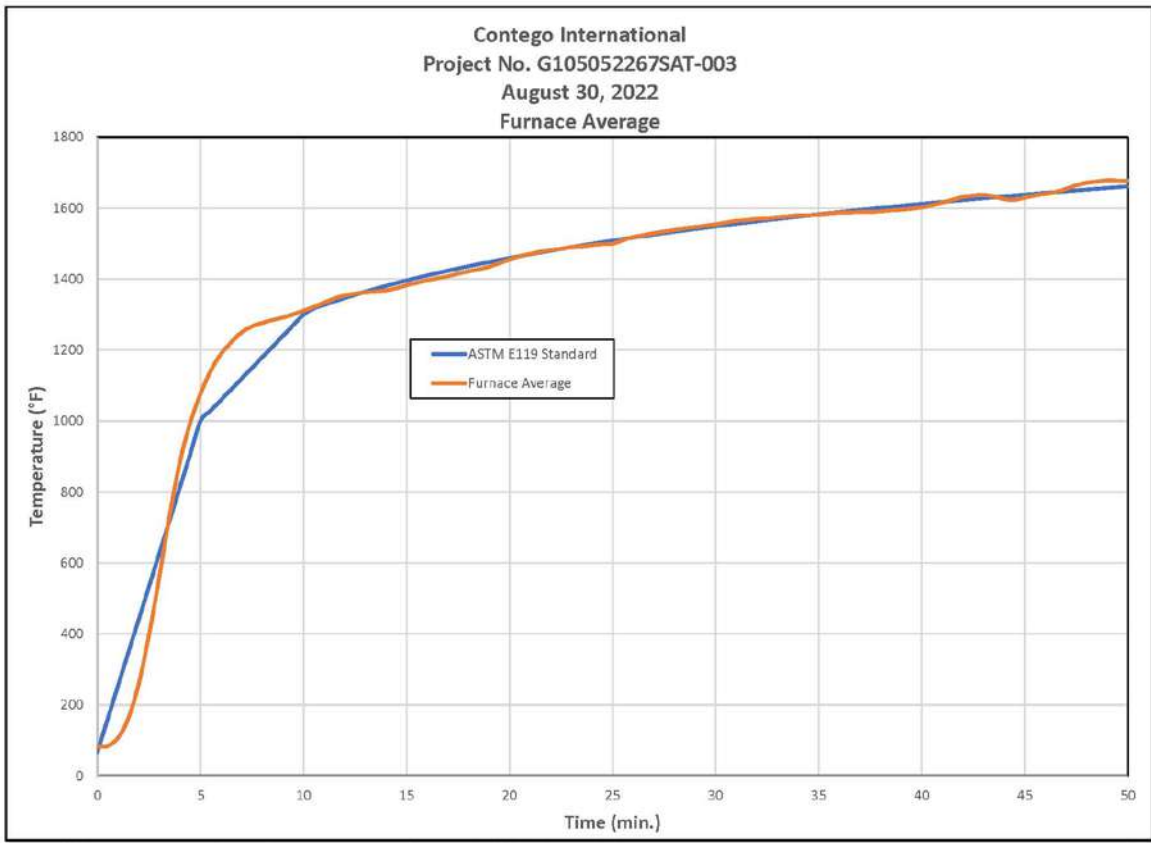
G105052267SAT-003 **Contego International** **August 30, 2022**

Time (min.)	Deflection (in.)
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44.5	2.270903526
45	2.366246752
45.5	2.441890962
46	2.579389978
46.5	2.710191508
47	2.858328072
47.5	2.999372986
48	3.218425975
48.5	3.481210755
49	3.793637028
49.5	4.331813925
50	4.705701101

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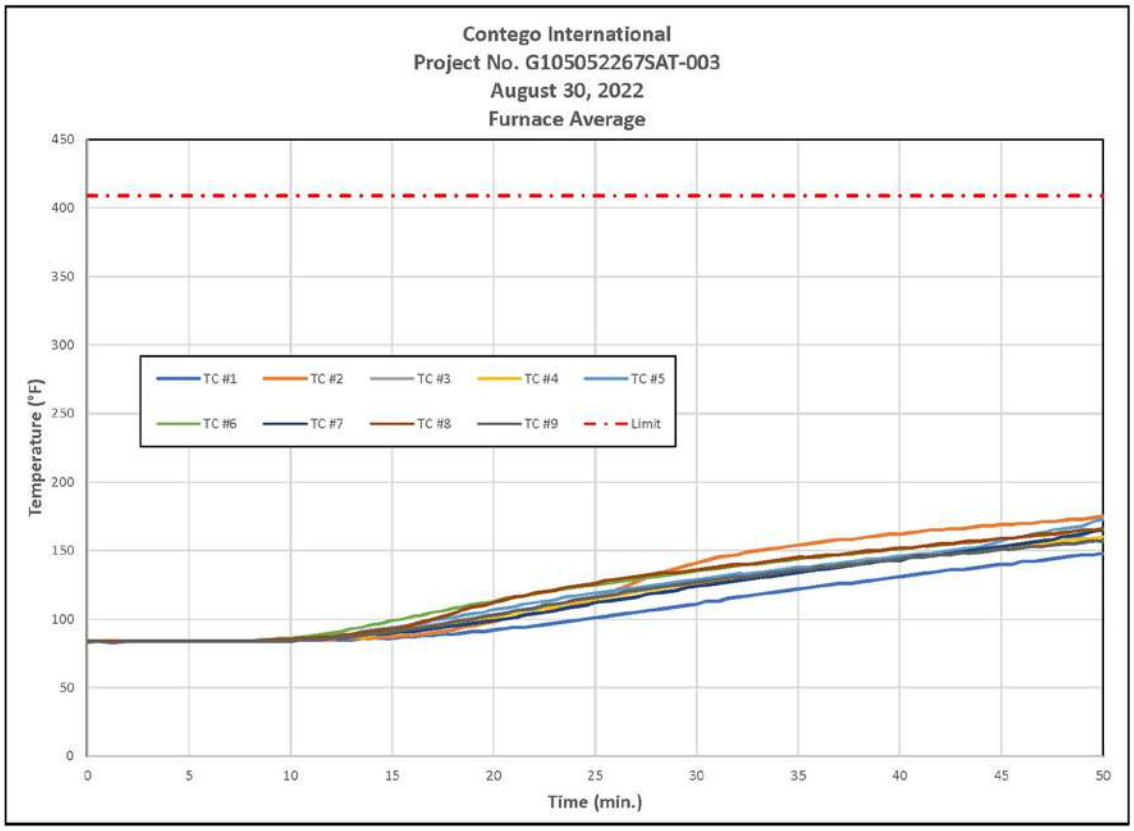
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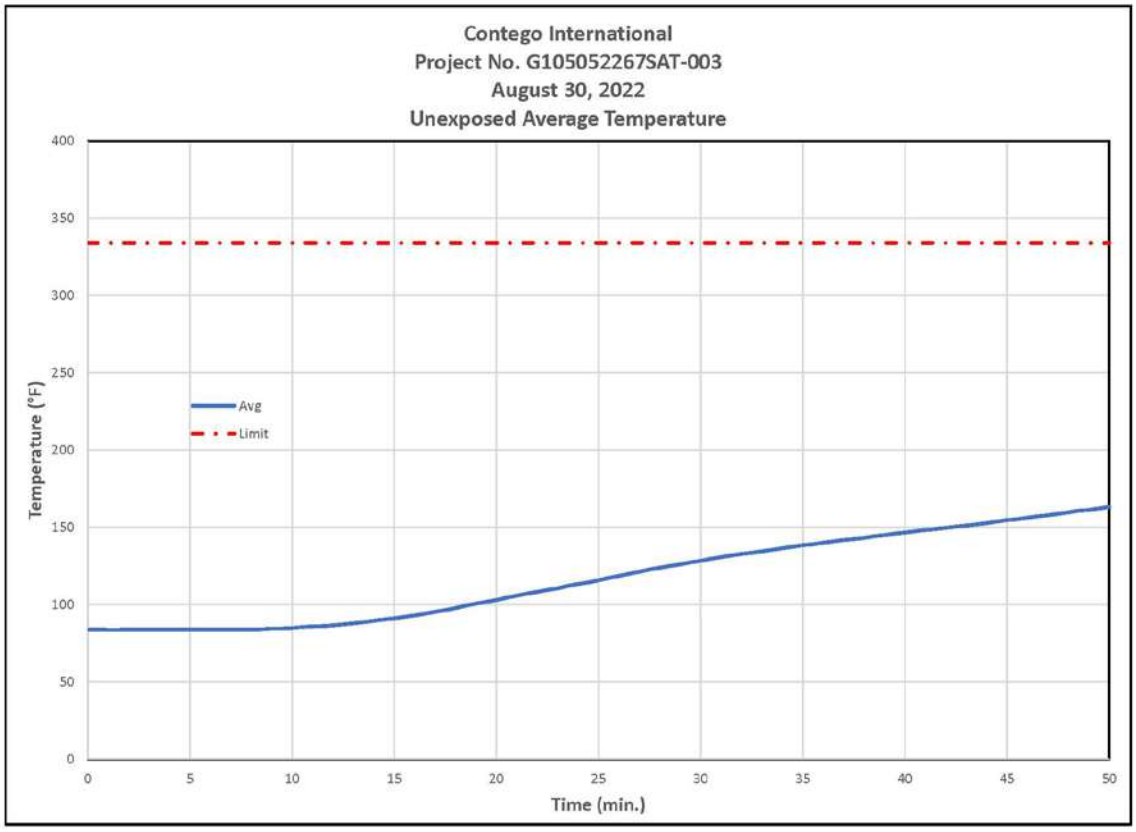
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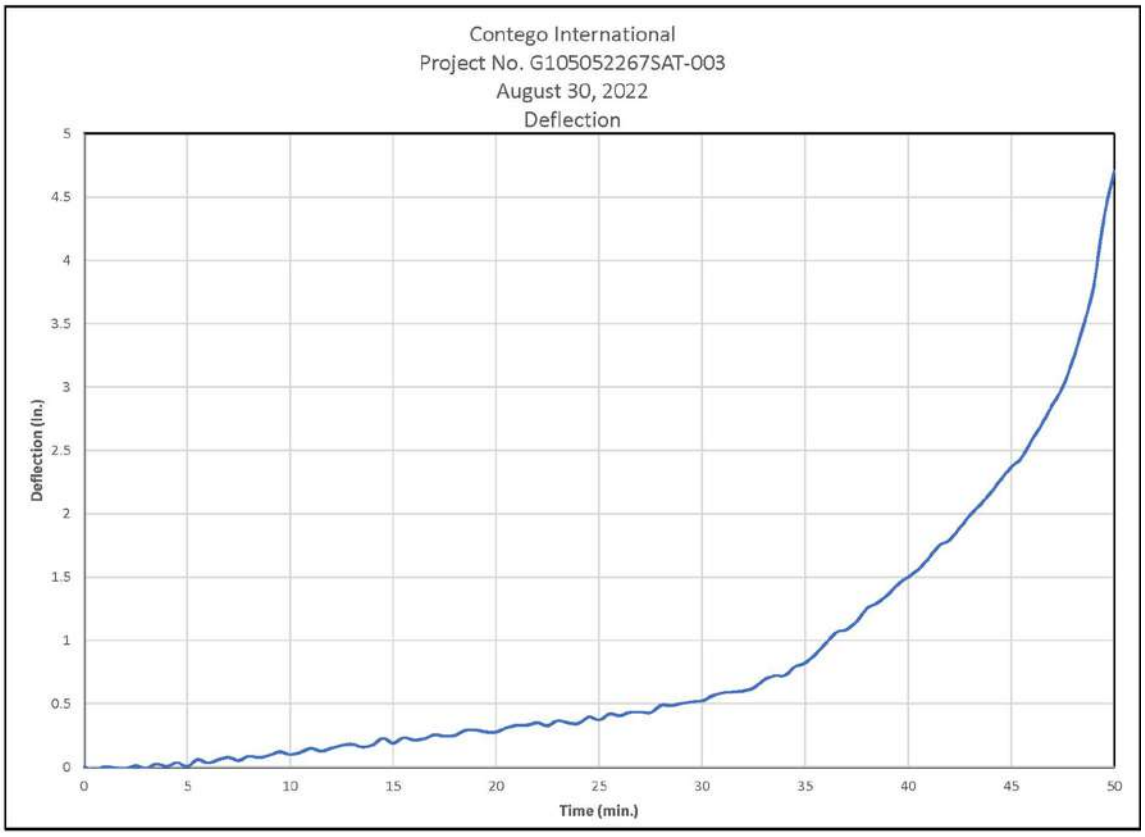
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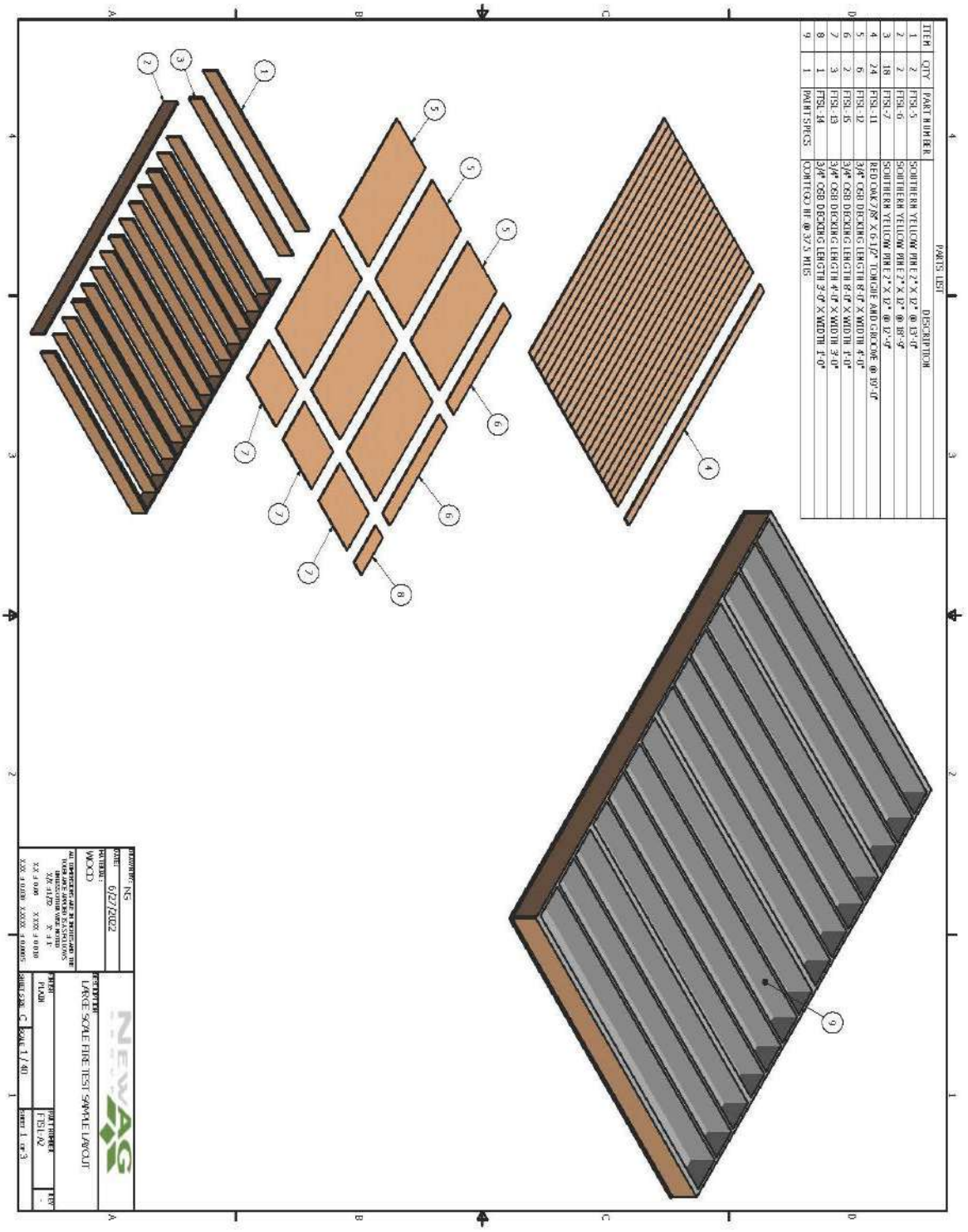
SECTION 12
DRAWINGS

The "As-Built" drawings for the Contego International Inc.; Sheet Nos. 1-3 and dated 6/27/2022; which follow have been reviewed by Intertek B&C and are representative of the project reported herein. Project construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

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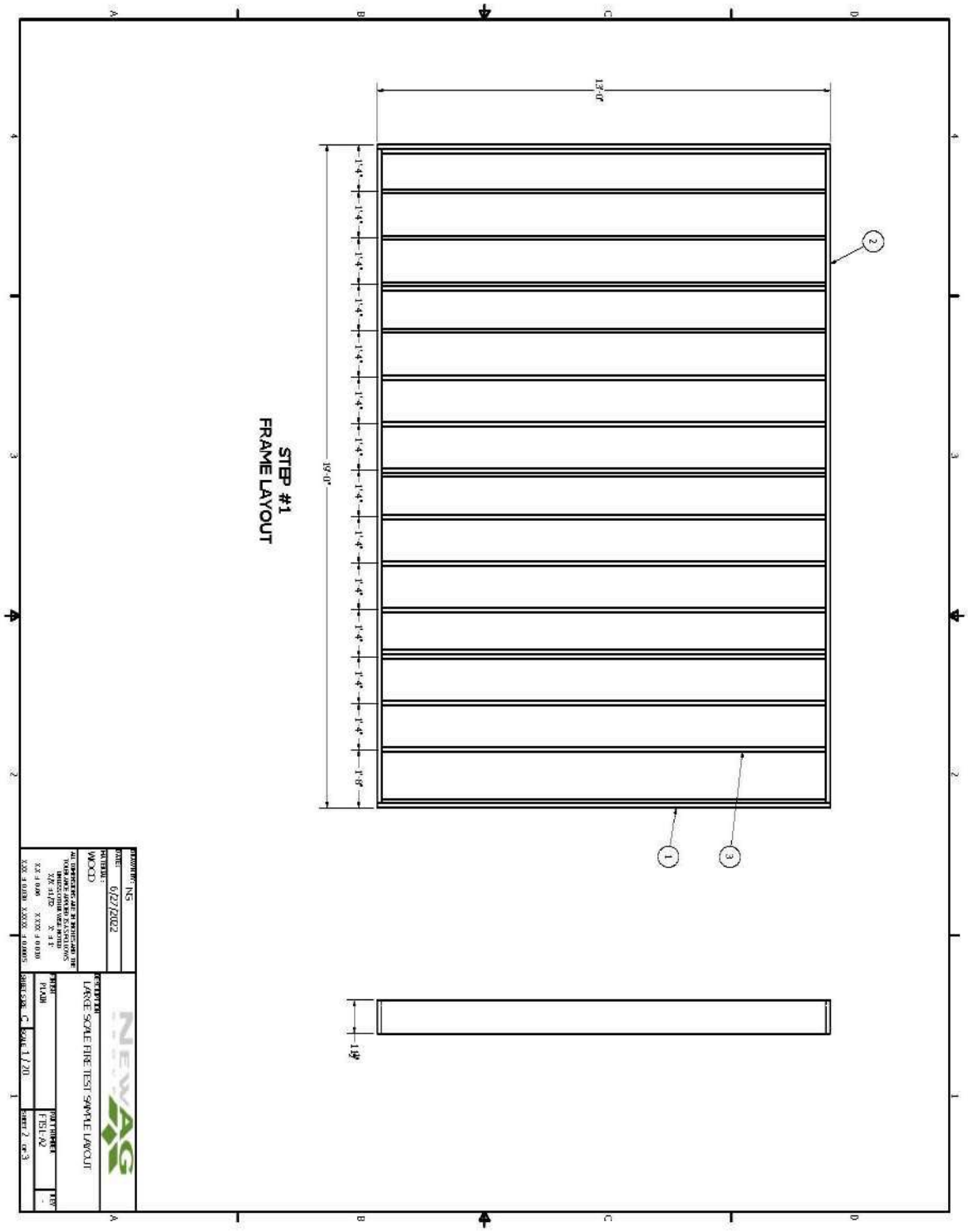
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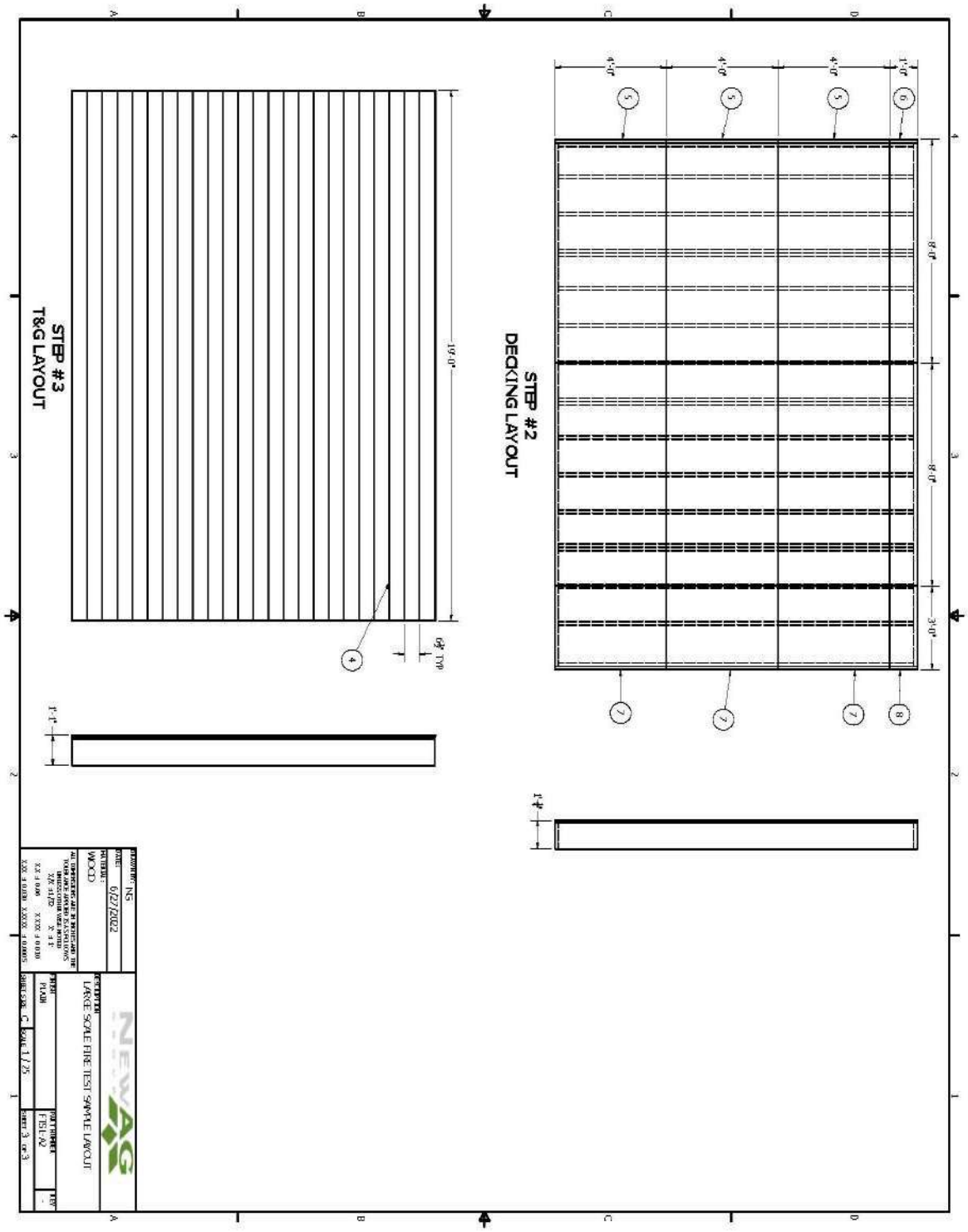
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STEP #3
T&G LAYOUT
STEP #2
DECKING LAYOUT
LARGE SCALE FIRE TEST SAMPLE LAYOUT
WOOD
6/27/2022
FIRST PLAN
FIRE TEST
FIRST
FIRE TEST
FIRST
FIRE TEST
FIRST

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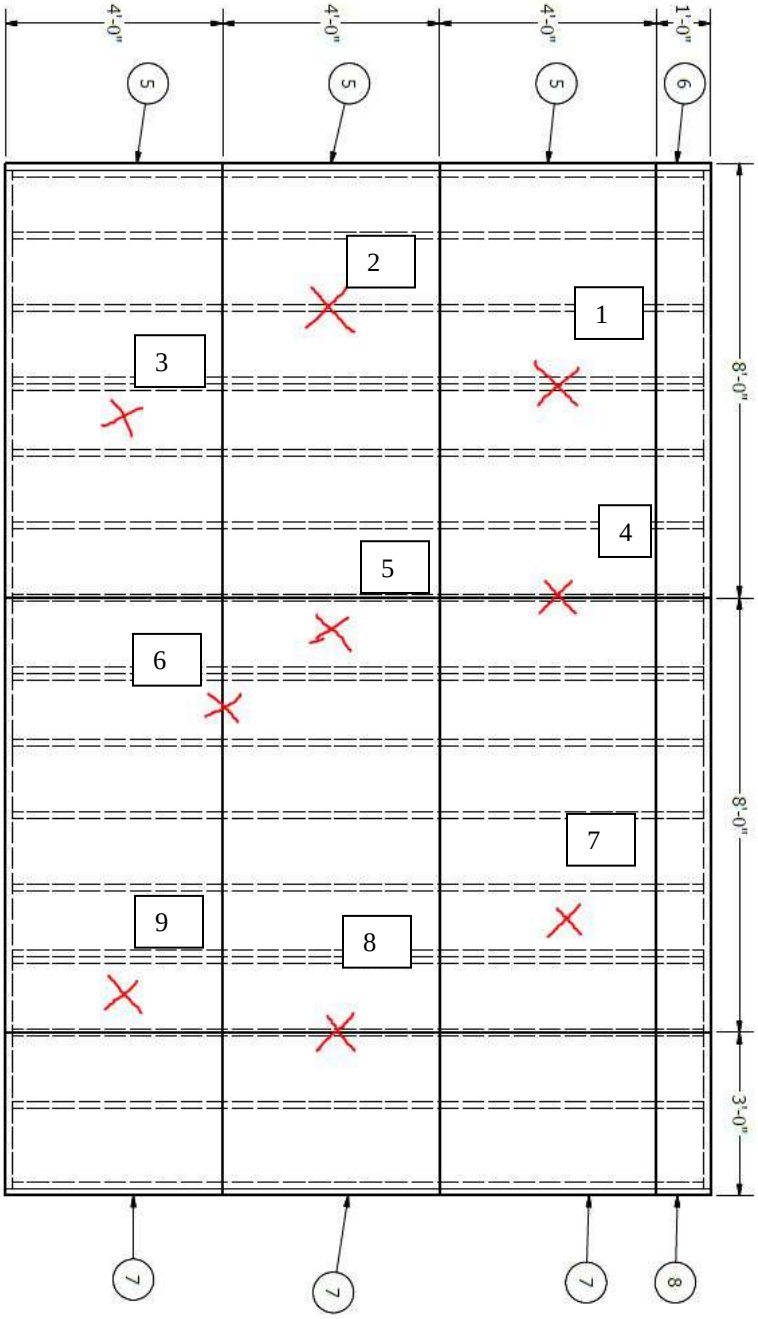


FIG. 1. – THERMOCOUPLE LAYOUT

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SECTION 13

REVISION LOG

REVISION #	DATE	SECTION	REVISION
0	08/31/22	N/A	Original Report Issue
1	09/12/22	3 & 6	Added UL 263 to test methods, corrected client observer's company E.O.
2	01/13/23	9	Revised conclusion to include UL263 and CAN/ULC S101 E.O.