

DRAFT

SMALL SCALE ASTM E119  
FIRE RESISTANCE TESTING  
FOR OEG  
ON  
OEG BIG APPLE FLOOR JOIST  
FLOOR G551  
TESTED: OCTOBER 9, 2023  
VTEC #100-7697  
TESTED: OCTOBER 9, 2023



# VTEC Laboratories Inc.

October 18, 2023

**Client:** OEG Building Materials  
6001 Bordentown Ave  
Sayreville, NJ 08872

**Attn:** Moshe Rosner

**Subject:** Fire Resistance Testing According to ASTM E119

**SAMPLE DESCRIPTION:** OEG Big Apple floor joist Floor G551

- 1- OEG Building Supplies Galvanized steel Big Apple Joists, 10" depth x 16Ga thickness. Joists spaced at 24" O.C.
- 2- OEG Building Supplies steel Big Apple Joist Track receiving ends of joists, 10" depth x 16Ga minimum. Screw fastened to top & bottom flange of joists with #10 x 3/4" self-drilling screws.
- 3- Metal Decking, 22Ga. Screw fastened to the top of the joist frame with 5/8 in. long No. 10-16 TEK screws at 12" O.C.
- 4- Resilient channel, 1/2" deep x 25Ga minimum at 12" O.C. screw fastened to bottom flange of steel joist with 1/2 in. Type S-12 low profile screws.
- 5- Fiberglass insulation 3-1/2" thick in joist cavity.
- 6- One layer of 5/8" Type X gypsum board, screw fastened to resilient furring channels with #6 x 1" drywall screws at 12" O.C.
- 7- Maxxon Gypcrete poured over the metal decking at a thickness of 1.5"

**PROCEDURE :**

The furnace measures nominally 5 ft x 5 ft x 7 ft. The outside construction is steel and the furnace is lined with a ceramic refractory insulation.

Four burners, one centered on each wall, provide uniform heat. Each burner is rated for 1.5 million Btu/hr and is of the flat flame or non-impinging flame design. Furnace conditions are monitored by four 1/4" grounded Inconel-sheathed chromel-alumel thermocouples.

The unexposed surface temperature of the sample was monitored by nine, 20-gauge type K, fiberglass sheathed thermocouples. An insulating pad was placed over each thermocouple on the unexposed side of the sample.

The sample was loaded to 80 lb/ft<sup>2</sup>.

The fire test was run following the E119/UL263 time-temperature curve.

The endpoint for the E119 Fire Endurance Testing occurs when either all the thermocouples on the unexposed side of the sample reach an average of 250°F + ambient starting temperature, any individual thermocouple on the sample exceeds 325°F + ambient starting temperature, or when the sample experiences burn-through.

**RESULTS:**

The ambient temperature was 68°F.

At 65 minutes, the test was stopped without any of the failure criteria having been met.

The time-temperature data are contained on the following pages.

The sample met the passing requirements per ASTM E119 for one hour.

**Time Deflection Data**

<u>TIME (MINS)</u>	<u>DEFLECTION (IN)</u>
0	0.00
15	0.00
30	0.12
45	0.13
60	0.19

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Neil Schultz  
Executive Director

\_\_\_\_\_  
Amirudin Rahim  
Technical Director

**DISCLAIMER:** This test should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazards or fire risks of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment, which takes into account all of the factors that are pertinent to an assessment of fire hazard of a particular end use.

**Notice:** VTEC Laboratories Inc. will not be liable for any loss or damage resulting from the use of the data in this report, in excess of the invoice. This report pertains to the sample tested only. Such report shall not be interpreted to be a warranty, either expressed or implied as to the suitability or fitness of said sample for such uses or applications, as the party contracting for the report may apply such sample.

Time (min)	Unexposed Side										Furnace				
	TC 1 Deg. F	TC 2 Deg. F	TC 3 Deg. F	TC 4 Deg. F	TC 5 Deg. F	TC 6 Deg. F	TC 7 Deg. F	TC 8 Deg. F	TC 9 Deg. F	AVG. Deg. F	TC 26 Deg. F	TC 27 Deg. F	TC 28 Deg. F	TC 29 Deg. F	AVG. Deg. F
0.0	68	68	68	68	68	68	68	68	68	68	71	74	77	74	74
0.5	68	68	68	68	68	68	68	68	68	68	74	85	87	94	85
1.0	68	68	67	68	68	68	68	68	68	68	676	615	642	528	615
1.5	68	68	68	68	68	68	68	68	68	68	699	767	665	937	767
2.0	68	68	67	68	68	68	68	68	68	68	723	861	689	1171	861
2.5	68	68	68	68	68	68	68	68	68	68	746	835	712	1048	835
3.0	68	68	67	68	68	68	68	68	68	68	769	811	736	928	811
3.5	68	68	68	68	68	68	69	68	68	68	792	798	759	844	798
4.0	68	68	67	68	68	68	69	68	68	68	915	894	883	885	894
4.5	68	68	67	68	68	68	68	68	68	68	1038	996	1006	943	996
5.0	68	68	68	68	68	68	68	67	68	68	1016	1033	1010	1074	1033
5.5	68	68	68	68	68	68	68	68	68	68	1065	1079	1061	1111	1079
6.0	68	68	68	68	68	68	68	68	68	68	1091	1085	1096	1130	1100
6.5	68	68	68	68	68	68	68	68	68	68	1103	1094	1097	1137	1108
7.0	68	68	68	68	68	68	68	68	68	68	1128	1119	1118	1164	1132
7.5	68	68	68	68	68	68	68	68	68	68	1162	1154	1157	1197	1167
8.0	68	68	68	68	68	68	68	68	68	68	1199	1193	1197	1245	1208
8.5	68	69	68	68	68	68	68	68	68	68	1242	1238	1241	1281	1250
9.0	68	69	68	68	68	68	68	68	68	68	1289	1285	1290	1332	1299
9.5	69	70	68	68	68	68	68	68	68	68	1293	1286	1289	1335	1301
10.0	69	70	68	68	68	68	69	69	68	68	1297	1288	1287	1343	1304
10.5	69	71	68	68	68	68	69	69	68	69	1294	1290	1296	1340	1305
11.0	70	71	68	68	68	68	69	69	68	69	1291	1289	1298	1331	1302
11.5	70	72	69	68	69	68	69	69	68	69	1298	1293	1297	1342	1307
12.0	70	73	69	68	69	68	70	70	68	69	1306	1297	1299	1350	1313
12.5	71	73	69	69	69	69	70	70	68	70	1352	1350	1359	1391	1363
13.0	71	74	69	69	70	69	70	70	69	70	1359	1357	1360	1401	1369
13.5	72	75	70	69	70	69	71	71	69	71	1363	1359	1363	1411	1374
14.0	73	75	70	69	71	69	71	71	69	71	1371	1365	1370	1418	1381
14.5	73	76	70	69	71	69	72	72	69	71	1371	1367	1374	1415	1382
15.0	73	77	71	70	71	69	72	72	69	72	1373	1372	1384	1413	1385
15.5	74	78	71	70	72	70	72	73	69	72	1382	1380	1391	1429	1395
16.0	75	78	72	70	72	70	73	73	70	72	1397	1389	1400	1436	1406
16.5	75	79	72	70	73	70	73	73	70	73	1407	1400	1411	1447	1416
17.0	76	80	73	71	73	71	74	74	70	73	1418	1409	1419	1452	1425

Time (min)	Unexposed Side										Furnace				
	TC 1 Deg. F	TC 2 Deg. F	TC 3 Deg. F	TC 4 Deg. F	TC 5 Deg. F	TC 6 Deg. F	TC 7 Deg. F	TC 8 Deg. F	TC 9 Deg. F	AVG. Deg. F	TC 26 Deg. F	TC 27 Deg. F	TC 28 Deg. F	TC 29 Deg. F	AVG. Deg. F
17.5	77	80	73	71	74	71	74	74	70	74	1429	1416	1424	1457	1432
18.0	77	81	73	72	74	71	75	75	71	74	1436	1424	1433	1470	1441
18.5	78	82	74	72	75	72	75	75	71	75	1437	1430	1440	1474	1445
19.0	78	83	75	72	75	72	76	76	71	75	1439	1434	1445	1475	1448
19.5	79	83	75	73	76	72	76	76	72	76	1441	1437	1451	1477	1452
20.0	80	84	75	73	76	73	77	77	72	76	1448	1443	1453	1480	1456
20.5	80	84	76	73	77	73	77	77	72	77	1451	1446	1457	1491	1461
21.0	81	85	76	73	77	73	77	78	73	77	1455	1450	1460	1494	1465
21.5	81	85	77	74	77	74	78	78	73	77	1456	1454	1467	1490	1466
22.0	82	86	77	74	78	74	78	79	73	78	1463	1456	1468	1498	1471
22.5	82	87	78	75	78	74	79	80	74	78	1465	1457	1469	1500	1473
23.0	83	87	78	75	79	75	79	80	74	79	1468	1461	1470	1502	1475
23.5	83	87	79	75	79	75	80	80	74	79	1472	1464	1474	1511	1480
24.0	84	88	79	76	79	76	80	81	75	80	1475	1470	1478	1515	1484
24.5	84	88	79	76	80	76	81	81	75	80	1479	1474	1482	1517	1488
25.0	85	89	80	77	80	76	81	82	75	80	1482	1477	1488	1517	1491
25.5	85	89	80	77	80	77	81	82	76	81	1485	1478	1491	1520	1493
26.0	85	89	80	77	81	77	82	83	76	81	1485	1481	1493	1521	1495
26.5	86	90	81	77	81	77	82	83	76	82	1486	1482	1497	1527	1498
27.0	86	90	81	78	82	77	83	84	77	82	1494	1489	1501	1528	1503
27.5	87	91	82	78	82	78	83	84	77	82	1494	1490	1505	1526	1504
28.0	87	91	82	79	82	78	84	84	77	83	1499	1495	1508	1531	1508
28.5	87	91	82	79	83	78	84	85	77	83	1498	1497	1510	1535	1510
29.0	88	92	83	80	83	79	84	85	78	83	1501	1497	1511	1538	1512
29.5	88	92	83	80	84	79	85	86	78	84	1500	1499	1512	1536	1512
30.0	89	93	84	80	84	80	85	86	78	84	1503	1499	1513	1542	1514
30.5	89	93	84	81	84	80	86	87	79	85	1504	1502	1516	1545	1517
31.0	90	94	84	82	85	80	86	87	79	85	1509	1507	1520	1547	1521
31.5	91	94	85	82	86	80	87	88	80	86	1514	1512	1524	1552	1526
32.0	91	95	85	83	86	81	88	88	80	86	1517	1514	1527	1560	1530
32.5	92	95	86	84	87	81	88	89	80	87	1519	1515	1529	1556	1530
33.0	93	96	86	84	87	81	89	90	81	87	1519	1519	1532	1554	1531
33.5	93	96	87	85	88	82	90	90	81	88	1529	1522	1535	1569	1539
34.0	94	96	87	86	89	82	90	91	82	89	1529	1525	1539	1567	1540
34.5	94	97	88	86	89	83	91	92	82	89	1532	1529	1541	1575	1544

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ASTM E119 - FLOOR CEILING ASSEMBLY - 1 HOUR

Time (min)	Unexposed Side										Furnace				
	TC 1 Deg. F	TC 2 Deg. F	TC 3 Deg. F	TC 4 Deg. F	TC 5 Deg. F	TC 6 Deg. F	TC 7 Deg. F	TC 8 Deg. F	TC 9 Deg. F	AVG. Deg. F	TC 26 Deg. F	TC 27 Deg. F	TC 28 Deg. F	TC 29 Deg. F	AVG. Deg. F
35.0	95	97	88	87	90	83	92	92	83	90	1538	1535	1547	1578	1549
35.5	96	98	89	88	91	84	93	93	83	90	1537	1534	1549	1576	1549
36.0	96	99	89	88	91	84	94	94	84	91	1540	1539	1552	1584	1554
36.5	97	99	90	89	92	85	95	95	84	92	1546	1543	1557	1588	1559
37.0	98	100	90	90	93	85	95	95	85	92	1554	1551	1564	1598	1567
37.5	98	100	91	91	93	86	96	96	85	93	1559	1557	1570	1601	1572
38.0	99	101	91	91	94	86	97	97	86	93	1564	1561	1575	1607	1577
38.5	100	102	92	92	95	86	98	98	86	94	1565	1562	1577	1605	1577
39.0	101	102	92	93	95	87	99	98	87	95	1567	1563	1578	1613	1580
39.5	102	103	93	94	96	87	100	99	87	96	1571	1569	1583	1613	1584
40.0	102	103	93	95	96	88	101	100	88	96	1574	1572	1585	1618	1587
40.5	103	104	93	95	97	89	102	101	88	97	1576	1573	1587	1615	1588
41.0	104	105	94	96	97	89	103	102	89	98	1585	1582	1595	1628	1598
41.5	105	105	95	97	98	90	104	103	89	98	1587	1584	1599	1632	1600
42.0	105	106	95	98	98	90	105	104	90	99	1589	1587	1603	1632	1603
42.5	106	107	95	98	99	91	106	105	91	100	1595	1592	1606	1644	1609
43.0	107	107	96	99	100	91	107	105	91	100	1595	1594	1609	1637	1608
43.5	108	108	96	100	100	92	108	106	92	101	1597	1594	1611	1642	1611
44.0	109	109	97	101	100	93	109	107	92	102	1597	1596	1612	1645	1613
44.5	110	109	97	102	101	93	110	108	93	102	1602	1602	1616	1649	1617
45.0	111	110	98	102	102	94	111	109	93	103	1605	1604	1618	1652	1620
45.5	111	111	98	103	102	94	112	110	94	104	1605	1605	1620	1650	1620
46.0	112	112	99	104	102	95	112	111	94	104	1611	1609	1624	1656	1625
46.5	113	112	99	105	103	95	113	111	95	105	1614	1614	1628	1662	1629
47.0	114	113	100	105	103	96	114	112	95	106	1617	1613	1629	1660	1630
47.5	115	114	100	106	104	97	115	113	96	106	1617	1615	1632	1662	1632
48.0	116	114	100	107	104	97	116	114	96	107	1622	1621	1636	1666	1636
48.5	116	115	101	107	105	98	117	114	97	108	1623	1621	1637	1666	1637
49.0	117	116	101	108	105	98	117	115	97	108	1626	1623	1638	1666	1638
49.5	118	117	102	109	106	99	118	116	98	109	1628	1628	1643	1676	1644
50.0	119	117	102	110	106	100	119	117	98	110	1633	1634	1650	1686	1651
50.5	120	118	103	110	107	100	120	118	99	110	1639	1640	1655	1688	1655
51.0	121	119	103	111	107	101	121	118	99	111	1645	1643	1658	1693	1660
51.5	122	120	104	112	108	101	122	119	100	112	1646	1647	1662	1692	1662
52.0	122	120	105	113	108	102	122	120	100	112	1647	1647	1663	1696	1663

MAY 18, 2018

7

VTEC #100-7697

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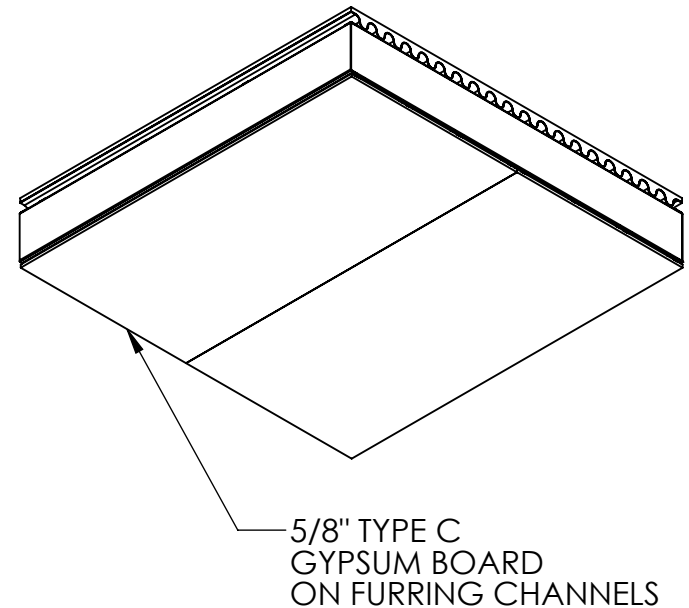
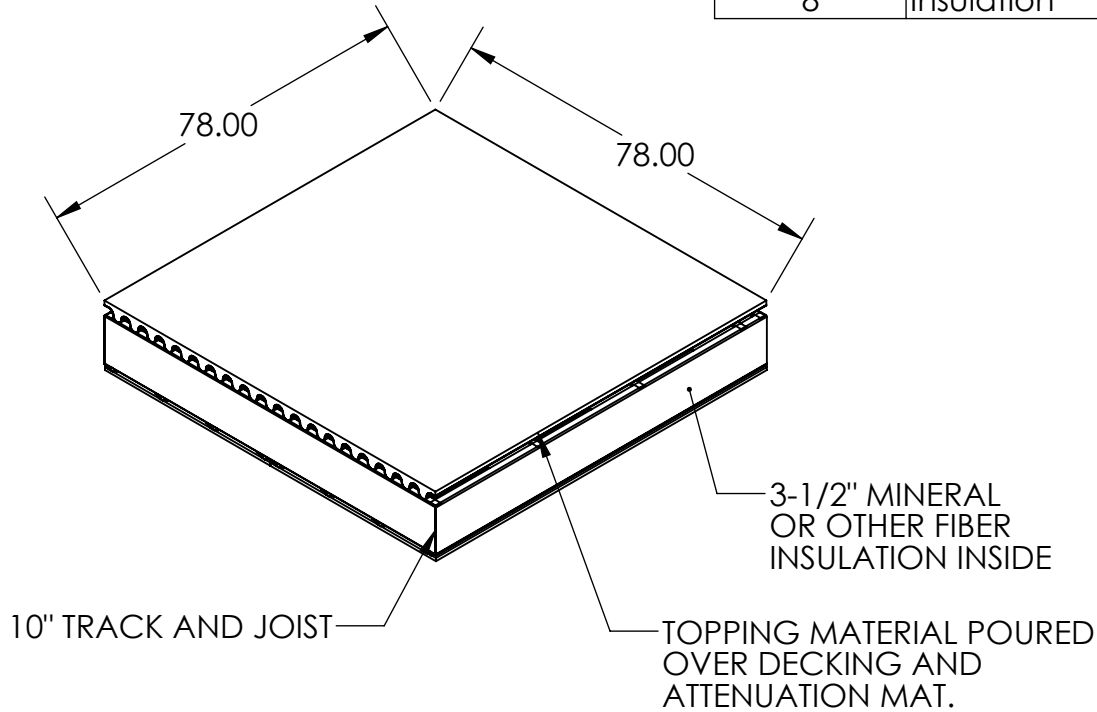
ASTM E119 - FLOOR CEILING ASSEMBLY - 1 HOUR

Time (min)	Unexposed Side										Furnace				
	TC 1 Deg. F	TC 2 Deg. F	TC 3 Deg. F	TC 4 Deg. F	TC 5 Deg. F	TC 6 Deg. F	TC 7 Deg. F	TC 8 Deg. F	TC 9 Deg. F	AVG. Deg. F	TC 26 Deg. F	TC 27 Deg. F	TC 28 Deg. F	TC 29 Deg. F	AVG. Deg. F
52.5	123	121	105	113	108	102	123	120	100	<b>113</b>	1648	1648	1664	1702	<b>1665</b>
53.0	124	122	105	114	109	103	124	121	101	<b>114</b>	1652	1650	1666	1698	<b>1667</b>
53.5	125	122	106	114	109	104	125	122	101	<b>114</b>	1656	1654	1669	1701	<b>1670</b>
54.0	126	123	107	115	110	104	125	122	102	<b>115</b>	1654	1654	1669	1705	<b>1670</b>
54.5	126	124	107	116	110	105	126	123	102	<b>115</b>	1657	1656	1672	1705	<b>1672</b>
55.0	127	125	108	117	111	105	127	124	103	<b>116</b>	1658	1659	1673	1706	<b>1674</b>
55.5	128	125	108	117	111	106	128	124	103	<b>117</b>	1665	1663	1678	1706	<b>1678</b>
56.0	129	126	109	118	112	107	128	125	104	<b>117</b>	1665	1665	1679	1706	<b>1679</b>
56.5	129	127	109	119	112	107	129	126	104	<b>118</b>	1668	1667	1682	1713	<b>1682</b>
57.0	130	127	110	119	113	108	130	126	105	<b>119</b>	1668	1668	1683	1717	<b>1684</b>
57.5	131	128	110	120	113	108	131	127	105	<b>119</b>	1668	1670	1684	1719	<b>1685</b>
58.0	132	129	111	121	113	109	131	128	105	<b>120</b>	1668	1670	1684	1716	<b>1685</b>
58.5	132	129	112	121	114	109	132	128	106	<b>120</b>	1667	1669	1685	1712	<b>1683</b>
59.0	133	130	112	122	114	110	132	129	106	<b>121</b>	1676	1674	1688	1717	<b>1689</b>
59.5	134	131	113	123	115	110	133	129	107	<b>122</b>	1674	1675	1690	1717	<b>1689</b>
60.0	135	131	113	123	115	111	134	130	107	<b>122</b>	1676	1676	1691	1724	<b>1692</b>
60.5	136	132	114	124	116	112	134	131	108	<b>123</b>	1680	1679	1693	1720	<b>1693</b>
61.0	136	133	114	125	116	112	135	131	108	<b>123</b>	1676	1678	1694	1720	<b>1692</b>
61.5	137	133	115	125	117	113	136	132	109	<b>124</b>	1680	1682	1696	1723	<b>1695</b>
62.0	138	134	115	126	117	113	136	132	109	<b>125</b>	1682	1683	1698	1725	<b>1697</b>
62.5	138	135	116	127	118	114	137	133	109	<b>125</b>	1685	1689	1701	1727	<b>1700</b>
63.0	139	135	116	127	118	114	138	134	110	<b>126</b>	1688	1687	1702	1734	<b>1703</b>
63.5	140	136	117	128	119	115	138	134	110	<b>126</b>	1687	1687	1702	1731	<b>1702</b>
64.0	140	136	117	128	119	115	139	135	111	<b>127</b>	1691	1692	1705	1736	<b>1706</b>
64.5	141	137	118	129	120	116	140	135	111	<b>127</b>	1690	1690	1704	1733	<b>1704</b>
65.0	142	138	118	130	120	116	140	136	112	<b>128</b>	1692	1694	1707	1742	<b>1709</b>



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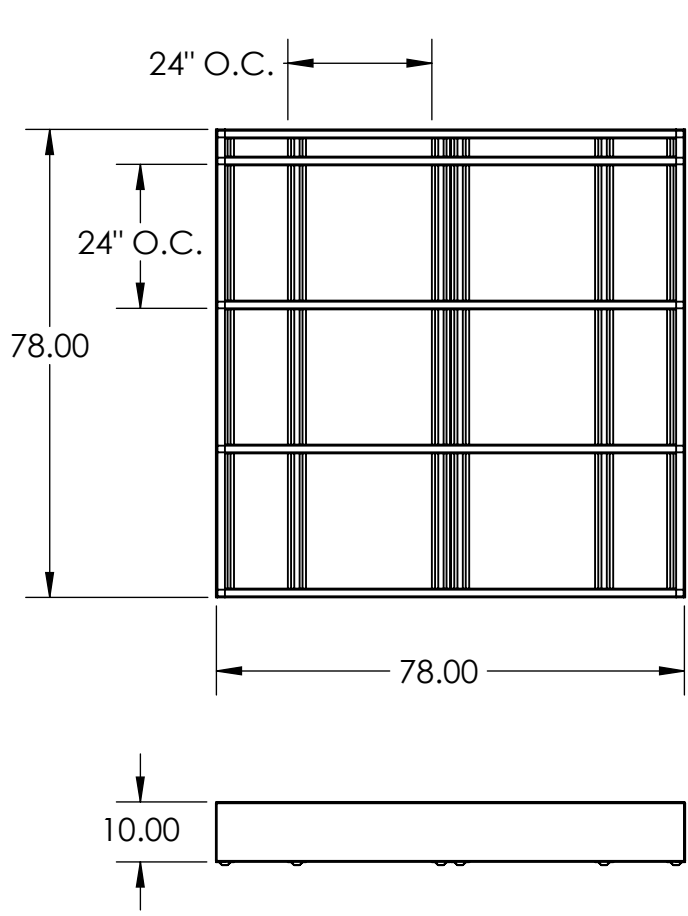
ITEM NO.	PART NUMBER	CUT LENGTHS AND SIZES	MIN. QTY.
1	Corrugated Decking	78"x78"	1
2	Joist 10 in	78"	5
3	Track 10 in	78"	2
4	Furring Channel	78"	6
5	5/8" Type C Gypsum	39"x78"	2
6	Pouring Compound		1
7	Attenuation Mat.	78"x78"	1
8	Insulation	24"x78"	4



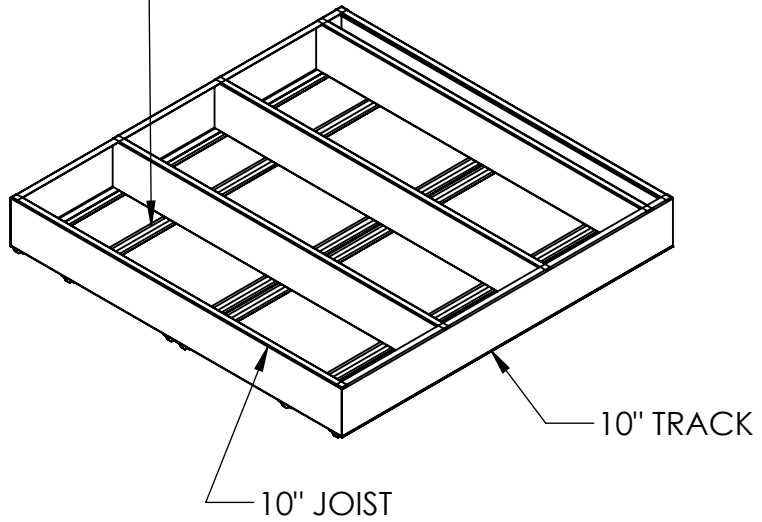
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	BH	8/1/23
		TOLERANCES:	CHECKED		
		FRACTIONAL ±	ENG APPR.		
		ANGULAR: MACH ± BEND ±	MFG APPR.		
		TWO PLACE DECIMAL ±	Q.A.		
		THREE PLACE DECIMAL ±	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

TITLE:		
FLOOR ASSEMBLY		
SIZE	DWG. NO.	REV
<b>A</b>	OEG FLOOR G551	2
WEIGHT:		SHEET 1 OF 7



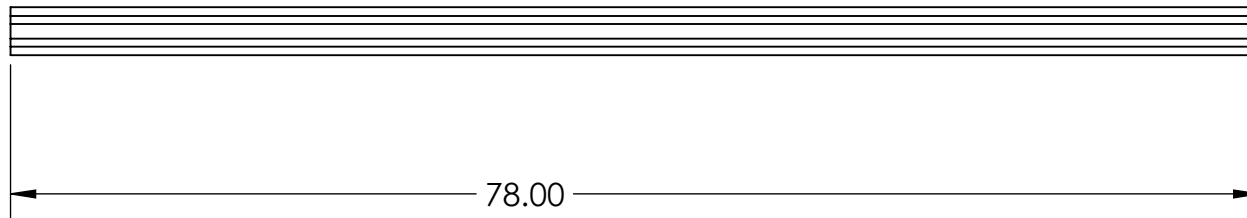
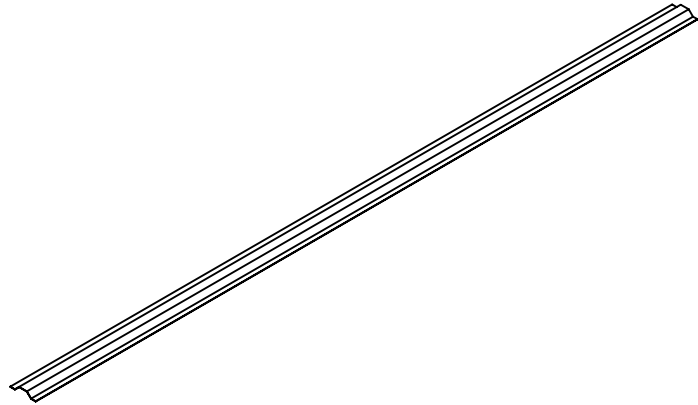
FURRING CHANNELS



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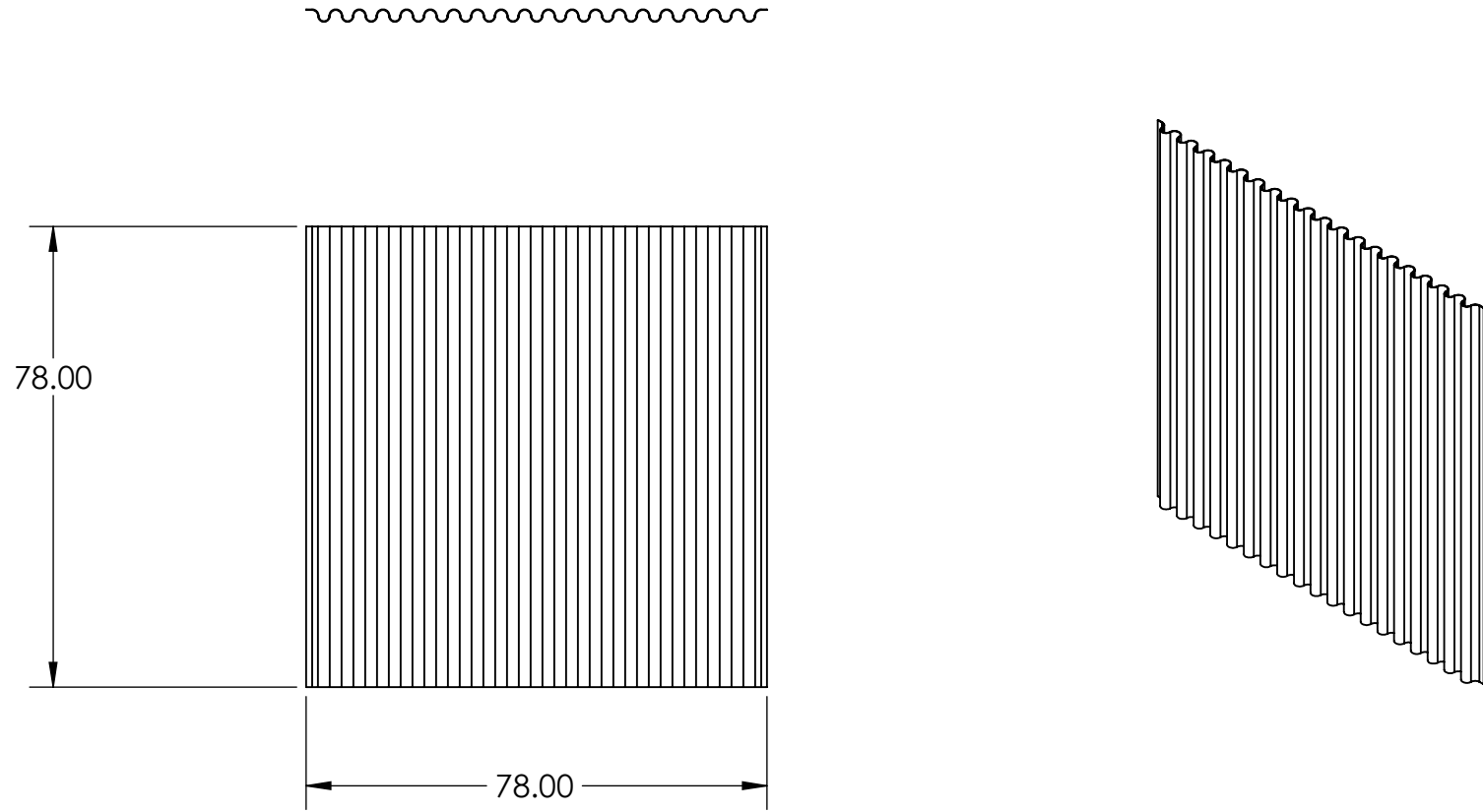
		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	TITLE:  FLOOR FRAME			
		DIMENSIONS ARE IN INCHES	DRAWN	BH			8/1/23	
		TOLERANCES:	CHECKED					
		FRACTIONAL ±	ENG APPR.					
		ANGULAR: MACH ± BEND ±	MFG APPR.					
		TWO PLACE DECIMAL ±	Q.A.			SIZE <b>A</b>	DWG. NO. OEG FLOOR G551	REV 2
		THREE PLACE DECIMAL ±	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING					WEIGHT:	SHEET 2 OF 7





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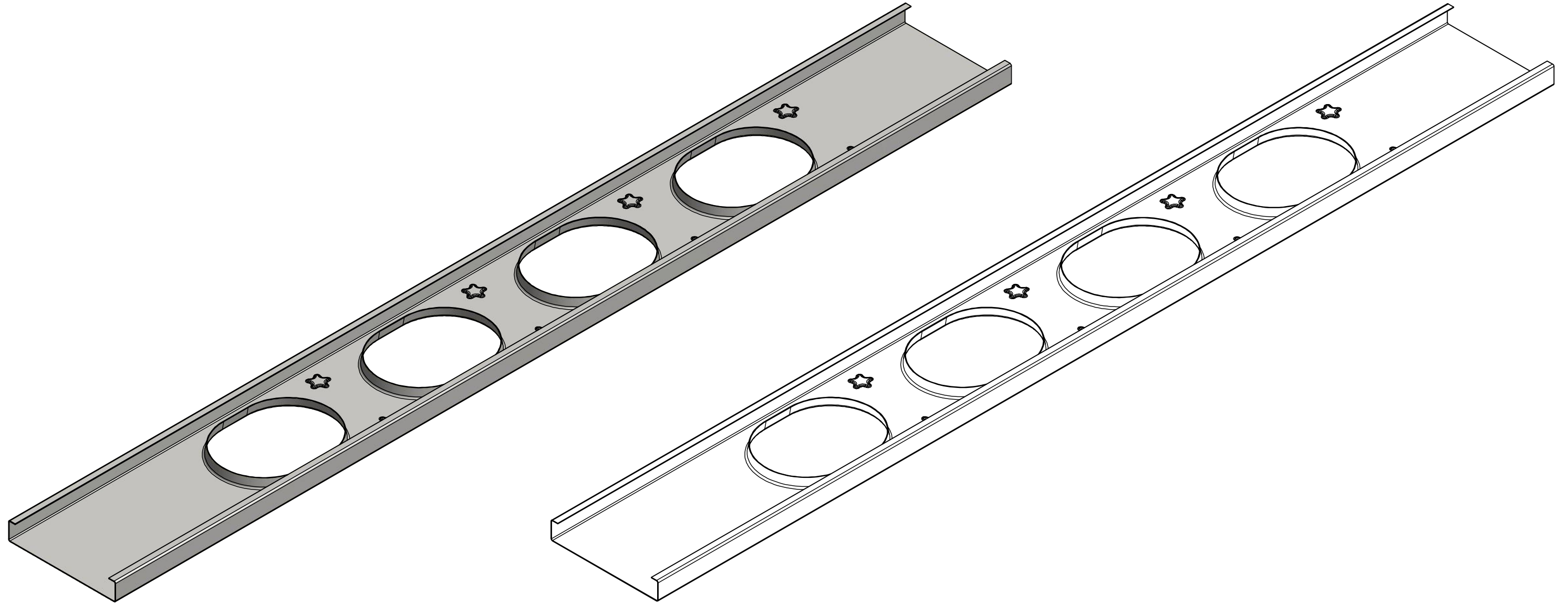
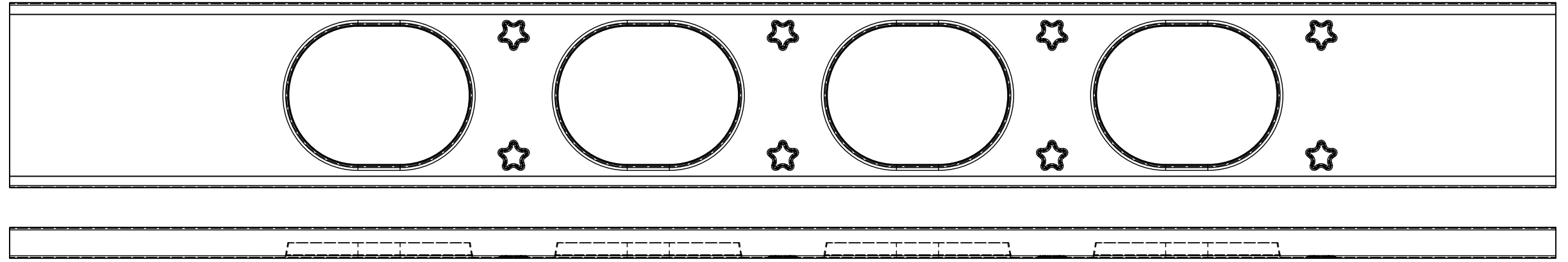
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	TITLE:  FURRING CHANNEL				
		DIMENSIONS ARE IN INCHES	DRAWN	BH	8/1/23			SIZE <b>A</b>	DWG. NO. OEG FLOOR G551	
		TOLERANCES:	CHECKED							REV 2
		FRACTIONAL ±	ENG APPR.							
		ANGULAR: MACH ± BEND ±	MFG APPR.							WEIGHT:
		TWO PLACE DECIMAL ±	Q.A.							
		THREE PLACE DECIMAL ±	COMMENTS:							
		INTERPRET GEOMETRIC TOLERANCING PER:								
		MATERIAL								
NEXT ASSY	USED ON	FINISH								
APPLICATION		DO NOT SCALE DRAWING								



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE			
		DIMENSIONS ARE IN INCHES	DRAWN	BH	8/1/23	TITLE:  DECKING		
		TOLERANCES:	CHECKED					
		FRACTIONAL ±	ENG APPR.					
		ANGULAR: MACH ± BEND ±	MFG APPR.					
		TWO PLACE DECIMAL ±	Q.A.			SIZE	DWG. NO.	REV
		THREE PLACE DECIMAL ±	COMMENTS:			<b>A</b>	OEG FLOOR G551	2
		INTERPRET GEOMETRIC TOLERANCING PER:				WEIGHT:		SHEET 7 OF 7
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

DRAFT



TOLERANCES	
EXCEPT AS NOTED	
.XIX	± 1/16 [1.6mm]
.X	± .060 [1.5mm]
.XX	± .030 [0.8mm]
.XXX	± .015 [0.4mm]
∠	± 2°

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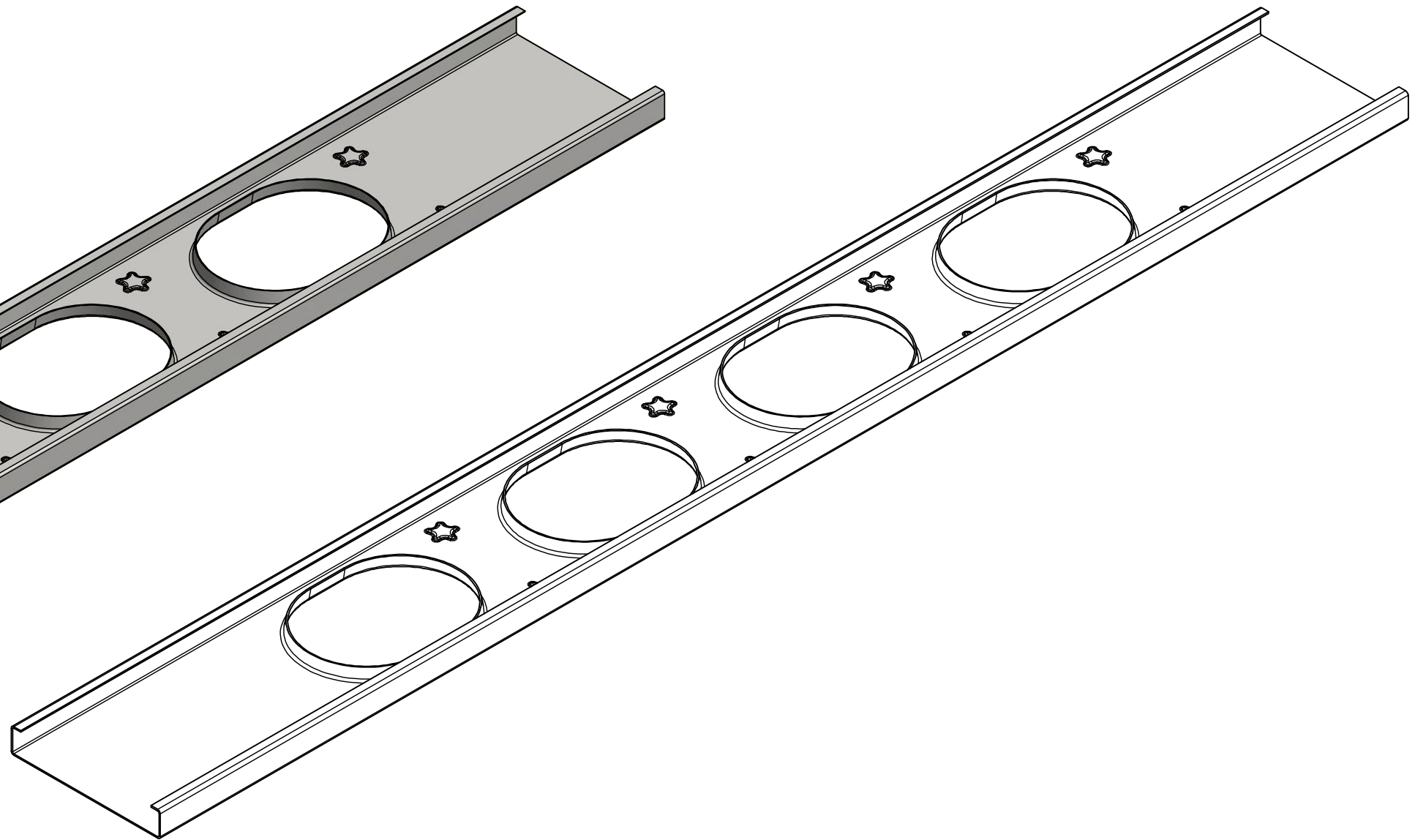
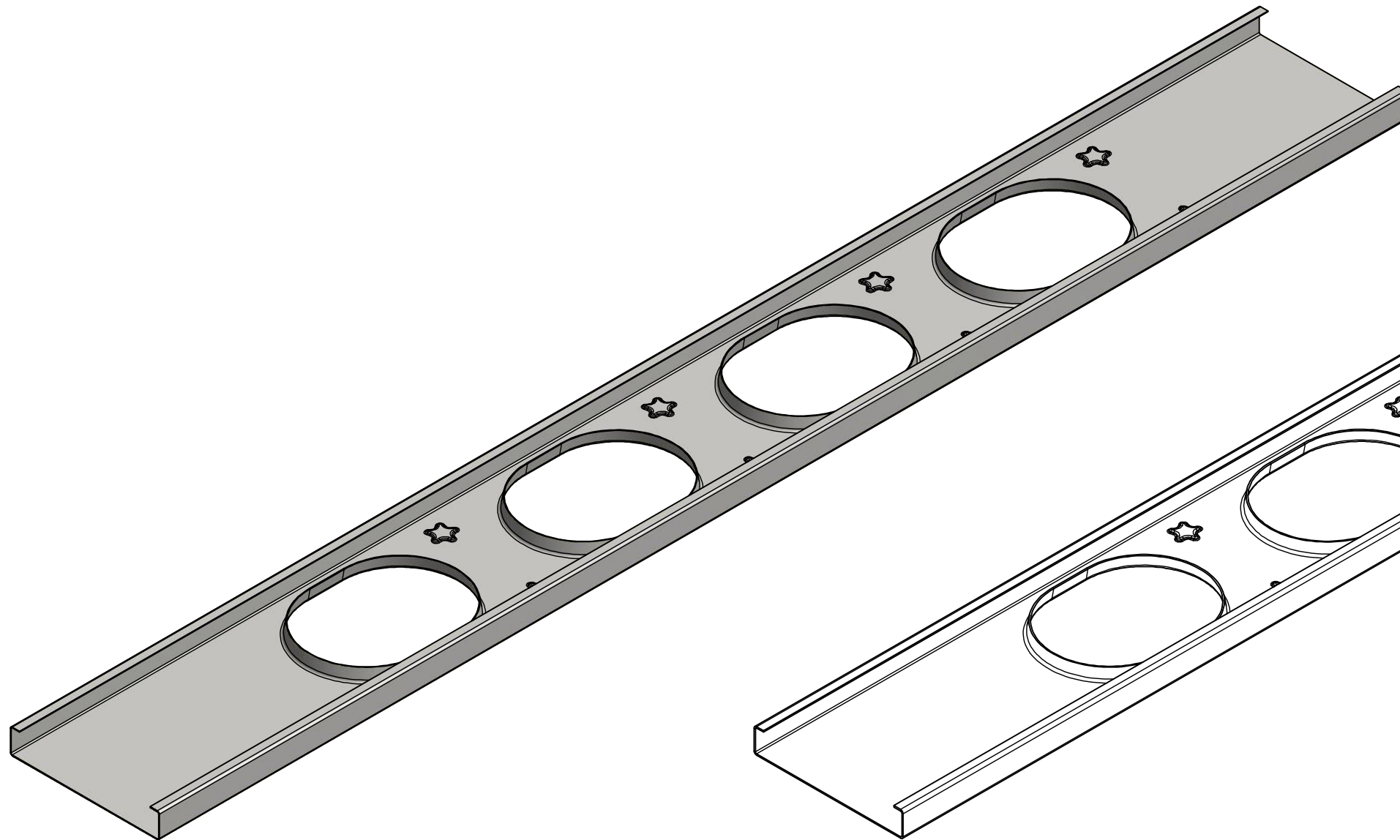
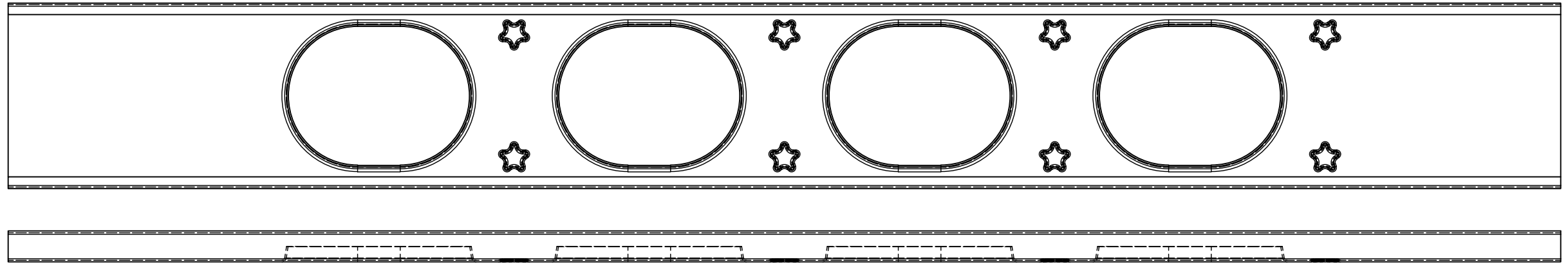
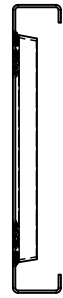
CROSS-SECTION

DATE	8/4/2016	DRAWN BY	dansmi
SCALE		APPROVED BY	
SHEET	1 OF 2	PART NO.	

CUSTOMER -

W.O. -

DRAFT



<b>TOLERANCES</b> EXCEPT AS NOTED
.XIX ± 1/16 [1.6mm]
.X ± .060 [1.5mm]
.XX ± .030 [0.8mm]
.XXX ± .015 [0.4mm]
∠ ± 2°

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CROSS-SECTION

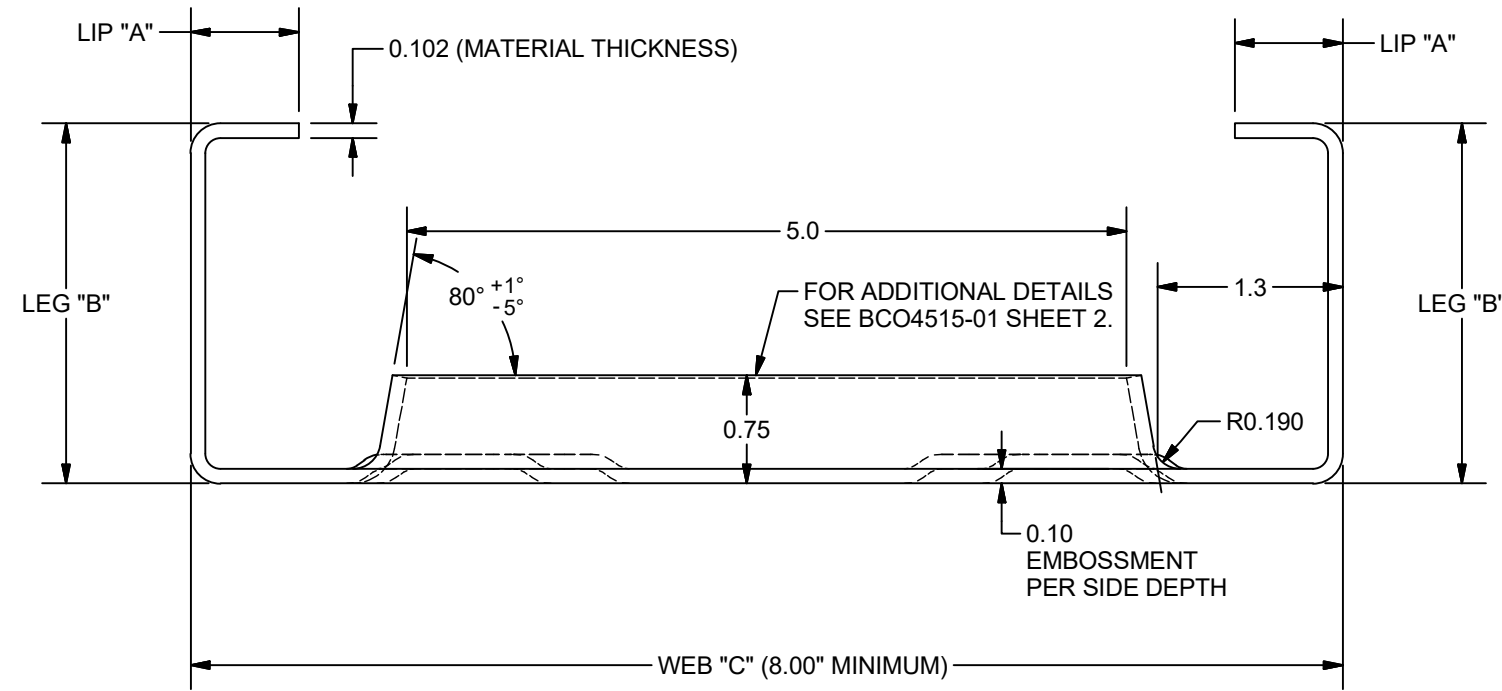
DATE	8/4/2016	DRAWN BY	dansmi
SCALE		APPROVED BY	
SHEET	2 OF 2	PART NO.	

CUSTOMER -

W.O. -

OUTBOARD (OPERATOR) SIDE

INBOARD (DRIVE) SIDE



FLOOR JOIST

**NOTES:**

1. ALL INSIDE BEND RADII ARE .105" UNLESS OTHERWISE SPECIFIED.
2. MATERIAL: .045-.102 THICK ASTM A-653 GALVANIZED COLD ROLLED STEEL, (45-55 MAX KSI YIELD, 30%-38% ELONGATION). MATERIAL THICKNESS GREATER THAN 1 TIMES THE INSIDE RADIUS MAY RESULT IN CRACKING OF THE MATERIAL AT THE RADIUS.
3. STRIP WIDTHS MAY BE CALCULATED BY USING THE FORMULA TO THE RIGHT. ACTUAL STRIP WIDTHS MAY VARY FROM THOSE CALCULATED AND WILL BE DETERMINED DURING TRYOUT OF THE ROLL TOOLING.
4. PARTS ARE FORMED IN ROLLFORMER LEGS UP AS SHOWN.
5. ALL JOISTS ARE FORMED WITH EQUAL LEG HEIGHTS.
6. MINIMUM LIP LENGTH "A" = 0.50".  
MAXIMUM LIP LENGTH "A" = 0.75".
7. TOLERANCES: BOW, CAMBER: .030" PER FOOT (3/8" MAX)  
TWIST: .015" PER FOOT  
FLARE: ±1/8" PER LEG WITHIN 6" OF EACH END.

**CALCULATED STRIP WIDTHS:**

TO CALCULATE THE WIDTH OF MATERIAL USED FOR ANY SIZE OF STUD USE THE FOLLOWING FORMULA:

$$(LIP "A" \times 2) + (LEG "B" \times 2) + (WEB "C") - (D [SEE SUBTRACT "D"]) = STRIP WIDTH.$$

EXAMPLE: FOR A 1" LIP, 2 1/2" LEG, AND 10" WEB USING 12 GA MATERIAL.

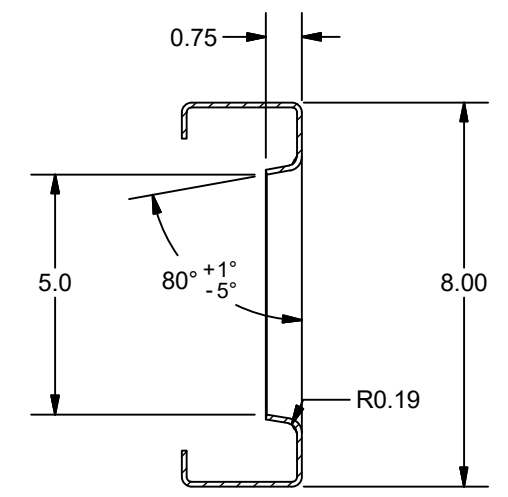
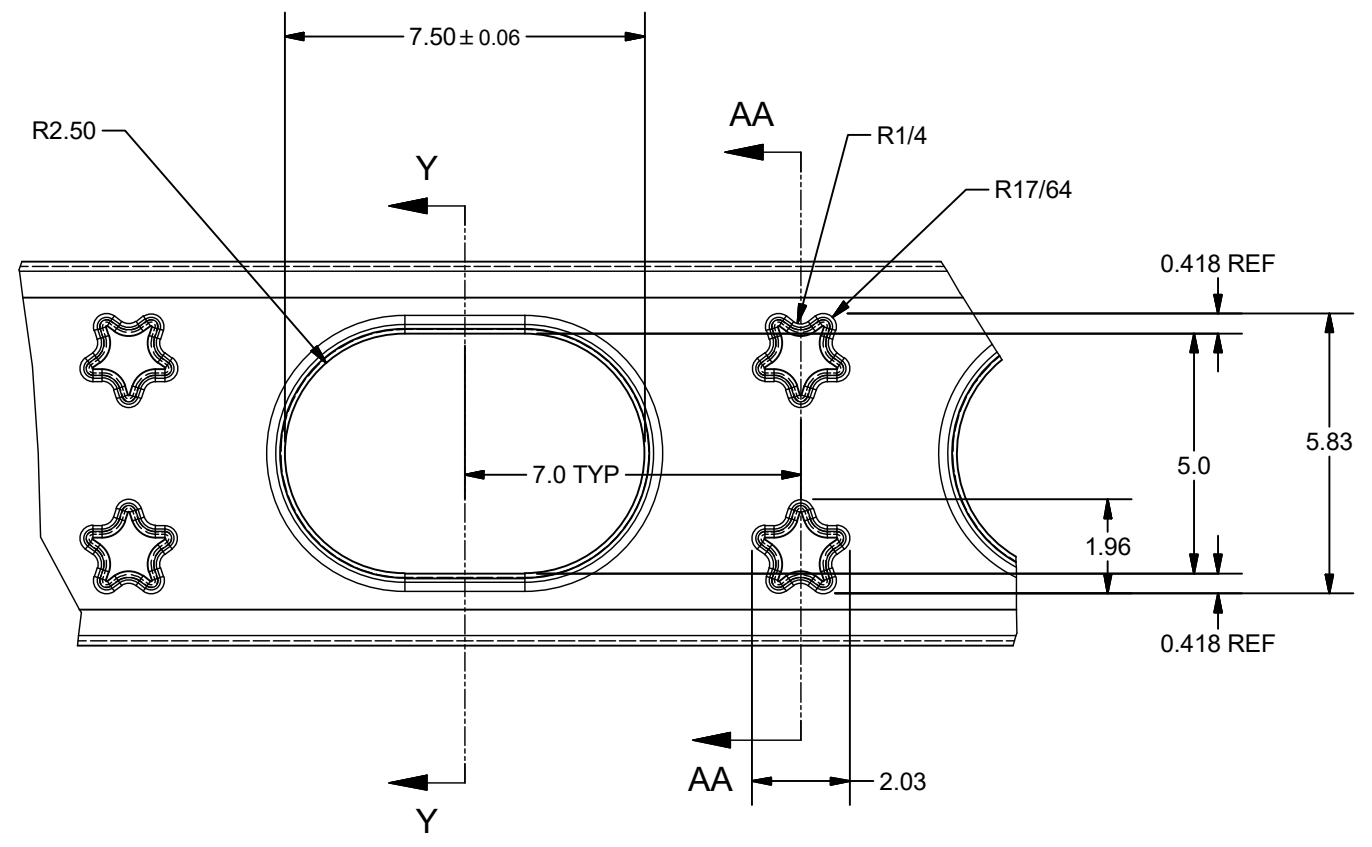
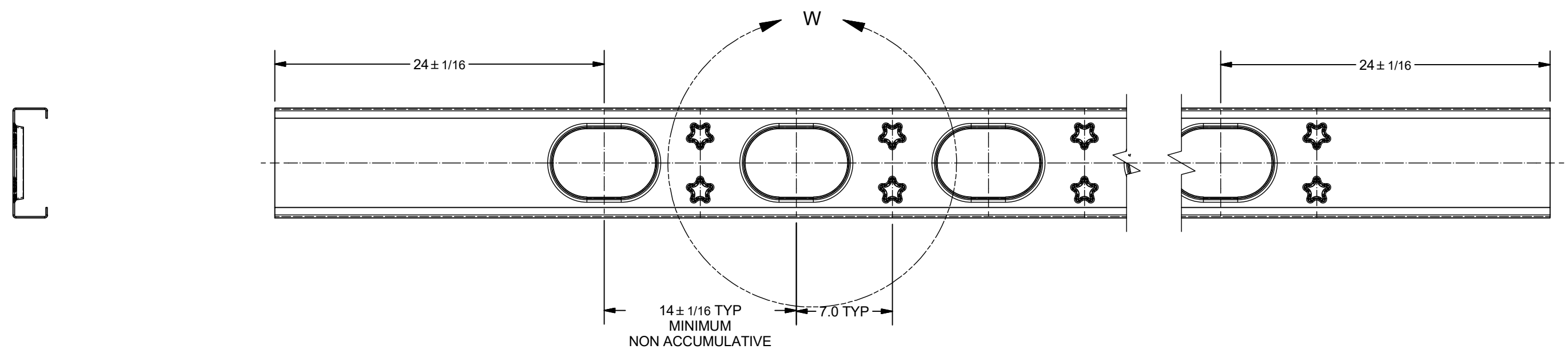
$$(1 \times 2) + (2.5 \times 2) + (10) - 0.80 = 16.2 \text{ STRIP WIDTH.}$$

MATERIAL THICKNESS	SUBTRACT "D"	COMBINATION CONSTRAINTS			
		LEG	WEB	MAX LIP	MAX Ga.
18 Ga.(0.048")	0.44	1 5/8	10	1/2	12
17 Ga.(0.054")	0.48	2	10	3/4	12
16 Ga.(0.060")	0.51	2 1/2	10	3/4	12
15 Ga.(0.067")	0.56	3	10	3/4	10
14 Ga.(0.075")	0.61	3 1/2	10	3/4	10
13 Ga.(0.090")	0.70				
12 Ga.(0.102")	0.80				

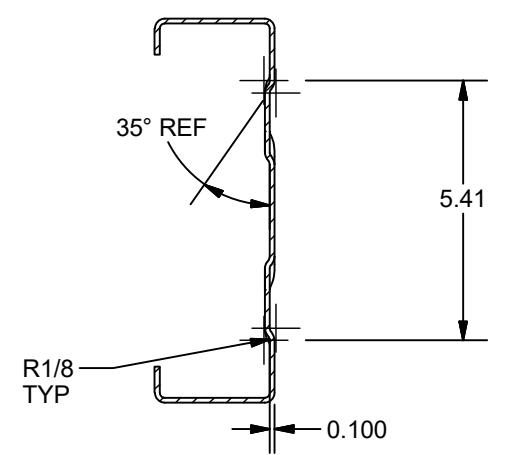
<b>TOLERANCES</b> EXCEPT AS NOTED .XX ± .030 [0.8mm] .XX ± .015 [0.4mm] ∠ ± Z	THIS DRAWING IS THE PROPERTY OF AND CONTAINS CONFIDENTIAL INFORMATION PROPRIETARY TO THE BRADBURY COMPANY. IT IS TO BE USED ONLY FOR THE PURPOSE FOR WHICH IT WAS PROVIDED. IT IS NOT TO BE COPIED OR DISCLOSED TO OTHERS AND, UPON REQUEST, RETURNED TO THE BRADBURY COMPANY.	 THE BRADBURY CO., INC. AIR INDUSTRIAL PARK, MOUNDRIDGE, KS 67107 U.S.A.	
	DATE: 10/10/2015 SCALE: 3/4 SHEET: 10 OF 11		DRAWN BY: D. SMITH APPROVED BY: PART NO.: BCO-4515-01
	<b>FLOOR JOIST CROSS-SECTION</b>		
	CUSTOMER - OEG BUILDING MATERIALS W.O. - B011342		

SYM	REVISION	DATE	APPROVED
B	CHANGED FLANGED HOLE DIMS	4/25/2016	DANSMI
A	ADDED PROFILE - 5.5 X 7.5 HOLE	4/18/2016	DANSMI





SECTION Y-Y



SECTION AA-AA

DETAIL W

SYM	REVISION	DATE	APPROVED
B	CHANGED FLANGED HOLE DIMS	4/25/2016	DANSMI
A	ADDED PROFILE - 5.5 X 7.5 HOLE	4/18/2016	DANSMI

**TOLERANCES**  
EXCEPT AS NOTED

XXX	± 1/16 [1.6mm]
XX	± .060 [1.5mm]
X	± .030 [0.8mm]
XXX	± .015 [0.4mm]
∠	± 2

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**FLOOR JOIST  
CROSS-SECTION**

DATE	10/10/2015	DRAWN BY	D. SMITH
SCALE		APPROVED BY	
SHEET	11 OF 11	PART NO.	BCO-4515-01