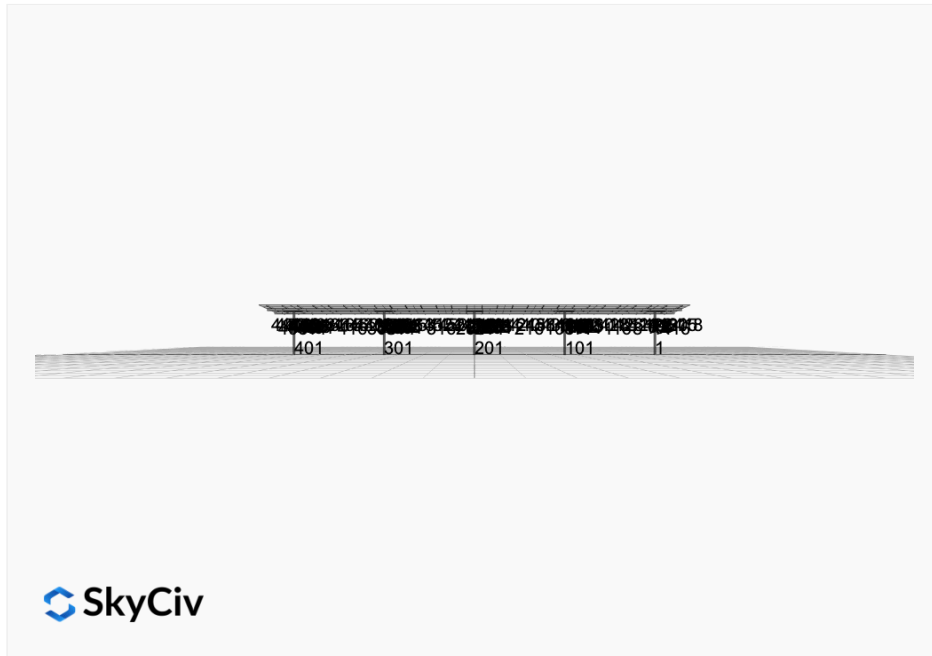


Project Name: Fresno Craport - V2Jb **Date:** Thu Jul 17 2025
Location: N Garfield Ave, Fresno, CA 93723, USA **Number of Modules:** 70
Unique ID: 5P-22.5-6TOP-SD-24-L-5Hx14W-2AKA **Number of Poles:** 5
Dealer: _____ **Date Sold:** _____



Array Dimensions N/S	18.96 ft
Array Dimensions E/W	102.67 ft
Winter Tilt Angle	5
Front Edge Clearance	10 ft

MT Solar Bill of Materials (5P-22.5-6TOP-SD-24-L-5Hx14W-2AKA)

Part	Short Description	BOM Qty
MTS-PC-6	6IN Pole Cap Assembly	5
MTS-HF-SD	H-Frame Assembly-SD	5
MTS-SD-Wing-24	24IN SD Wing	4
MTS-SD-Splice-90	90IN SD Splice	16
MTS-CLAMP-ANGLE-4PK	Angle Clamp	14

Rail Bill of Materials

Part	Qty
Rails (228in)	28
Rail Attachment	112
Module Mid Clamp	112
Module End Clamp	56
Ground Lug	14

Design Disclaimer

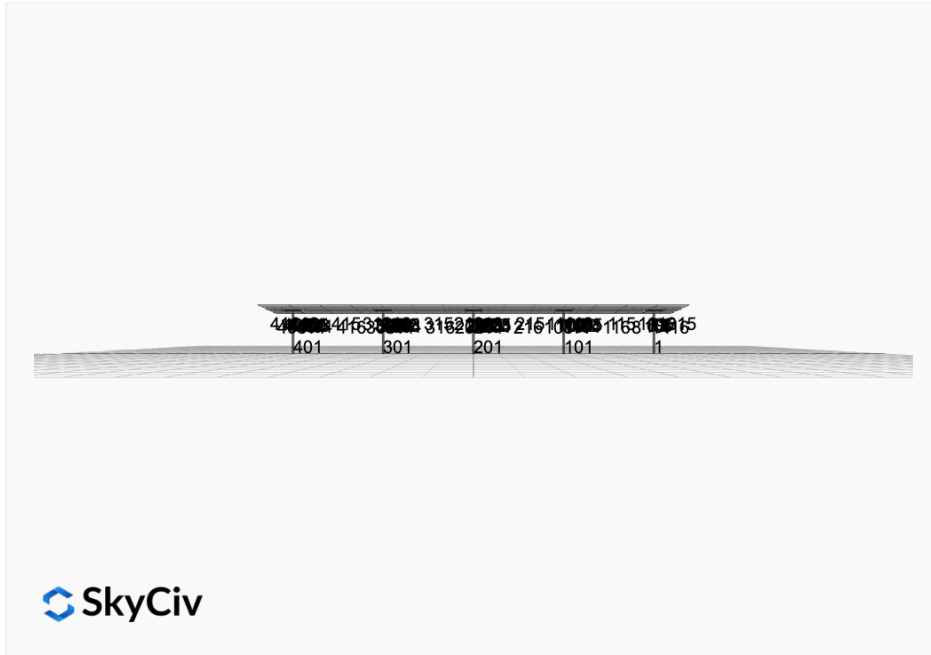
This software should be used for preliminary designs and should not be used as a final design unless reviewed, verified and designed by a qualified structural engineer.

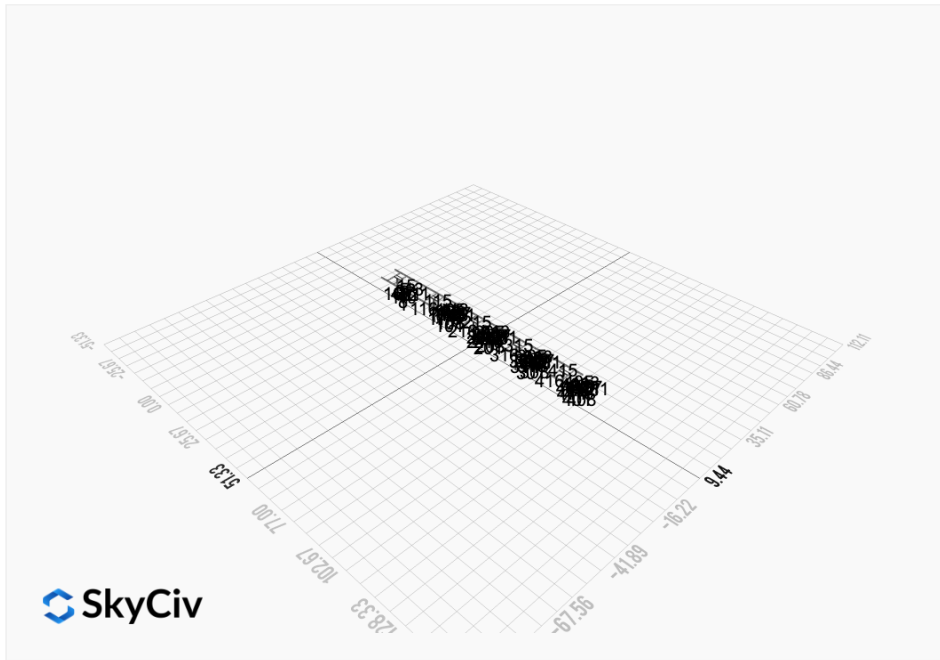
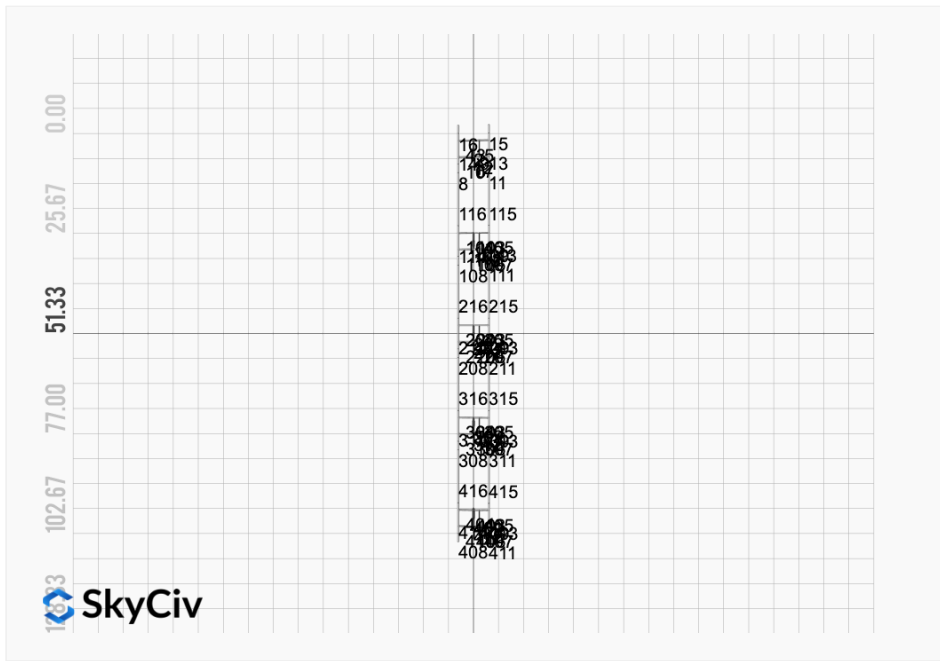
AutoDesigner Input

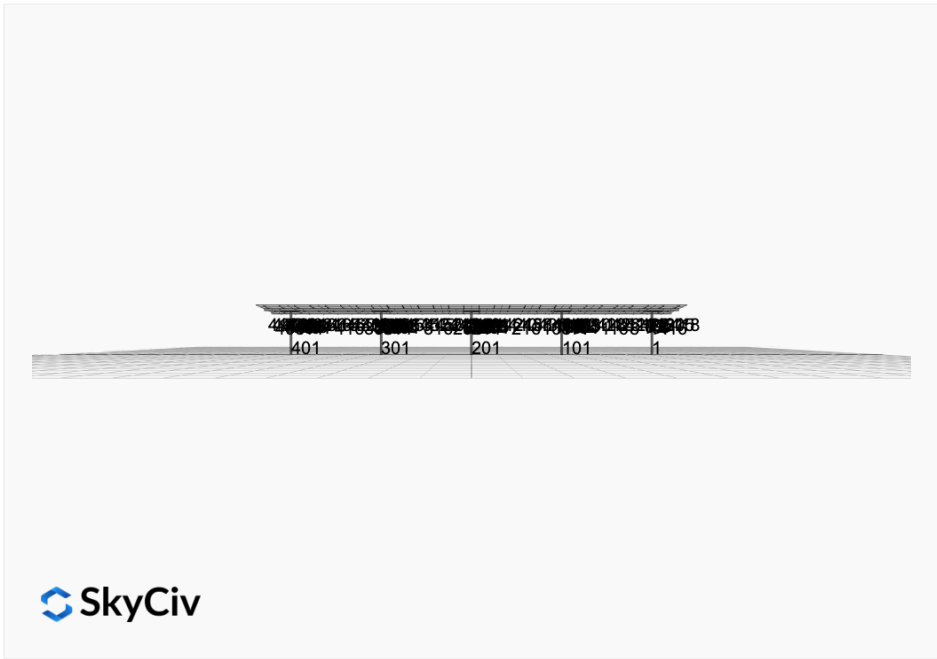
```
{ "wind_speed_override": null, "snow_load_override": null, "direct_snow_load": false, "add_angle_brace": false, "product_type": "Beam", "designer_name": "", "designer_email": "", "designer_phone": "", "project_id": "Fresno Craport - V2Jb", "site_address": "N Garfield Ave, Fresno, CA 93723, USA", "module_info": "410w", "module_width": 45, "module_length": 87, "number_rows": 5, "number_columns": 14, "pole_mount_section": "4_40", "core_pipe_width": 65, "core_pipe_section": "2_40", "adjuster_section": "2_40", "core_beam_height": 65, "core_beam_section": "HSS3x2x1/8", "main_pipe_section": "2_12GA", "pole_spacing": 15, "tilt_angle": 5, "ground_clearance": 10, "risk_category": "I", "exposure_category": "C", "frame_duty_override": "auto", "pole_override": "auto", "soil_type": "sand", "customer_foundation_override": "48_Square", "foundation_type": "Square", "foundation_size": 48, "check_rails": true }
```

Design Notes:

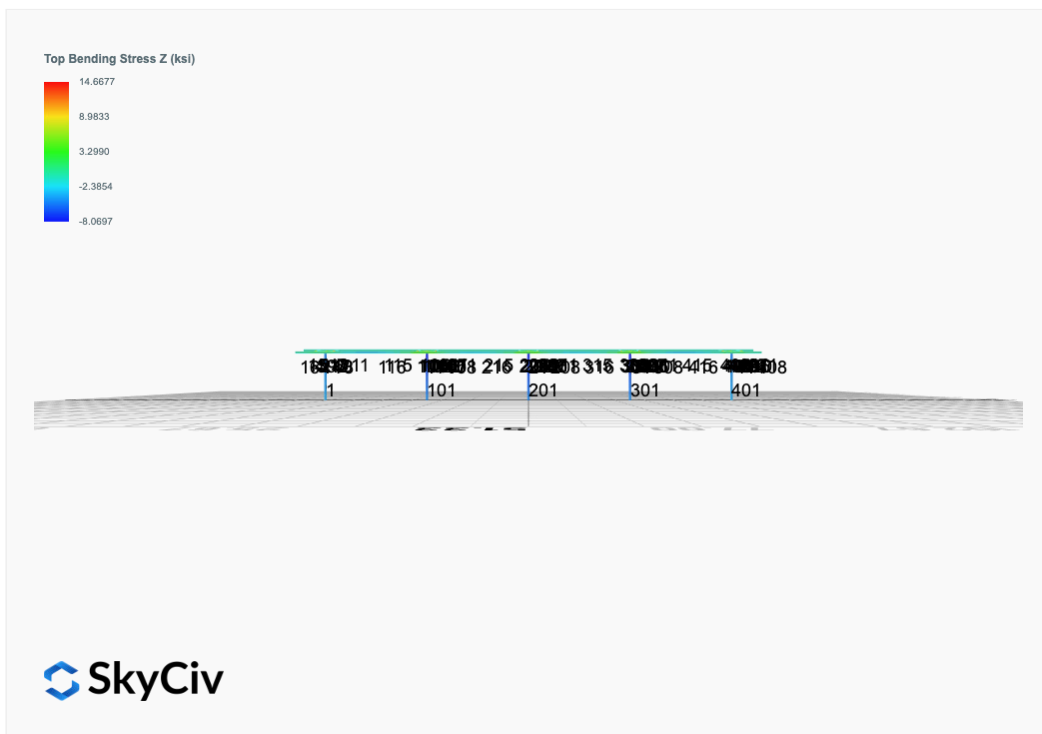
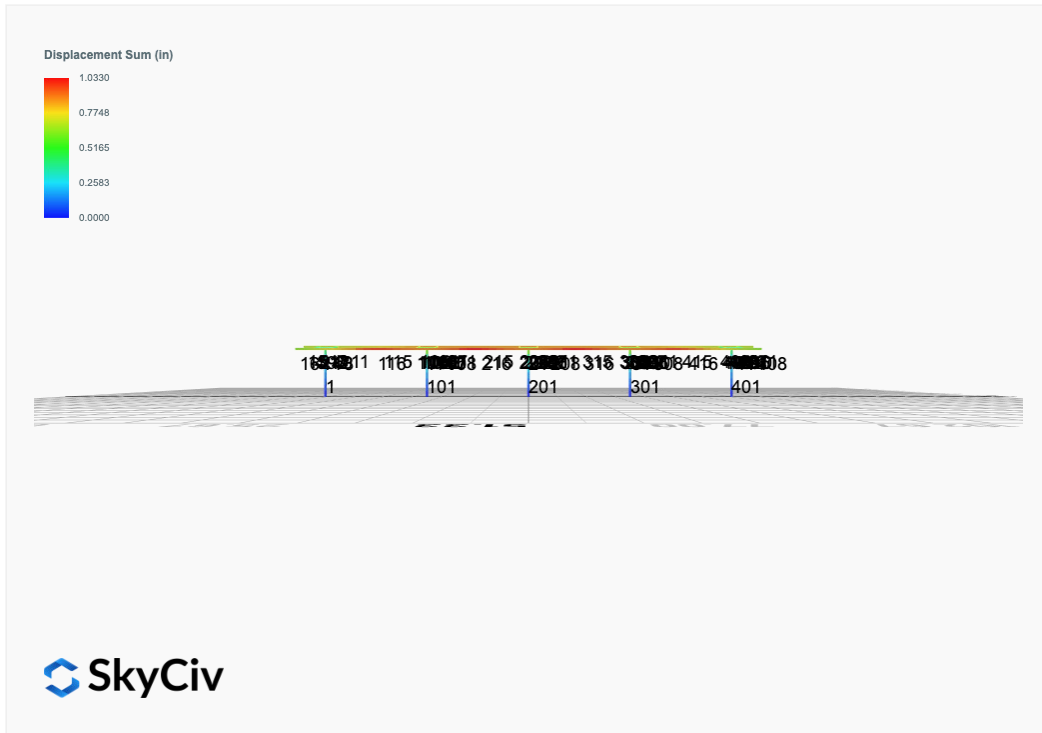
- AISC Deflection checks are set to L/1 due to structure design intent
- Foundation Soil Parameters used in this Autodesign are all estimates, proper geotechnical reports are required to confirm soil profiles
- Wind speeds, snow loads and other site specific results are based on ASCE 7 2016
- Steel frame design checks are based on AISC 360 2016 (LRFD)
- Foundation Design and Sizing is approximate only

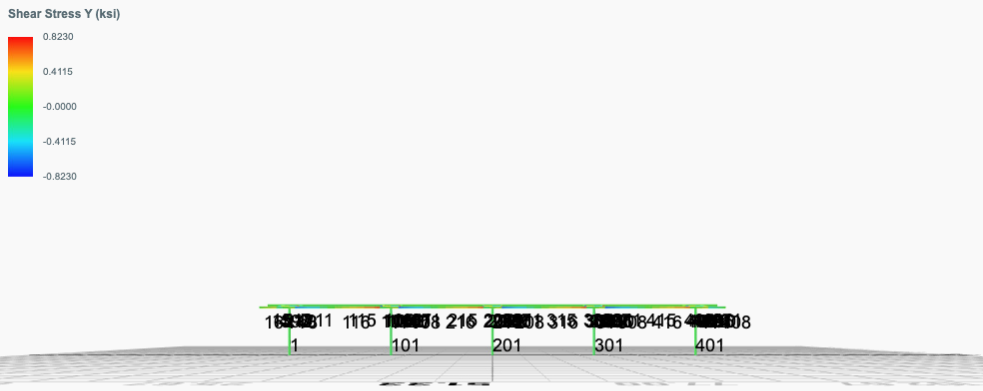
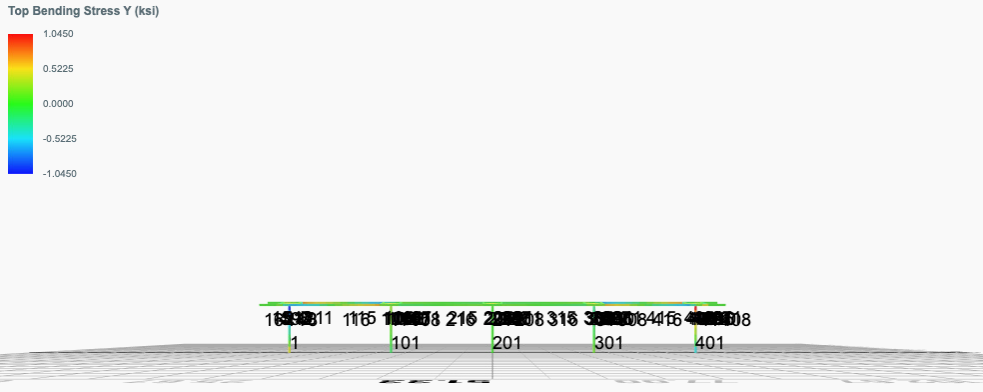


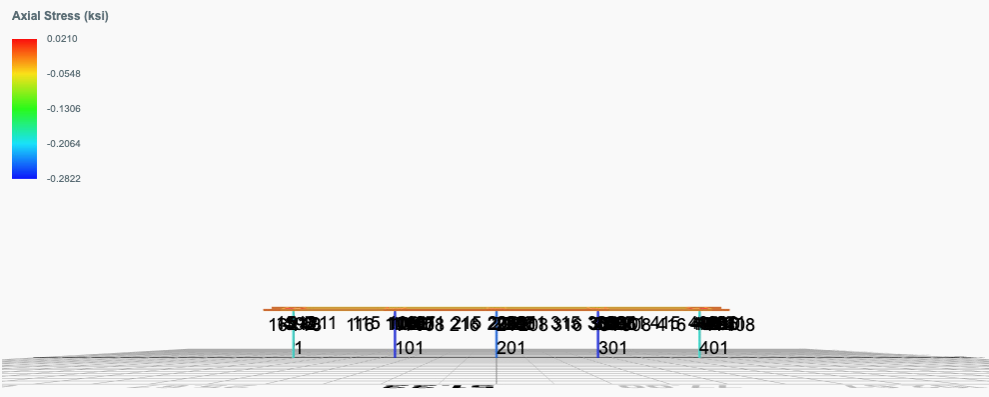




FEM Results (Envelope Worst Case for each member)







Reaction Forces for Foundation 1 (Node ID#1), (kip, kip-ft)

ASD Load Combination Results

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 1. D	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 2. D + L	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 3. D + (S or Lr or R)	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 3. D + (S or Lr or R)	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 5b. D + 0.7E	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 6b. D + 0.75L + 0.75(0.7)E + 0.75S	0.0069	2.0152	0.1595	0.5301	-0.0265	-0.0471
ULS: 8. 0.6D + 0.7E	0.0042	1.2091	0.0957	0.3180	-0.0159	-0.0283
ULS: 5a. D + 0.6W_Wind downforce Case A only	-0.2115	4.3995	0.3916	1.3000	-0.0997	2.8818
ULS: 5a. D + 0.6W_Wind downforce Case B only	-0.2115	4.3995	0.3916	1.3000	-0.0997	2.8818
ULS: 5a. D + 0.6W_Wind uplift Case A only	0.0542	1.3730	0.1004	0.3339	-0.0162	1.9249
ULS: 5a. D + 0.6W_Wind uplift Case B only	0.1677	0.4991	0.0070	0.0278	0.0371	-7.2532
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.1569	3.8034	0.3336	1.1075	-0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.1569	3.8034	0.3336	1.1075	-0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0424	1.5336	0.1151	0.3829	-0.0188	1.4319
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1275	0.8781	0.0451	0.1533	0.0212	-5.4517
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.1569	3.8034	0.3336	1.1075	-0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.1569	3.8034	0.3336	1.1075	-0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0424	1.5336	0.1151	0.3829	-0.0188	1.4319
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1275	0.8781	0.0451	0.1533	0.0212	-5.4517
ULS: 7. 0.6D + 0.6W_Wind downforce Case A only	-0.2143	3.5934	0.3278	1.0880	-0.0891	2.9007
ULS: 7. 0.6D + 0.6W_Wind downforce Case B only	-0.2143	3.5934	0.3278	1.0880	-0.0891	2.9007
ULS: 7. 0.6D + 0.6W_Wind uplift Case A only	0.0515	0.5669	0.0366	0.1219	-0.0055	1.9437
ULS: 7. 0.6D + 0.6W_Wind uplift Case B only	0.1650	-0.3070	-0.0568	-0.1843	0.0477	-7.2344

Worst Case Reactions LRFD

These calculations are taken directly from the FEA via SkyCiv and are used in the Concrete Checks of the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	6.3917
Shear X	-0.3641
Shear Z	0.5801
Moment X	1.9288
Moment Y (Twist)	0.1547
Moment Z	12.3692

Worst Case Reactions ASD

These results are taken from the worst case values in the above table and are used in the Soil Checks in the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	4.3995
Shear X	-0.2143
Shear Z	0.3916
Moment X	1.3000
Moment Y (Twist)	0.0997
Moment Z	7.2532

Reaction Forces for Foundation 2 (Node ID#101), (kip, kip-ft)

ASD Load Combination Results

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 1. D	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958
ULS: 2. D + L	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958
ULS: 3. D + (S or Lr or R)	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958
ULS: 3. D + (S or Lr or R)	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958
ULS: 5b. D + 0.7E	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958
ULS: 6b. D + 0.75L + 0.75(0.7)E + 0.75S	-0.0079	2.7876	-0.0264	-0.0900	0.0074	0.0958
ULS: 8. 0.6D + 0.7E	-0.0047	1.6726	-0.0159	-0.0540	0.0044	0.0575
ULS: 5a. D + 0.6W_Wind downforce Case A only	-0.3037	6.2820	-0.0640	-0.2187	0.0106	4.0279
ULS: 5a. D + 0.6W_Wind downforce Case B only	-0.3037	6.2820	-0.0640	-0.2187	0.0106	4.0279
ULS: 5a. D + 0.6W_Wind uplift Case A only	0.0828	1.8426	-0.0150	-0.0520	-0.0024	2.4975
ULS: 5a. D + 0.6W_Wind uplift Case B only	0.1594	0.5730	-0.0050	-0.0154	0.0220	-9.0066
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.2297	5.4084	-0.0546	-0.1865	0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.2297	5.4084	-0.0546	-0.1865	0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0601	2.0788	-0.0179	-0.0615	0.0001	1.8971
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1176	1.1267	-0.0104	-0.0340	0.0183	-6.7310
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.2297	5.4084	-0.0546	-0.1865	0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.2297	5.4084	-0.0546	-0.1865	0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0601	2.0788	-0.0179	-0.0615	0.0001	1.8971
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1176	1.1267	-0.0104	-0.0340	0.0183	-6.7310
ULS: 7. 0.6D + 0.6W_Wind downforce Case A only	-0.3005	5.1670	-0.0534	-0.1827	0.0076	3.9896
ULS: 7. 0.6D + 0.6W_Wind downforce Case B only	-0.3005	5.1670	-0.0534	-0.1827	0.0076	3.9896
ULS: 7. 0.6D + 0.6W_Wind uplift Case A only	0.0859	0.7275	-0.0045	-0.0159	-0.0053	2.4592
ULS: 7. 0.6D + 0.6W_Wind uplift Case B only	0.1626	-0.5420	0.0056	0.0206	0.0190	-9.0449

Worst Case Reactions LRFD

These calculations are taken directly from the FEA via SkyCiv and are used in the Concrete Checks of the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	9.1696
Shear X	-0.5018
Shear Z	-0.0946
Moment X	-0.3248
Moment Y (Twist)	0.0346
Moment Z	15.5241

Worst Case Reactions ASD

These results are taken from the worst case values in the above table and are used in the Soil Checks in the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	6.2820
Shear X	-0.3037
Shear Z	-0.0640
Moment X	-0.2187
Moment Y (Twist)	0.0220
Moment Z	9.0449

Reaction Forces for Foundation 3 (Node ID#201), (kip, kip-ft)

ASD Load Combination Results

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 1. D	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 2. D + L	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 3. D + (S or Lr or R)	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 3. D + (S or Lr or R)	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 5b. D + 0.7E	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 6b. D + 0.75L + 0.75(0.7)E + 0.75S	0.0019	2.6402	-0.0000	-0.0000	0.0000	0.0125
ULS: 8. 0.6D + 0.7E	0.0011	1.5841	-0.0000	-0.0000	0.0000	0.0075
ULS: 5a. D + 0.6W_Wind downforce Case A only	-0.2854	5.9229	-0.0000	-0.0000	0.0000	3.9073
ULS: 5a. D + 0.6W_Wind downforce Case B only	-0.2854	5.9229	-0.0000	-0.0000	0.0000	3.9073
ULS: 5a. D + 0.6W_Wind uplift Case A only	0.0810	1.7561	-0.0000	-0.0000	0.0000	2.5195
ULS: 5a. D + 0.6W_Wind uplift Case B only	0.1811	0.5522	-0.0000	-0.0000	0.0000	-9.2536

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.2136	5.1022	-0.0000	-0.0000	0.0000	2.9336
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.2136	5.1022	-0.0000	-0.0000	0.0000	2.9336
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0612	1.9771	-0.0000	-0.0000	0.0000	1.8927
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1363	1.0742	-0.0000	-0.0000	0.0000	-6.9370
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.2136	5.1022	-0.0000	-0.0000	0.0000	2.9336
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.2136	5.1022	-0.0000	-0.0000	0.0000	2.9336
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0612	1.9771	-0.0000	-0.0000	0.0000	1.8927
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1363	1.0742	-0.0000	-0.0000	0.0000	-6.9370
ULS: 7. 0.6D + 0.6W_Wind downforce Case A only	-0.2861	4.8668	-0.0000	-0.0000	0.0000	3.9023
ULS: 7. 0.6D + 0.6W_Wind downforce Case B only	-0.2861	4.8668	-0.0000	-0.0000	0.0000	3.9023
ULS: 7. 0.6D + 0.6W_Wind uplift Case A only	0.0803	0.7000	-0.0000	-0.0000	0.0000	2.5145
ULS: 7. 0.6D + 0.6W_Wind uplift Case B only	0.1804	-0.5039	-0.0000	-0.0000	0.0000	-9.2586

Worst Case Reactions LRFD

These calculations are taken directly from the FEA via SkyCiv and are used in the Concrete Checks of the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	8.6391
Shear X	-0.4788
Shear Z	-0.0000
Moment X	-0.0000
Moment Y (Twist)	0.0000
Moment Z	15.9061

Worst Case Reactions ASD

These results are taken from the worst case values in the above table and are used in the Soil Checks in the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	5.9229
Shear X	-0.2861
Shear Z	-0.0000
Moment X	-0.0000
Moment Y (Twist)	0.0000
Moment Z	9.2586

Reaction Forces for Foundation 4 (Node ID#301), (kip, kip-ft)

ASD Load Combination Results

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 1. D	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 2. D + L	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 3. D + (S or Lr or R)	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 3. D + (S or Lr or R)	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 5b. D + 0.7E	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 6b. D + 0.75L + 0.75(0.7)E + 0.75S	-0.0079	2.7876	0.0264	0.0900	-0.0074	0.0958
ULS: 8. 0.6D + 0.7E	-0.0047	1.6726	0.0159	0.0540	-0.0044	0.0575
ULS: 5a. D + 0.6W_Wind downforce Case A only	-0.3037	6.2820	0.0640	0.2187	-0.0106	4.0279
ULS: 5a. D + 0.6W_Wind downforce Case B only	-0.3037	6.2820	0.0640	0.2187	-0.0106	4.0279
ULS: 5a. D + 0.6W_Wind uplift Case A only	0.0828	1.8426	0.0150	0.0520	0.0024	2.4975
ULS: 5a. D + 0.6W_Wind uplift Case B only	0.1594	0.5730	0.0050	0.0154	-0.0219	-9.0066
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.2297	5.4084	0.0546	0.1865	-0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.2297	5.4084	0.0546	0.1865	-0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0601	2.0788	0.0179	0.0615	-0.0001	1.8971
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1176	1.1267	0.0104	0.0340	-0.0183	-6.7310
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.2297	5.4084	0.0546	0.1865	-0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.2297	5.4084	0.0546	0.1865	-0.0098	3.0449
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0601	2.0788	0.0179	0.0615	-0.0001	1.8971
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1176	1.1267	0.0104	0.0340	-0.0183	-6.7310

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 7. 0.6D + 0.6W_Wind downforce Case A only	-0.3005	5.1670	0.0534	0.1827	-0.0076	3.9896
ULS: 7. 0.6D + 0.6W_Wind downforce Case B only	-0.3005	5.1670	0.0534	0.1827	-0.0076	3.9896
ULS: 7. 0.6D + 0.6W_Wind uplift Case A only	0.0859	0.7275	0.0045	0.0159	0.0053	2.4592
ULS: 7. 0.6D + 0.6W_Wind uplift Case B only	0.1626	-0.5420	-0.0056	-0.0206	-0.0190	-9.0449

Worst Case Reactions LRFD

These calculations are taken directly from the FEA via SkyCiv and are used in the Concrete Checks of the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	9.1696
Shear X	-0.5018
Shear Z	0.0946
Moment X	0.3247
Moment Y (Twist)	0.0346
Moment Z	15.5241

Worst Case Reactions ASD

These results are taken from the worst case values in the above table and are used in the Soil Checks in the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	6.2820
Shear X	-0.3037
Shear Z	0.0640
Moment X	0.2187
Moment Y (Twist)	0.0219
Moment Z	9.0449

Reaction Forces for Foundation 5 (Node ID#401), (kip, kip-ft)

ASD Load Combination Results

Name	Fx	Fy	Fz	Mx	My	Mz
ULS: 1. D	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 2. D + L	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 3. D + (S or Lr or R)	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 3. D + (S or Lr or R)	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 4. D + 0.75L + 0.75(S or Lr or R)	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 5b. D + 0.7E	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 6b. D + 0.75L + 0.75(0.7)E + 0.75S	0.0069	2.0152	-0.1595	-0.5301	0.0266	-0.0471
ULS: 8. 0.6D + 0.7E	0.0042	1.2091	-0.0957	-0.3180	0.0159	-0.0283
ULS: 5a. D + 0.6W_Wind downforce Case A only	-0.2115	4.3995	-0.3916	-1.3000	0.0997	2.8818
ULS: 5a. D + 0.6W_Wind downforce Case B only	-0.2115	4.3995	-0.3916	-1.3000	0.0997	2.8818
ULS: 5a. D + 0.6W_Wind uplift Case A only	0.0542	1.3730	-0.1004	-0.3339	0.0162	1.9249
ULS: 5a. D + 0.6W_Wind uplift Case B only	0.1677	0.4991	-0.0070	-0.0278	-0.0371	-7.2532
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.1569	3.8034	-0.3336	-1.1075	0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.1569	3.8034	-0.3336	-1.1075	0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0424	1.5336	-0.1151	-0.3829	0.0188	1.4319
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1275	0.8781	-0.0451	-0.1533	-0.0212	-5.4517
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case A only	-0.1569	3.8034	-0.3336	-1.1075	0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind downforce Case B only	-0.1569	3.8034	-0.3336	-1.1075	0.0814	2.1496
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case A only	0.0424	1.5336	-0.1151	-0.3829	0.0188	1.4319
ULS: 6a. D + 0.75L + 0.75(0.6)W + 0.75(S or Lr or R)_Wind uplift Case B only	0.1275	0.8781	-0.0451	-0.1533	-0.0212	-5.4517
ULS: 7. 0.6D + 0.6W_Wind downforce Case A only	-0.2143	3.5934	-0.3278	-1.0880	0.0891	2.9007
ULS: 7. 0.6D + 0.6W_Wind downforce Case B only	-0.2143	3.5934	-0.3278	-1.0880	0.0891	2.9007
ULS: 7. 0.6D + 0.6W_Wind uplift Case A only	0.0515	0.5669	-0.0366	-0.1219	0.0056	1.9437
ULS: 7. 0.6D + 0.6W_Wind uplift Case B only	0.1650	-0.3070	0.0568	0.1843	-0.0477	-7.2344

Worst Case Reactions LRFD

These calculations are taken directly from the FEA via SkyCiv and are used in the Concrete Checks of the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Worst Case Reactions ASD

These results are taken from the worst case values in the above table and are used in the Soil Checks in the Foundation Module.
Note: Worst case values are assumed as downforce wind load cases.

Result	Value (kip, kip-ft)
Axial	6.3917
Shear X	-0.3641
Shear Z	-0.5801
Moment X	-1.9289
Moment Y (Twist)	0.1548
Moment Z	12.3693

Result	Value (kip, kip-ft)
Axial	4.3995
Shear X	-0.2143
Shear Z	-0.3916
Moment X	-1.3000
Moment Y (Twist)	0.0997
Moment Z	7.2532

Project Details

Design Code: AISC 360-16 LRFD
 Provision: LRFD
 Country: United States
 User Name: sales@mtsolar.us
 Unit System: imperial

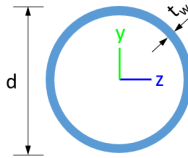


Design Input Information

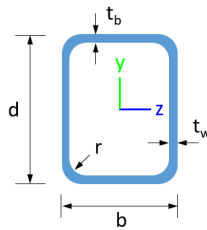
Design Factors			
Φ_t	Φ_c	Φ_b	Φ_v
0.9	0.9	0.9	0.9

Design Materials			
ID	E (ksi)	F _y (ksi)	F _u (ksi)
1	29000	50	65

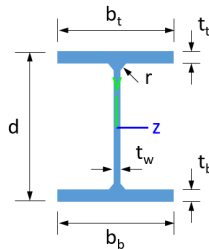
Section Dimensions



ID	Name	d (in)	t _w (in)				
1	2in Pipe Sch 40	2.38	0.15				
4	4in Pipe Sch 40	4.50	0.24				
7	6in Pipe Sch 40	6.63	0.28				



ID	Name	d (in)	b (in)	t _w (in)	t _b (in)	r (in)	
15	HSS5x3x1/8	5.00	3.00	0.12	0.12	0.12	



ID	Name	d (in)	t _w (in)	b _t (in)	b _b (in)	t _t (in)	t _b (in)	r (in)
18	W6x9	5.90	0.17	3.94	3.94	0.21	0.21	0.25

Section Properties

ID	Name	A (in ²)	J (in ⁴)	I _{yp} (in ⁴)	I _{zp} (in ⁴)	I _w (in ⁶)	S _{yp} (in ³)	S _{zp} (in ³)
----	------	----------------------	----------------------	------------------------------------	------------------------------------	-----------------------------------	------------------------------------	------------------------------------

104	79.65	72.84	10.99	6.26	29.14	16.61
105	79.65	74.30	10.99	6.26	29.14	16.61
106	79.65	74.89	10.99	6.26	29.14	16.61
107	79.65	74.30	10.99	6.26	29.14	16.61
108	120.60	115.40	23.36	6.45	30.09	45.74
109	48.35	43.11	2.85	2.85	14.51	14.51
110	79.65	72.84	10.99	6.26	29.14	16.61
111	120.60	115.40	23.36	6.45	30.09	45.74
112	142.83	141.72	16.17	16.17	42.85	42.85
113	120.60	84.03	18.07	6.45	30.09	45.74
114	120.60	84.03	18.02	6.45	30.09	45.74
115	120.60	48.60	10.92	6.45	30.09	45.74
116	120.60	48.60	11.00	6.45	30.09	45.74
201	251.16	85.42	42.30	42.30	75.35	75.35
202	142.83	141.72	16.17	16.17	42.85	42.85
203	79.65	74.89	10.99	6.26	29.14	16.61
204	79.65	72.84	10.99	6.26	29.14	16.61
205	79.65	74.30	10.99	6.26	29.14	16.61
206	79.65	74.89	10.99	6.26	29.14	16.61
207	79.65	74.30	10.99	6.26	29.14	16.61
208	120.60	115.40	23.36	6.45	30.09	45.74
209	48.35	43.11	2.85	2.85	14.51	14.51
210	79.65	72.84	10.99	6.26	29.14	16.61
211	120.60	115.40	23.36	6.45	30.09	45.74
212	142.83	141.72	16.17	16.17	42.85	42.85
213	120.60	84.03	18.10	6.45	30.09	45.74
214	120.60	84.03	18.07	6.45	30.09	45.74
215	120.60	48.60	11.47	6.45	30.09	45.74
216	120.60	48.60	11.43	6.45	30.09	45.74
301	251.16	85.42	42.30	42.30	75.35	75.35
302	142.83	141.72	16.17	16.17	42.85	42.85
303	79.65	74.89	10.99	6.26	29.14	16.61
304	79.65	72.84	10.99	6.26	29.14	16.61
305	79.65	74.30	10.99	6.26	29.14	16.61
306	79.65	74.89	10.99	6.26	29.14	16.61
307	79.65	74.30	10.99	6.26	29.14	16.61
308	120.60	115.40	23.36	6.45	30.09	45.74
309	48.35	43.11	2.85	2.85	14.51	14.51
310	79.65	72.84	10.99	6.26	29.14	16.61
311	120.60	115.40	23.36	6.45	30.09	45.74
312	142.83	141.72	16.17	16.17	42.85	42.85
313	120.60	84.03	18.07	6.45	30.09	45.74
314	120.60	84.03	18.02	6.45	30.09	45.74
315	120.60	48.60	11.19	6.45	30.09	45.74
316	120.60	48.60	11.07	6.45	30.09	45.74
401	251.16	85.42	42.30	42.30	75.35	75.35
402	142.83	141.72	16.17	16.17	42.85	42.85
403	79.65	74.89	10.99	6.26	29.14	16.61
404	79.65	72.84	10.99	6.26	29.14	16.61
405	79.65	74.30	10.99	6.26	29.14	16.61
406	79.65	74.89	10.99	6.26	29.14	16.61
407	79.65	74.30	10.99	6.26	29.14	16.61

407	79.03	74.30	10.99	6.20	29.14	10.01
408	120.60	96.18	23.36	6.45	30.09	45.74
409	48.35	43.11	2.85	2.85	14.51	14.51
410	79.65	72.84	10.99	6.26	29.14	16.61
411	120.60	96.18	23.36	6.45	30.09	45.74
412	142.83	141.72	16.17	16.17	42.85	42.85
413	120.60	84.03	19.47	6.45	30.09	45.74
414	120.60	84.03	19.32	6.45	30.09	45.74
415	120.60	48.60	10.94	6.45	30.09	45.74
416	120.60	48.60	10.91	6.45	30.09	45.74

Design Ratio

Member ID	P	M _z	M _y	V _y	V _z	(P,M _z ,M _y)	Worst LC	KL/r	δ	Status
1	0.075	0.292	0.103	0.005	0.008	0.300	#32	0.607	Not Required	Pass
2	0.002	0.202	0.018	0.052	0.003	0.220	#13	0.034	Not Required	Pass
3	0.002	0.394	0.036	0.038	0.007	0.431	#13	0.044	Not Required	Pass
4	0.001	0.366	0.057	0.037	0.010	0.424	#13	0.117	Not Required	Pass
5	0.002	0.245	0.023	0.040	0.007	0.266	#13	0.073	Not Required	Pass
6	0.002	0.674	0.048	0.071	0.010	0.722	#13	0.044	Not Required	Pass
7	0.002	0.417	0.039	0.068	0.010	0.440	#13	0.073	Not Required	Pass
8	0.003	0.119	0.038	0.039	0.001	0.131	#13	0.088	Not Required	Pass
9	0.002	0.100	0.034	0.005	0.003	0.134	#13	0.198	Not Required	Pass
10	0.002	0.626	0.048	0.063	0.008	0.675	#13	0.078	Not Required	Pass
11	0.002	0.120	0.038	0.042	0.001	0.127	#13	0.088	Not Required	Pass
12	0.002	0.470	0.027	0.092	0.005	0.499	#13	0.052	Not Required	Pass
13	0.003	0.101	0.056	0.054	0.002	0.130	#13	0.265	Not Required	Pass
14	0.004	0.092	0.057	0.049	0.003	0.128	#13	0.177	Not Required	Pass
15	0.000	0.016	0.002	0.013	0.000	0.018	#13	Not Required	Not Required	Pass
16	0.000	0.015	0.002	0.012	0.000	0.017	#13	Not Required	Not Required	Pass
101	0.107	0.367	0.017	0.007	0.001	0.368	#32	0.607	Not Required	Pass
102	0.000	0.527	0.035	0.107	0.006	0.561	#13	0.052	Not Required	Pass
103	0.001	0.794	0.013	0.081	0.002	0.808	#13	0.044	Not Required	Pass
104	0.001	0.754	0.025	0.076	0.004	0.762	#13	0.078	Not Required	Pass
105	0.001	0.492	0.032	0.080	0.007	0.502	#13	0.073	Not Required	Pass
106	0.001	0.754	0.014	0.076	0.004	0.759	#13	0.044	Not Required	Pass
107	0.001	0.468	0.019	0.076	0.004	0.470	#13	0.073	Not Required	Pass
108	0.002	0.086	0.013	0.046	0.001	0.099	#13	0.088	Not Required	Pass
109	0.002	0.098	0.016	0.001	0.001	0.115	#13	0.198	Not Required	Pass
110	0.001	0.707	0.024	0.072	0.004	0.727	#13	0.078	Not Required	Pass
111	0.002	0.087	0.013	0.049	0.001	0.099	#13	0.088	Not Required	Pass
112	0.001	0.484	0.034	0.101	0.006	0.518	#13	0.052	Not Required	Pass
113	0.003	0.282	0.036	0.064	0.001	0.309	#13	0.265	Not Required	Pass
114	0.004	0.280	0.038	0.061	0.001	0.308	#13	0.265	Not Required	Pass
115	0.006	0.416	0.021	0.053	0.001	0.431	#13	0.557	Not Required	Pass
116	0.006	0.390	0.022	0.051	0.001	0.408	#13	0.557	Not Required	Pass
201	0.101	0.376	0.000	0.006	0.000	0.377	#16	0.607	Not Required	Pass
202	0.000	0.473	0.032	0.098	0.006	0.505	#13	0.034	Not Required	Pass
203	0.001	0.732	0.006	0.074	0.001	0.738	#13	0.044	Not Required	Pass
204	0.001	0.682	0.019	0.069	0.003	0.693	#13	0.078	Not Required	Pass
205	0.001	0.454	0.020	0.074	0.004	0.458	#13	0.073	Not Required	Pass

206	0.001	0.732	0.006	0.074	0.001	0.738	#13	0.044	Not Required	Pass
207	0.001	0.454	0.020	0.074	0.004	0.458	#13	0.073	Not Required	Pass
208	0.002	0.063	0.012	0.044	0.001	0.074	#13	0.088	Not Required	Pass
209	0.001	0.084	0.008	0.001	0.000	0.093	#13	0.198	Not Required	Pass
210	0.001	0.682	0.019	0.069	0.003	0.693	#13	0.078	Not Required	Pass
211	0.002	0.069	0.012	0.047	0.001	0.080	#13	0.088	Not Required	Pass
212	0.000	0.473	0.032	0.098	0.006	0.505	#13	0.034	Not Required	Pass
213	0.002	0.252	0.026	0.058	0.001	0.265	#13	0.265	Not Required	Pass
214	0.004	0.239	0.026	0.054	0.001	0.247	#13	0.265	Not Required	Pass
215	0.004	0.307	0.015	0.047	0.001	0.322	#13	0.557	Not Required	Pass
216	0.006	0.286	0.015	0.044	0.001	0.302	#13	0.557	Not Required	Pass
301	0.107	0.367	0.017	0.007	0.001	0.368	#32	0.607	Not Required	Pass
302	0.001	0.484	0.034	0.101	0.006	0.518	#13	0.052	Not Required	Pass
303	0.001	0.754	0.014	0.076	0.004	0.759	#13	0.044	Not Required	Pass
304	0.001	0.707	0.024	0.072	0.004	0.727	#13	0.078	Not Required	Pass
305	0.001	0.468	0.019	0.076	0.004	0.470	#13	0.073	Not Required	Pass
306	0.001	0.794	0.013	0.081	0.002	0.808	#13	0.044	Not Required	Pass
307	0.001	0.492	0.032	0.080	0.007	0.502	#13	0.073	Not Required	Pass
308	0.003	0.081	0.022	0.051	0.001	0.105	#13	0.088	Not Required	Pass
309	0.002	0.098	0.016	0.001	0.001	0.115	#13	0.198	Not Required	Pass
310	0.001	0.754	0.025	0.076	0.004	0.762	#13	0.078	Not Required	Pass
311	0.002	0.078	0.021	0.053	0.001	0.101	#13	0.088	Not Required	Pass
312	0.000	0.527	0.035	0.107	0.006	0.561	#13	0.052	Not Required	Pass
313	0.003	0.282	0.036	0.064	0.001	0.309	#13	0.265	Not Required	Pass
314	0.004	0.280	0.038	0.061	0.001	0.308	#13	0.265	Not Required	Pass
315	0.004	0.303	0.015	0.049	0.001	0.318	#13	0.557	Not Required	Pass
316	0.006	0.281	0.015	0.046	0.001	0.297	#13	0.557	Not Required	Pass
401	0.075	0.292	0.103	0.005	0.008	0.300	#32	0.607	Not Required	Pass
402	0.002	0.470	0.027	0.092	0.005	0.499	#13	0.052	Not Required	Pass
403	0.002	0.674	0.048	0.071	0.010	0.722	#13	0.044	Not Required	Pass
404	0.002	0.626	0.048	0.063	0.008	0.675	#13	0.078	Not Required	Pass
405	0.002	0.417	0.039	0.068	0.010	0.440	#13	0.073	Not Required	Pass
406	0.002	0.394	0.036	0.038	0.007	0.431	#13	0.044	Not Required	Pass
407	0.002	0.245	0.023	0.040	0.007	0.266	#13	0.073	Not Required	Pass
408	0.000	0.015	0.002	0.012	0.000	0.017	#13	Not Required	Not Required	Pass
409	0.002	0.100	0.034	0.005	0.003	0.134	#13	0.198	Not Required	Pass
410	0.001	0.366	0.057	0.037	0.010	0.424	#13	0.117	Not Required	Pass
411	0.000	0.016	0.002	0.013	0.000	0.018	#13	Not Required	Not Required	Pass
412	0.002	0.202	0.018	0.052	0.003	0.220	#13	0.034	Not Required	Pass
413	0.003	0.101	0.056	0.054	0.002	0.130	#13	0.177	Not Required	Pass
414	0.004	0.092	0.057	0.049	0.003	0.128	#13	0.265	Not Required	Pass
415	0.006	0.443	0.037	0.042	0.001	0.458	#13	0.557	Not Required	Pass
416	0.006	0.419	0.038	0.039	0.001	0.438	#13	0.557	Not Required	Pass

Definitions

Φ_t	Safety factor for tensile
Φ_c	Safety factor for compression
Φ_b	Safety factor for flexure
Φ_v	Safety factor for shear
E	Modulus of elasticity
F_y	Specified minimum yield stress
F_u	Specified minimum tensile strength

A	Cross-sectional area
J	Torsional constant
I_{yp}	Moment of inertia about the Y axes
I_{zp}	Moment of inertia about the Z axes
I_w	Warping constant
S_{yp}	Plastic section modulus about the Y axis
S_{zp}	Plastic section modulus about the Z axis
KL	Effective length
C_b	Buckling modification factor (from all load combinations)
L_b	Length between braced points
LST	Limited slenderness for tension
LSC	Limited slenderness for compression
LD	Limited deflection
P_n	Nominal axial strength (tension/compression)
M_n	Nominal flexural strength (about Z/Y axis)
V_n	Nominal shear strength (along Z/Y axis)
P	Design ratio in case of axial force
M_z	Design ratio in case of bending about Z axis
M_y	Design ratio in case of bending about Y axis
V_y	Design ratio in case of shear along Y axis
V_z	Design ratio in case of shear along Z axis
(P, M_z, M_y)	Design ratio in case of axial force and bending action
KL/r	Design ratio in case of section slenderness
δ	Design ratio in case of member deflection
OK	Capacity is provided
NG	Capacity is not provided

