



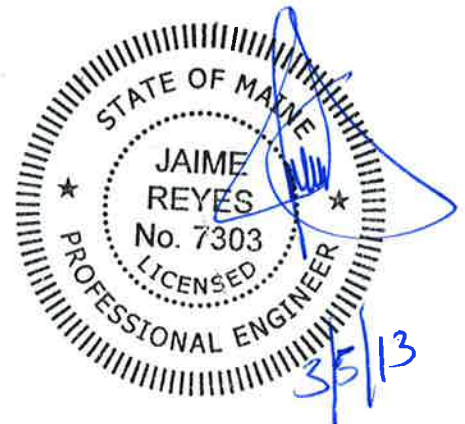
**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 275 ft Guyed Tower  
**ATC Site Name** : Portland ME, ME  
**ATC Site Number** : 10047  
**Engineering Number** : 52539121  
**Proposed Carrier** : Verizon Wireless  
**Carrier Site Name** : N/A  
**Carrier Site Number** : 20130840731  
**Site Location** : 225 Riverside Industrial Parkway  
Portland, ME 04103-1438  
43.706022,-70.310742  
**County** : Cumberland  
**Date** : March 5, 2013  
**Max Usage** : 85%  
**Result** : Pass

Adam Ponder  
Project Engineer





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Project Engineer



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## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 275 ft guyed tower to reflect the change in loading by Verizon Wireless.

## Supporting Documents

<b>Tower Drawings</b>	PiRod Drawing # 110412-B dated September 29, 1987
<b>Foundation Drawing</b>	PiRod Drawing # 110412-B dated September 29, 1987
<b>Geotechnical Report</b>	GEOServices, LLC Project # 21-07254 dated April 27, 2008

## Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

<b>Basic Wind Speed:</b>	100 mph (3-Second Gust)
<b>Basic Wind Speed w/ Ice:</b>	40 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G, Addendum 2 / 2009 IBC / Maine Model Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	1

## Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact me via email at [adam.ponder@americantower.com](mailto:adam.ponder@americantower.com) or call 972-999-8919.



**Existing and Reserved Equipment**

Mount Elev. <sup>1</sup> (ft)	Qty.	Antenna	Mount Type	Lines	Carrier
272.0	3	CSS AXP18-60	Sector Frames	(12) 1 5/8" Coax	Verizon Wireless
	3	CSS X7C-665-0			
260.0	3	RFS ATMAA1412D-1A20	Sector Frames	(12) 1 5/8" Coax (1) 1/2" Coax	T-Mobile
	3	Ericsson KRY 112 144/1			
	6	RFS APX16DWV-16DWV-S-E-ACU			
	1	Radio Waves G3-2.4			
230.0	1	Motorola PTP 45600	Pipe	(1) 1/4" Coax (1) 1 5/8" Coax	US Treasury
	1	Radiowaves HPD6-4.7NS			
202.0	3	KMW HB-X-WM-17-65-00T	Clearwire Mount	(6) 1 5/8" Coax	Clearwire Corporation
	3	KMW HB-X-WM-17-65-00T-TTLNA			
188.0	1	10' Omni	Side Arm	(1) 1 1/4" Coax	City of Portland
184.0	6	Antel BSA-185065/10CF_2	Sector Frames	(6) 1 5/8" Coax	US Cellular
168.0	1	TRXR Inc. 42186A0805117	Side Arm	(2) 1/2" Coax (1) 7/8" Coax	City of Portland
	1	10' Omni			
160.0	1	Bird BA40-41-DIN	Leg	(1) 7/8" Coax	US Treasury
140.0	1	Motorola PTP 45600	Pipe	(1) 1/4" Coax (1) 1 5/8" Coax	
	1	Radiowaves HPD4-4.7			
125.0	1	Bird BA40-41-DIN	Leg	(1) 7/8" Coax	
120.0	2	2' Omni	Side Arms	(2) 1/2" Coax (1) 7/8" Coax	City of Portland
96.0	1	3' Omni	Side Arm	(1) 1 5/8" Coax	Ron Dorler (landlord)
36.0	1	2" X 4" GPS	Side Arm	(1) 1/2" Coax	

**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty.	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
272.0	272.0	1	Raycap RDC-4276-PF-48	Sector Frames	(6) 1 5/8" Coax (1) 1 5/8" Fiber	Verizon Wireless
		3	Alcatel-Lucent RRH2x40-AWS			
		3	Swedcom SACP 2x5516			
		3	Swedcom SWCP 2x5515			

<sup>1</sup>Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

The proposed (6) 1 5/8" coax must be stacked in two rows (3-on-3), on the same tower face as the existing Verizon Wireless coax. The proposed 1 5/8" fiber line must be installed directly adjacent to the proposed (stacked) 1 5/8" coax.



**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	78%	Pass
Diagonals	57%	Pass
Horizontals	85%	Pass
Guys	72%	Pass

**Foundations**

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Base Axial (kips)	256.4	346.1	345.0	100%
Anchor 1 Uplift (kips)	122.7	165.6	103.6	63%
Anchor 1 Shear (kips)	83.3	112.5	70.3	63%

\* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings. No modification or reinforcement of the foundation will be required.

**Deflection, Twist and Sway\***

Antenna Elevation (ft)	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
272.0	0.148	0.000	0.051

\*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



## Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

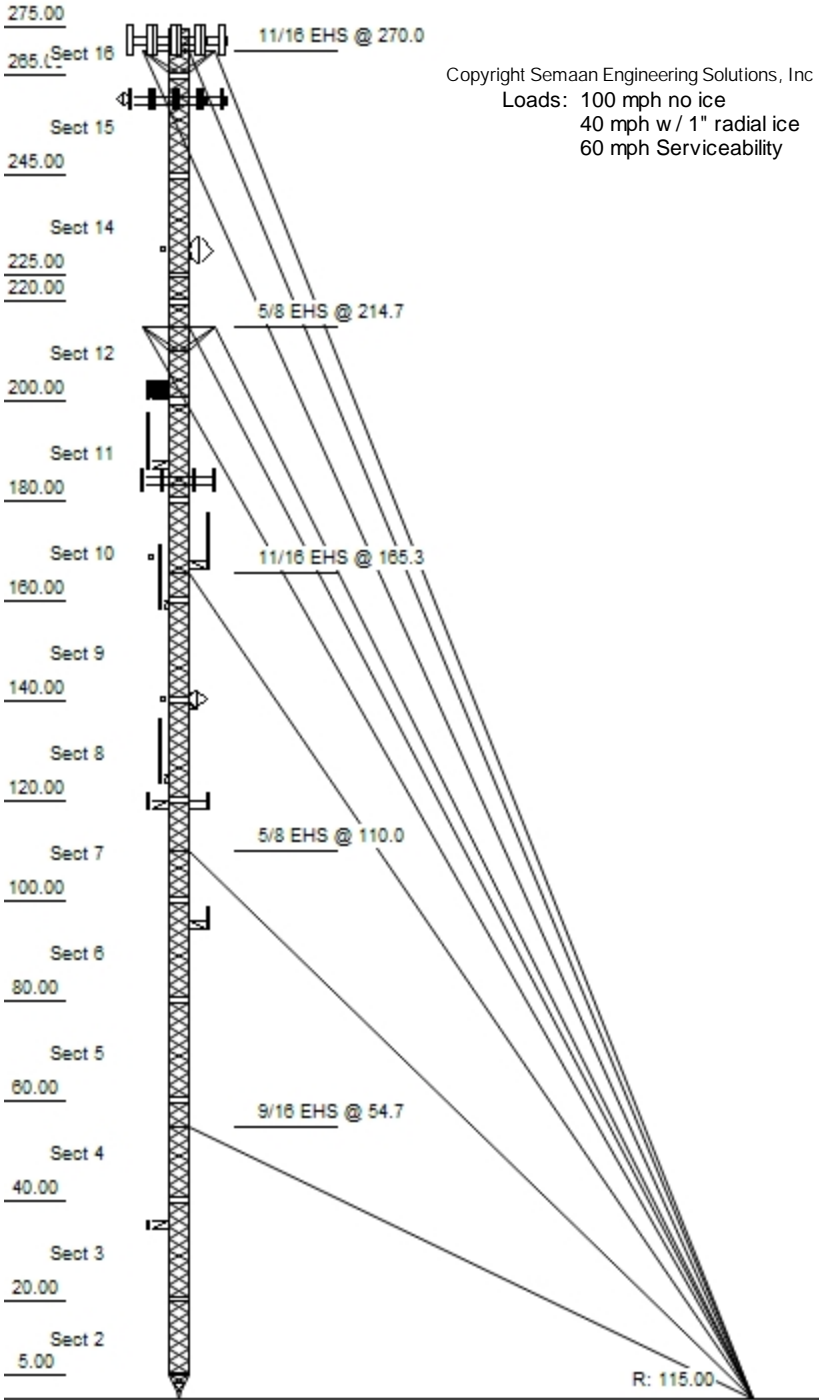
It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Job Information			
Tower : 10047	Location : Portland ME, ME		Base Width : 3.50 ft
Code : ANSI/TIA-222 Rev G	Shape : Triangle		
Client : Verizon Wireless			

Sections Properties				
Section	Leg Members		Diagonal Members	Horizontal Members
1 - 10	SOL 50 ksi	2 1/4" SOLID	SOL 50 ksi 3/4" SOLID	SOL 50 ksi 3/4" SOLID
11 - 13	SOL 50 ksi	2" SOLID	SOL 50 ksi 3/4" SOLID	SOL 50 ksi 3/4" SOLID
14 - 16	SOL 50 ksi	1 3/4" SOLID	SOL 50 ksi 3/4" SOLID	SOL 50 ksi 3/4" SOLID

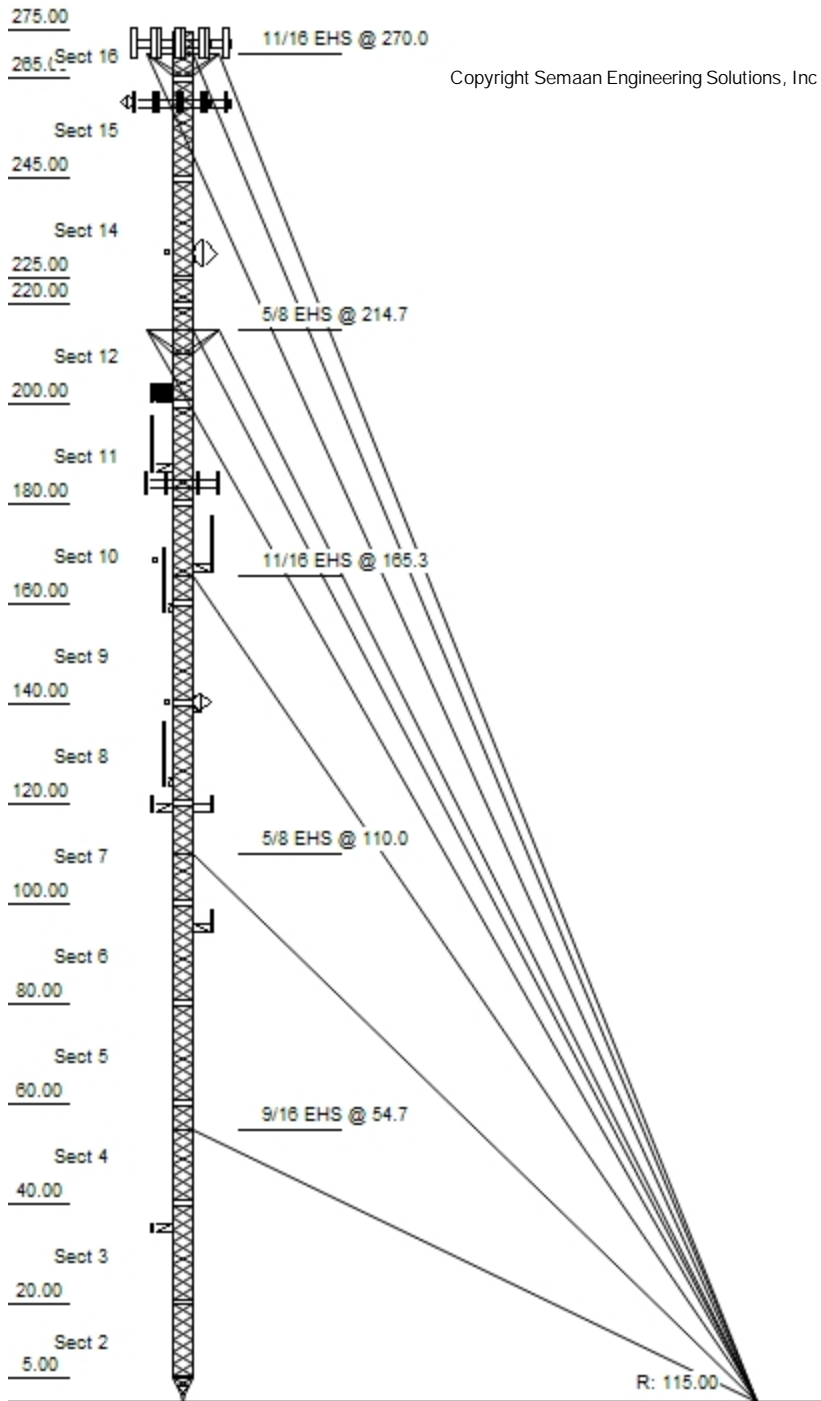


Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
272.00		1	Raycap RDC-4276-PF-48
272.00		3	Alcatel-Lucent RRH2x40-AWS
272.00	Panel	3	Swedcom SACP 2x5516
272.00	Panel	3	Swedcom SWCP 2x5515
272.00	Panel	3	CSS AXP18-60
272.00	Panel	3	CSS X7C-665-0
272.00	Mounting Frame	3	Sector Frame
260.00	Panel	3	RFS ATMAA1412D-1A20
260.00	Panel	3	Ericsson KRY 112 144/1
260.00	Panel	6	RFS APX16DWV-16DWV-S-E-ACU
260.00	Dish	1	Radio Waves G3-2.4
260.00	Mounting Frame	3	Sector Frame
230.00	Panel	1	Motorola PTP 45600
230.00	Dish	1	Radiowaves HPD6-4.7NS
202.00	Straight Arm	1	Clearwire Mount
202.00	Panel	3	KMW HB-X-WM-17-65-00T
202.00	Panel	3	KMW HB-X-WM-17-65-00T-TTLNA
188.00	Whip	1	10' Omni
188.00	Straight Arm	1	Side Arm
184.00	Mounting Frame	3	Sector Frame
184.00	Panel	6	Antel BSA-185065/10CF_2
168.00	Panel	1	TXRX Inc. 42186A0805117
168.00	Whip	1	10' Omni
168.00	Straight Arm	1	Side Arm
160.00	Whip	1	Bird BA40-41-DIN
140.00	Panel	1	Motorola PTP 45600
140.00	Dish	1	Radiowaves HPD4-4.7
125.00	Whip	1	Bird BA40-41-DIN
120.00	Whip	2	2' Omni
120.00	Straight Arm	2	Side Arm
96.00	Whip	1	3' Omni
96.00	Straight Arm	1	Side Arm
36.00	Whip	1	2" X 4" GPS
36.00	Straight Arm	1	Side Arm

Linear Appurtenance			
Elev (ft)		Qty	Description
From	To		
10.000	272.00	1	1 5/8" Fiber
10.000	272.00	6	1 5/8" Coax
10.000	272.00	6	1 5/8" Coax
10.000	272.00	6	1 5/8" Coax
10.000	260.00	1	1/2" Coax
10.000	260.00	12	1 5/8" Coax
0.000	230.00	1	1/4" Coax
0.000	230.00	1	1 5/8" Coax
10.000	202.00	6	1 5/8" Coax
10.000	188.00	1	1 1/4" Coax
10.000	184.00	6	1 5/8" Coax
10.000	168.00	1	7/8" Coax
10.000	168.00	2	1/2" Coax
10.000	160.00	1	7/8" Coax
10.000	140.00	1	1/4" Coax
10.000	140.00	1	1 5/8" Coax

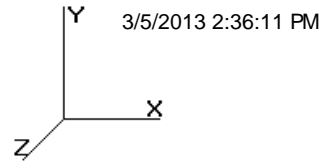


Job Information			
Tower : 10047	Location : Portland ME, ME		
Code : ANSI/TIA-222 Rev G	Shape : Triangle	Base Width : 3.50 ft	
Client : Verizon Wireless			



10.000	125.00	1	7/8" Coax
10.000	120.00	1	7/8" Coax
10.000	120.00	2	1/2" Coax
10.000	96.000	1	1 5/8" Coax
10.000	36.000	1	1/2" Coax

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class: II  
 Exposure: B  
 Topo: 1



### Section Forces

**LoadCase 1.2D + 1.6W Normal**

**100.00 mph Normal to Face with No Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.20  
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Area (sqft)			Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area (sqft)		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat	Round	Round							Linear	Total					
16	270.0	28.56	0.00	5.19	0.00	0.14	2.80	1.00	1.00	0.00	2.94	15.98	0.00	651.5	0.0	320.10	503.44	823.54
15	255.0	28.10	0.00	10.48	0.00	0.14	2.79	1.00	1.00	0.00	5.94	58.24	0.00	1,627.5	0.0	634.37	1,842.4	2,476.79
14	235.0	27.45	0.00	10.48	0.00	0.14	2.79	1.00	1.00	0.00	5.94	63.40	0.00	1,692.8	0.0	619.74	1,965.1	2,584.85
13	222.5	27.02	0.00	3.13	0.00	0.17	2.70	1.00	1.00	0.00	1.79	16.58	0.00	498.7	0.0	176.97	502.89	679.86
12	210.0	26.58	0.00	11.31	0.00	0.15	2.76	1.00	1.00	0.00	6.42	67.46	0.00	1,900.8	0.0	640.05	2,016.2	2,656.29
11	190.0	25.83	0.00	11.31	0.00	0.15	2.76	1.00	1.00	0.00	6.42	81.22	0.00	2,043.4	0.0	622.01	2,387.8	3,009.84
10	170.0	25.02	0.00	12.36	0.00	0.17	2.71	1.00	1.00	0.00	7.04	93.59	0.00	2,402.2	0.0	648.86	2,672.9	3,321.80
9	150.0	24.15	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	97.76	0.00	2,400.2	0.0	616.99	2,677.5	3,294.54
8	130.0	23.18	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	102.09	0.00	2,423.3	0.0	592.27	2,668.5	3,260.81
7	110.0	22.10	0.00	12.36	0.00	0.17	2.71	1.00	1.00	0.00	7.04	107.37	0.00	2,463.3	0.0	572.98	2,658.3	3,231.36
6	90.00	20.87	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	110.01	0.00	2,460.1	0.0	533.20	2,564.1	3,097.40
5	70.00	19.42	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	110.67	0.00	2,464.0	0.0	496.26	2,399.0	2,895.34
4	50.00	17.64	0.00	12.36	0.00	0.17	2.71	1.00	1.00	0.00	7.04	110.67	0.00	2,483.0	0.0	457.41	2,179.1	2,636.59
3	30.00	15.24	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	111.51	0.00	2,466.9	0.0	389.56	1,895.7	2,285.35
2	12.50	15.23	0.00	9.24	0.00	0.17	2.71	1.00	1.00	0.00	5.26	56.83	0.00	1,594.6	0.0	295.40	963.11	1,258.51
1	2.50	15.23	0.00	3.19	0.00	0.33	2.22	1.00	1.00	0.00	1.94	0.97	0.00	368.8	0.0	89.25	14.45	103.70
														29,941.1	0.0	37,616.55		

**LoadCase 1.2D + 1.6W 60 deg**

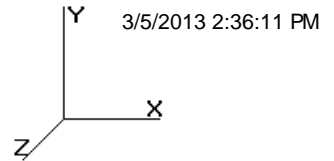
**100.00 mph 60 deg with No Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.20  
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Area (sqft)			Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Ice Area (sqft)		Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Flat	Round	Round							Linear	Total					
16	270.0	28.56	0.00	5.19	0.00	0.14	2.80	0.80	1.00	0.00	2.94	15.98	0.00	651.5	0.0	320.10	503.44	823.54
15	255.0	28.10	0.00	10.48	0.00	0.14	2.79	0.80	1.00	0.00	5.94	58.24	0.00	1,627.5	0.0	634.37	1,842.4	2,476.79
14	235.0	27.45	0.00	10.48	0.00	0.14	2.79	0.80	1.00	0.00	5.94	63.40	0.00	1,692.8	0.0	619.74	1,965.1	2,584.85
13	222.5	27.02	0.00	3.13	0.00	0.17	2.70	0.80	1.00	0.00	1.79	16.58	0.00	498.7	0.0	176.97	502.89	679.86
12	210.0	26.58	0.00	11.31	0.00	0.15	2.76	0.80	1.00	0.00	6.42	67.46	0.00	1,900.8	0.0	640.05	2,016.2	2,656.29
11	190.0	25.83	0.00	11.31	0.00	0.15	2.76	0.80	1.00	0.00	6.42	81.22	0.00	2,043.4	0.0	622.01	2,387.8	3,009.84
10	170.0	25.02	0.00	12.36	0.00	0.17	2.71	0.80	1.00	0.00	7.04	93.59	0.00	2,402.2	0.0	648.86	2,672.9	3,321.80
9	150.0	24.15	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	97.76	0.00	2,400.2	0.0	616.99	2,677.5	3,294.54
8	130.0	23.18	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	102.09	0.00	2,423.3	0.0	592.27	2,668.5	3,260.81
7	110.0	22.10	0.00	12.36	0.00	0.17	2.71	0.80	1.00	0.00	7.04	107.37	0.00	2,463.3	0.0	572.98	2,658.3	3,231.36
6	90.00	20.87	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	110.01	0.00	2,460.1	0.0	533.20	2,564.1	3,097.40
5	70.00	19.42	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	110.67	0.00	2,464.0	0.0	496.26	2,399.0	2,895.34
4	50.00	17.64	0.00	12.36	0.00	0.17	2.71	0.80	1.00	0.00	7.04	110.67	0.00	2,483.0	0.0	457.41	2,179.1	2,636.59
3	30.00	15.24	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	111.51	0.00	2,466.9	0.0	389.56	1,895.7	2,285.35
2	12.50	15.23	0.00	9.24	0.00	0.17	2.71	0.80	1.00	0.00	5.26	56.83	0.00	1,594.6	0.0	295.40	963.11	1,258.51
1	2.50	15.23	0.00	3.19	0.00	0.33	2.22	0.80	1.00	0.00	1.94	0.97	0.00	368.8	0.0	89.25	14.45	103.70
														29,941.1	0.0	37,616.55		

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Section Forces

**LoadCase 1.2D + 1.6W 90 deg**

**100.00 mph 90 deg with No Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.20  
 Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Area (sqft)	Area (sqft)	Area (sqft)													
16	270.0	28.56	0.00	5.19	0.00	0.14	2.80	0.85	1.00	0.00	2.94	15.98	0.00	651.5	0.0	320.10	503.44	823.54
15	255.0	28.10	0.00	10.48	0.00	0.14	2.79	0.85	1.00	0.00	5.94	58.24	0.00	1,627.5	0.0	634.37	1,842.4	2,476.79
14	235.0	27.45	0.00	10.48	0.00	0.14	2.79	0.85	1.00	0.00	5.94	63.40	0.00	1,692.8	0.0	619.74	1,965.1	2,584.85
13	222.5	27.02	0.00	3.13	0.00	0.17	2.70	0.85	1.00	0.00	1.79	16.58	0.00	498.7	0.0	176.97	502.89	679.86
12	210.0	26.58	0.00	11.31	0.00	0.15	2.76	0.85	1.00	0.00	6.42	67.46	0.00	1,900.8	0.0	640.05	2,016.2	2,656.29
11	190.0	25.83	0.00	11.31	0.00	0.15	2.76	0.85	1.00	0.00	6.42	81.22	0.00	2,043.4	0.0	622.01	2,387.8	3,009.84
10	170.0	25.02	0.00	12.36	0.00	0.17	2.71	0.85	1.00	0.00	7.04	93.59	0.00	2,402.2	0.0	648.86	2,672.9	3,321.80
9	150.0	24.15	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	97.76	0.00	2,400.2	0.0	616.99	2,677.5	3,294.54
8	130.0	23.18	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	102.09	0.00	2,423.3	0.0	592.27	2,668.5	3,260.81
7	110.0	22.10	0.00	12.36	0.00	0.17	2.71	0.85	1.00	0.00	7.04	107.37	0.00	2,463.3	0.0	572.98	2,658.3	3,231.36
6	90.00	20.87	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	110.01	0.00	2,460.1	0.0	533.20	2,564.1	3,097.40
5	70.00	19.42	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	110.67	0.00	2,464.0	0.0	496.26	2,399.0	2,895.34
4	50.00	17.64	0.00	12.36	0.00	0.17	2.71	0.85	1.00	0.00	7.04	110.67	0.00	2,483.0	0.0	457.41	2,179.1	2,636.59
3	30.00	15.24	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	111.51	0.00	2,466.9	0.0	389.56	1,895.7	2,285.35
2	12.50	15.23	0.00	9.24	0.00	0.17	2.71	0.85	1.00	0.00	5.26	56.83	0.00	1,594.6	0.0	295.40	963.11	1,258.51
1	2.50	15.23	0.00	3.19	0.00	0.33	2.22	0.85	1.00	0.00	1.94	0.97	0.00	368.8	0.0	89.25	14.45	103.70
														29,941.1	0.0			37,616.55

**LoadCase 1.2D + 1.0Di + 1.0Wi Normal**

**40.00 mph Normal with 1.00 in Radial Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.20  
 Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

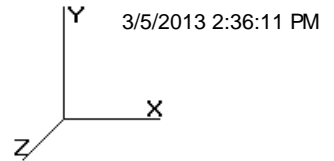
Wind Importance Factor : 1.00

Ice Importance Factor : 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			Area (sqft)	Area (sqft)	Area (sqft)													
16	270.0	4.57	0.00	28.40	23.21	0.70	1.78	1.00	1.00	2.47	23.04	21.74	20.15	3,217.6	2,566.1	158.94	63.40	222.33
15	255.0	4.50	0.00	57.22	46.75	0.71	1.78	1.00	1.00	2.45	46.64	80.73	63.39	8,541.9	6,914.4	316.62	213.92	530.54
14	235.0	4.39	0.00	56.84	46.37	0.70	1.78	1.00	1.00	2.43	46.16	87.74	68.96	8,904.0	7,211.2	306.09	230.65	536.75
13	222.5	4.32	0.00	16.63	13.50	0.82	1.83	1.00	1.00	2.42	14.96	22.63	20.17	2,515.0	2,016.3	100.58	37.64	138.23
12	210.0	4.25	0.00	57.16	45.85	0.70	1.78	1.00	1.00	2.41	46.46	92.33	80.22	9,417.0	7,516.2	298.34	243.57	541.91
11	190.0	4.13	0.00	56.70	45.39	0.70	1.78	1.00	1.00	2.38	45.89	114.58	82.60	10,255.7	8,212.4	286.33	278.77	565.10
10	170.0	4.00	0.00	58.63	46.26	0.72	1.78	1.00	1.00	2.36	48.32	132.86	95.82	11,485.2	9,083.1	292.46	292.09	583.22
9	150.0	3.86	0.00	56.47	44.33	0.69	1.78	1.00	1.00	2.33	45.52	136.54	116.35	11,741.0	9,340.8	265.43	336.53	562.06
8	130.0	3.71	0.00	55.84	43.70	0.69	1.78	1.00	1.00	2.29	44.74	140.32	131.90	12,006.5	9,583.2	250.47	352.99	538.81
7	110.0	3.54	0.00	56.65	44.29	0.70	1.78	1.00	1.00	2.26	45.84	144.96	157.91	12,543.6	10,080.0	244.62	358.02	512.90
6	90.00	3.34	0.00	54.27	42.12	0.67	1.78	1.00	1.00	2.21	42.84	146.86	160.67	12,344.0	9,883.9	216.06	374.53	483.43
5	70.00	3.11	0.00	53.22	41.08	0.66	1.78	1.00	1.00	2.16	41.59	146.60	158.12	12,034.5	9,570.5	195.50	357.30	448.92
4	50.00	2.82	0.00	53.30	40.93	0.66	1.78	1.00	1.00	2.08	41.76	145.41	152.89	11,672.3	9,189.3	178.22	315.25	406.57
3	30.00	2.44	0.00	49.88	37.74	0.62	1.79	1.00	1.00	1.98	37.77	144.52	150.56	11,035.3	8,568.4	140.36	300.79	349.85
2	12.50	2.44	0.00	35.82	26.57	0.60	1.80	1.00	1.00	1.81	26.60	71.95	72.60	5,943.4	4,348.8	99.47	155.81	255.28
1	2.50	2.44	0.00	10.76	7.58	0.98	2.06	1.00	1.00	1.55	11.12	0.97	2.58	778.0	409.2	47.48	0.17	47.65
														144,435.3	114,494.0			6,723.53

\*\* = Section Force Exceeds Solidity Ratio Criteria

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Section Forces

**LoadCase 1.2D + 1.0Di + 1.0Wi 60 deg**

**40.00 mph 60 deg with 1.00 in Radial Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.20  
 Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00  
 Ice Importance Factor : 1.00

Seq	Wind Sect	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
16	270.0	4.57	0.00	28.40	23.21	0.70	1.78	0.80	1.00	2.47	23.04	21.74	20.15	3,217.6	2,566.1	158.94	63.40	222.33		
15	255.0	4.50	0.00	57.22	46.75	0.71	1.78	0.80	1.00	2.45	46.64	80.73	63.39	8,541.9	6,914.4	316.62	213.92	530.54		
14	235.0	4.39	0.00	56.84	46.37	0.70	1.78	0.80	1.00	2.43	46.16	87.74	68.96	8,904.0	7,211.2	306.09	230.65	536.75		
13	222.5	4.32	0.00	16.63	13.50	0.82	1.83	0.80	1.00	2.42	14.96	22.63	20.17	2,515.0	2,016.3	100.58	37.64	138.23		
12	210.0	4.25	0.00	57.16	45.85	0.70	1.78	0.80	1.00	2.41	46.46	92.33	80.22	9,417.0	7,516.2	298.34	243.57	541.91		
11	190.0	4.13	0.00	56.70	45.39	0.70	1.78	0.80	1.00	2.38	45.89	114.58	82.60	10,255.7	8,212.4	286.33	278.77	565.10		
10	170.0	4.00	0.00	58.63	46.26	0.72	1.78	0.80	1.00	2.36	48.32	132.86	95.82	11,485.2	9,083.1	292.46	292.09	583.22		
9	150.0	3.86	0.00	56.47	44.33	0.69	1.78	0.80	1.00	2.33	45.52	136.54	116.35	11,741.0	9,340.8	265.43	336.53	562.06		
8	130.0	3.71	0.00	55.84	43.70	0.69	1.78	0.80	1.00	2.29	44.74	140.32	131.90	12,006.5	9,583.2	250.47	352.99	538.81		
7	110.0	3.54	0.00	56.65	44.29	0.70	1.78	0.80	1.00	2.26	45.84	144.96	157.91	12,543.6	10,080.0	244.62	358.02	512.90		
6	90.00	3.34	0.00	54.27	42.12	0.67	1.78	0.80	1.00	2.21	42.84	146.86	160.67	12,344.0	9,883.9	216.06	374.53	483.43		
5	70.00	3.11	0.00	53.22	41.08	0.66	1.78	0.80	1.00	2.16	41.59	146.60	158.12	12,034.5	9,570.5	195.50	357.30	448.92		
4	50.00	2.82	0.00	53.30	40.93	0.66	1.78	0.80	1.00	2.08	41.76	145.41	152.89	11,672.3	9,189.3	178.22	315.25	406.57		
3	30.00	2.44	0.00	49.88	37.74	0.62	1.79	0.80	1.00	1.98	37.77	144.52	150.56	11,035.3	8,568.4	140.36	300.79	349.85		
2	12.50	2.44	0.00	35.82	26.57	0.60	1.80	0.80	1.00	1.81	26.60	71.95	72.60	5,943.4	4,348.8	99.47	155.81	255.28		
1	2.50	2.44	0.00	10.76	7.58	0.98	2.06	0.80	1.00	1.55	11.12	0.97	2.58	778.0	409.2	47.48	0.17	47.65		
																144,435.3	114,494.			6,723.53

\*\* = Section Force Exceeds Solidity Ratio Criteria

**LoadCase 1.2D + 1.0Di + 1.0Wi 90 deg**

**40.00 mph 90 deg with 1.00 in Radial Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.20  
 Wind Load Factor : 1.00

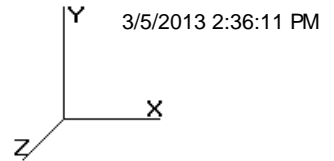
Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00  
 Ice Importance Factor : 1.00

Seq	Wind Sect	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	
16	270.0	4.57	0.00	28.40	23.21	0.70	1.78	0.85	1.00	2.47	23.04	21.74	20.15	3,217.6	2,566.1	158.94	63.40	222.33		
15	255.0	4.50	0.00	57.22	46.75	0.71	1.78	0.85	1.00	2.45	46.64	80.73	63.39	8,541.9	6,914.4	316.62	213.92	530.54		
14	235.0	4.39	0.00	56.84	46.37	0.70	1.78	0.85	1.00	2.43	46.16	87.74	68.96	8,904.0	7,211.2	306.09	230.65	536.75		
13	222.5	4.32	0.00	16.63	13.50	0.82	1.83	0.85	1.00	2.42	14.96	22.63	20.17	2,515.0	2,016.3	100.58	37.64	138.23		
12	210.0	4.25	0.00	57.16	45.85	0.70	1.78	0.85	1.00	2.41	46.46	92.33	80.22	9,417.0	7,516.2	298.34	243.57	541.91		
11	190.0	4.13	0.00	56.70	45.39	0.70	1.78	0.85	1.00	2.38	45.89	114.58	82.60	10,255.7	8,212.4	286.33	278.77	565.10		
10	170.0	4.00	0.00	58.63	46.26	0.72	1.78	0.85	1.00	2.36	48.32	132.86	95.82	11,485.2	9,083.1	292.46	292.09	583.22		
9	150.0	3.86	0.00	56.47	44.33	0.69	1.78	0.85	1.00	2.33	45.52	136.54	116.35	11,741.0	9,340.8	265.43	336.53	562.06		
8	130.0	3.71	0.00	55.84	43.70	0.69	1.78	0.85	1.00	2.29	44.74	140.32	131.90	12,006.5	9,583.2	250.47	352.99	538.81		
7	110.0	3.54	0.00	56.65	44.29	0.70	1.78	0.85	1.00	2.26	45.84	144.96	157.91	12,543.6	10,080.0	244.62	358.02	512.90		
6	90.00	3.34	0.00	54.27	42.12	0.67	1.78	0.85	1.00	2.21	42.84	146.86	160.67	12,344.0	9,883.9	216.06	374.53	483.43		
5	70.00	3.11	0.00	53.22	41.08	0.66	1.78	0.85	1.00	2.16	41.59	146.60	158.12	12,034.5	9,570.5	195.50	357.30	448.92		
4	50.00	2.82	0.00	53.30	40.93	0.66	1.78	0.85	1.00	2.08	41.76	145.41	152.89	11,672.3	9,189.3	178.22	315.25	406.57		
3	30.00	2.44	0.00	49.88	37.74	0.62	1.79	0.85	1.00	1.98	37.77	144.52	150.56	11,035.3	8,568.4	140.36	300.79	349.85		
2	12.50	2.44	0.00	35.82	26.57	0.60	1.80	0.85	1.00	1.81	26.60	71.95	72.60	5,943.4	4,348.8	99.47	155.81	255.28		
1	2.50	2.44	0.00	10.76	7.58	0.98	2.06	0.85	1.00	1.55	11.12	0.97	2.58	778.0	409.2	47.48	0.17	47.65		
																144,435.3	114,494.			6,723.53

\*\* = Section Force Exceeds Solidity Ratio Criteria

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class: II  
 Exposure: B  
 Topo: 1



**Section Forces**

**LoadCase 1.0D + 1.0W Service Normal**

**Serviceability - 60.00 Wind Normal**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Seq	Wind Sect	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
16	270.0	10.28	0.00	5.19	0.00	0.14	2.80	1.00	1.00	0.00	2.94	15.98	0.00	542.9	0.0	72.02	113.27	185.30	
15	255.0	10.12	0.00	10.48	0.00	0.14	2.79	1.00	1.00	0.00	5.94	58.24	0.00	1,356.3	0.0	142.73	414.54	557.28	
14	235.0	9.88	0.00	10.48	0.00	0.14	2.79	1.00	1.00	0.00	5.94	63.40	0.00	1,410.7	0.0	139.44	442.15	581.59	
13	222.5	9.73	0.00	3.13	0.00	0.17	2.70	1.00	1.00	0.00	1.79	16.58	0.00	415.6	0.0	39.82	113.15	152.97	
12	210.0	9.57	0.00	11.31	0.00	0.15	2.76	1.00	1.00	0.00	6.42	67.46	0.00	1,584.0	0.0	144.01	453.65	597.67	
11	190.0	9.30	0.00	11.31	0.00	0.15	2.76	1.00	1.00	0.00	6.42	81.22	0.00	1,702.8	0.0	139.95	537.26	677.21	
10	170.0	9.01	0.00	12.36	0.00	0.17	2.71	1.00	1.00	0.00	7.04	93.59	0.00	2,001.8	0.0	145.99	601.41	747.40	
9	150.0	8.69	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	97.76	0.00	2,000.2	0.0	138.82	602.45	741.27	
8	130.0	8.34	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	102.09	0.00	2,019.4	0.0	133.26	600.42	733.68	
7	110.0	7.96	0.00	12.36	0.00	0.17	2.71	1.00	1.00	0.00	7.04	107.37	0.00	2,052.7	0.0	128.92	598.14	727.06	
6	90.00	7.51	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	110.01	0.00	2,050.1	0.0	119.97	576.94	696.91	
5	70.00	6.99	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	110.67	0.00	2,053.4	0.0	111.66	539.79	651.45	
4	50.00	6.35	0.00	12.36	0.00	0.17	2.71	1.00	1.00	0.00	7.04	110.67	0.00	2,069.1	0.0	102.92	490.32	593.23	
3	30.00	5.49	0.00	12.14	0.00	0.16	2.72	1.00	1.00	0.00	6.91	111.51	0.00	2,055.8	0.0	87.65	426.55	514.20	
2	12.50	5.48	0.00	9.24	0.00	0.17	2.71	1.00	1.00	0.00	5.26	56.83	0.00	1,328.9	0.0	66.46	216.70	283.16	
1	2.50	5.48	0.00	3.19	0.00	0.33	2.22	1.00	1.00	0.00	1.94	0.97	0.00	307.3	0.0	20.08	3.25	23.33	
															24,950.9	0.0			8,463.72

\*\* = Section Force Exceeds Solidity Ratio Criteria

**LoadCase 1.0D + 1.0W Service 60 deg**

**Serviceability - 60.00 Wind 60 deg**

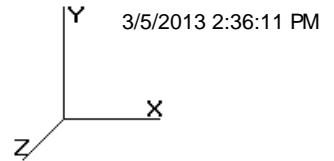
Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Seq	Wind Sect	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
16	270.0	10.28	0.00	5.19	0.00	0.14	2.80	0.80	1.00	0.00	2.94	15.98	0.00	542.9	0.0	72.02	113.27	185.30	
15	255.0	10.12	0.00	10.48	0.00	0.14	2.79	0.80	1.00	0.00	5.94	58.24	0.00	1,356.3	0.0	142.73	414.54	557.28	
14	235.0	9.88	0.00	10.48	0.00	0.14	2.79	0.80	1.00	0.00	5.94	63.40	0.00	1,410.7	0.0	139.44	442.15	581.59	
13	222.5	9.73	0.00	3.13	0.00	0.17	2.70	0.80	1.00	0.00	1.79	16.58	0.00	415.6	0.0	39.82	113.15	152.97	
12	210.0	9.57	0.00	11.31	0.00	0.15	2.76	0.80	1.00	0.00	6.42	67.46	0.00	1,584.0	0.0	144.01	453.65	597.67	
11	190.0	9.30	0.00	11.31	0.00	0.15	2.76	0.80	1.00	0.00	6.42	81.22	0.00	1,702.8	0.0	139.95	537.26	677.21	
10	170.0	9.01	0.00	12.36	0.00	0.17	2.71	0.80	1.00	0.00	7.04	93.59	0.00	2,001.8	0.0	145.99	601.41	747.40	
9	150.0	8.69	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	97.76	0.00	2,000.2	0.0	138.82	602.45	741.27	
8	130.0	8.34	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	102.09	0.00	2,019.4	0.0	133.26	600.42	733.68	
7	110.0	7.96	0.00	12.36	0.00	0.17	2.71	0.80	1.00	0.00	7.04	107.37	0.00	2,052.7	0.0	128.92	598.14	727.06	
6	90.00	7.51	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	110.01	0.00	2,050.1	0.0	119.97	576.94	696.91	
5	70.00	6.99	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	110.67	0.00	2,053.4	0.0	111.66	539.79	651.45	
4	50.00	6.35	0.00	12.36	0.00	0.17	2.71	0.80	1.00	0.00	7.04	110.67	0.00	2,069.1	0.0	102.92	490.32	593.23	
3	30.00	5.49	0.00	12.14	0.00	0.16	2.72	0.80	1.00	0.00	6.91	111.51	0.00	2,055.8	0.0	87.65	426.55	514.20	
2	12.50	5.48	0.00	9.24	0.00	0.17	2.71	0.80	1.00	0.00	5.26	56.83	0.00	1,328.9	0.0	66.46	216.70	283.16	
1	2.50	5.48	0.00	3.19	0.00	0.33	2.22	0.80	1.00	0.00	1.94	0.97	0.00	307.3	0.0	20.08	3.25	23.33	
															24,950.9	0.0			8,463.72

\*\* = Section Force Exceeds Solidity Ratio Criteria

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Section Forces

**LoadCase 1.0D + 1.0W Service 90 deg**

**Serviceability - 60.00 Wind 90 deg**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Wind Importance Factor : 1.00

Seq	Wind Sect	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
16	270.0	10.28	0.00	5.19	0.00	0.14	2.80	0.85	1.00	0.00	2.94	15.98	0.00	542.9	0.0	72.02	113.27	185.30	
15	255.0	10.12	0.00	10.48	0.00	0.14	2.79	0.85	1.00	0.00	5.94	58.24	0.00	1,356.3	0.0	142.73	414.54	557.28	
14	235.0	9.88	0.00	10.48	0.00	0.14	2.79	0.85	1.00	0.00	5.94	63.40	0.00	1,410.7	0.0	139.44	442.15	581.59	
13	222.5	9.73	0.00	3.13	0.00	0.17	2.70	0.85	1.00	0.00	1.79	16.58	0.00	415.6	0.0	39.82	113.15	152.97	
12	210.0	9.57	0.00	11.31	0.00	0.15	2.76	0.85	1.00	0.00	6.42	67.46	0.00	1,584.0	0.0	144.01	453.65	597.67	
11	190.0	9.30	0.00	11.31	0.00	0.15	2.76	0.85	1.00	0.00	6.42	81.22	0.00	1,702.8	0.0	139.95	537.26	677.21	
10	170.0	9.01	0.00	12.36	0.00	0.17	2.71	0.85	1.00	0.00	7.04	93.59	0.00	2,001.8	0.0	145.99	601.41	747.40	
9	150.0	8.69	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	97.76	0.00	2,000.2	0.0	138.82	602.45	741.27	
8	130.0	8.34	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	102.09	0.00	2,019.4	0.0	133.26	600.42	733.68	
7	110.0	7.96	0.00	12.36	0.00	0.17	2.71	0.85	1.00	0.00	7.04	107.37	0.00	2,052.7	0.0	128.92	598.14	727.06	
6	90.00	7.51	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	110.01	0.00	2,050.1	0.0	119.97	576.94	696.91	
5	70.00	6.99	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	110.67	0.00	2,053.4	0.0	111.66	539.79	651.45	
4	50.00	6.35	0.00	12.36	0.00	0.17	2.71	0.85	1.00	0.00	7.04	110.67	0.00	2,069.1	0.0	102.92	490.32	593.23	
3	30.00	5.49	0.00	12.14	0.00	0.16	2.72	0.85	1.00	0.00	6.91	111.51	0.00	2,055.8	0.0	87.65	426.55	514.20	
2	12.50	5.48	0.00	9.24	0.00	0.17	2.71	0.85	1.00	0.00	5.26	56.83	0.00	1,328.9	0.0	66.46	216.70	283.16	
1	2.50	5.48	0.00	3.19	0.00	0.33	2.22	0.85	1.00	0.00	1.94	0.97	0.00	307.3	0.0	20.08	3.25	23.33	
															24,950.9	0.0			8,463.72

\*\* = Section Force Exceeds Solidity Ratio Criteria

**LoadCase Normal No Ice**

**80.00 mph Wind Normal To Face with No Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Wind Importance Factor : 0.00

Seq	Wind Sect	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
															0.0	0.0	0.00	0.00	0.00
															0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

**LoadCase 60 deg No Ice**

**80.00 mph Wind at 60 deg From Face with No Ice**

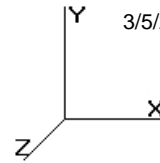
Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Wind Importance Factor : 0.00

Seq	Wind Sect	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
															0.0	0.0	0.00	0.00	0.00
															0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

Site Number : 10047  
 Location : Portland ME, ME  
 Code : ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Section Forces

**LoadCase 90 deg No Ice**

**80.00 mph Wind at 90 deg From Face with No Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Wind Importance Factor : 0.00

Wind Sect Seq	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00
														0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

**LoadCase Normal Ice**

**69.28 mph Wind Normal To Face with Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 0.00

Ice Importance Factor : 0.00

Wind Sect Seq	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00
														0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

**LoadCase 60 deg Ice**

**69.28 mph Wind at 60 deg From Face with Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

Wind Importance Factor : 0.00

Ice Importance Factor : 0.00

Wind Sect Seq	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00
														0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

**LoadCase 90 deg Ice**

**69.28 mph Wind at 90 deg From Face with Ice**

Gust Response Factor : 0.85  
 Dead Load Factor : 1.00  
 Wind Load Factor : 1.00

Ice Dead Load Factor : 1.00

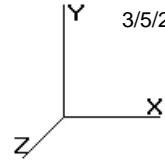
Wind Importance Factor : 0.00

Ice Importance Factor : 0.00

Wind Sect Seq	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00
														0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

**Site Number:** 10047  
**Location:** Portland ME, ME  
**Code:** ANSI/TIA-222 Rev G  
**Struct Class:** II  
**Exposure:** B  
**Topo:** 1



## Section Forces

### LoadCase Normal Twist/Sway

### 50.00 mph Wind Normal To Face with No Ice

**Gust Response Factor :** 0.85  
**Dead Load Factor :** 1.00  
**Wind Load Factor :** 1.00

**Wind Importance Factor :** 0.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			0.00	0.00	0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00
														0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

### LoadCase 60 deg Twist/Sway

### 50.00 mph Wind at 60 deg From Face with No Ice

**Gust Response Factor :** 0.85  
**Dead Load Factor :** 1.00  
**Wind Load Factor :** 1.00

**Wind Importance Factor :** 0.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			0.00	0.00	0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00
														0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria

### LoadCase 90 deg Twist/Sway

### 50.00 mph Wind at 90 deg From Face with No Ice

**Gust Response Factor :** 0.85  
**Dead Load Factor :** 1.00  
**Wind Load Factor :** 1.00

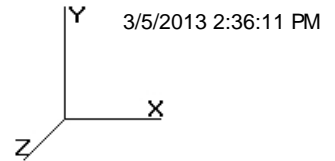
**Wind Importance Factor :** 0.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
			0.00	0.00	0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00	0.00	0.00
														0.0	0.0			0.00

\*\* = Section Force Exceeds Solidity Ratio Criteria



Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class: II  
 Exposure: B  
 Topo: 1



## Tower Loading

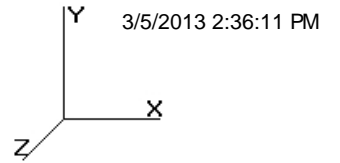
### Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice		Ice		Len (ft)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
			Weight (lb)	CaAa (sf)	Weight (lb)	CaAa (sf)						
272.0	Raycap RDC-4276-PF-48	1	34.00	6.690	241.18	9.259	2.250	25.60	10.40	0.80	0.71	0.000
272.0	Alcatel-Lucent RRH2x40-AWS	3	44.00	2.520	129.87	4.249	2.030	10.60	6.700	0.80	0.82	0.000
272.0	Swedcom SACP 2x5516	3	16.00	5.280	232.22	6.595	4.670	9.700	6.500	0.80	0.84	0.000
272.0	Swedcom SWCP 2x5515	3	30.00	10.480	451.76	12.033	6.420	14.00	11.30	0.80	0.91	0.000
272.0	CSS AXP18-60	3	11.00	3.130	148.63	4.407	4.000	6.700	4.100	0.80	0.85	0.000
272.0	CSS X7C-665-0	3	30.00	8.750	346.13	10.307	6.000	12.50	7.100	0.80	0.80	0.000
272.0	Sector Frame	3	400.00	17.900	826.44	39.280	12.00	0.000	0.000	0.75	0.75	0.000
260.0	RFS ATMAA1412D-1A20	3	13.00	1.170	70.20	1.642	1.000	10.00	4.000	0.80	0.67	0.000
260.0	Ericsson KRY 112 144/1	3	11.00	0.410	39.49	0.782	0.580	6.100	2.700	0.80	0.67	0.000
260.0	RFS APX16DWV-16DWV-S-E-	6	39.60	6.700	240.74	7.635	4.420	13.00	3.200	0.80	0.67	0.000
260.0	Radio Waves G3-2.4	1	40.00	4.200	236.30	41.301	3.000	0.000	0.000	1.00	1.00	0.000
260.0	Sector Frame	3	300.00	14.400	818.23	37.721	12.00	0.000	0.000	0.75	0.75	0.000
230.0	Motorola PTP 45600	1	12.10	2.040	91.02	2.553	1.208	14.50	3.700	1.00	1.00	0.000
230.0	Radiowaves HPD6-4.7NS	1	405.00	44.000	1832.28	49.997	6.000	0.000	0.000	1.00	1.00	0.000
202.0	Clearwire Mount	1	350.00	8.500	754.31	18.319	0.000	0.000	0.000	1.00	1.00	0.000
202.0	KMW HB-X-WM-17-65-00T	3	30.00	1.950	198.24	4.611	4.000	7.300	7.300	0.80	1.00	0.000
202.0	KMW HB-X-WM-17-65-00T-	3	15.90	1.140	71.20	1.623	1.325	7.300	3.700	0.80	0.76	0.000
188.0	10' Omni	1	25.00	3.000	233.81	6.738	10.00	3.000	3.000	1.00	1.00	5.000
188.0	Side Arm	1	150.00	5.200	250.07	8.917	0.000	0.000	0.000	1.00	1.00	0.000
184.0	Sector Frame	3	300.00	14.400	803.21	37.044	0.000	0.000	0.000	0.75	0.75	0.000
184.0	Antel BSA-185065/10CF_2	6	9.10	3.910	142.12	5.383	5.017	6.300	2.000	0.80	0.67	0.000
168.0	TXRX Inc. 42186A0805117	1	50.00	2.590	127.43	3.075	1.580	14.00	1.700	1.00	1.00	1.000
168.0	10' Omni	1	25.00	3.000	230.41	6.705	10.00	3.000	3.000	1.00	1.00	5.000
168.0	Side Arm	1	150.00	5.200	248.96	8.876	0.000	0.000	0.000	1.00	1.00	0.000
160.0	Bird BA40-41-DIN	1	32.00	5.050	119.75	18.174	11.50	0.000	0.000	1.00	1.00	5.750
140.0	Motorola PTP 45600	1	12.10	2.040	84.73	2.501	1.208	14.50	3.700	1.00	1.00	0.000
140.0	Radiowaves HPD4-4.7	1	170.00	15.860	590.53	18.930	4.000	0.000	0.000	1.00	1.00	0.000
125.0	Bird BA40-41-DIN	1	32.00	5.050	118.50	17.987	11.50	0.000	0.000	1.00	1.00	5.750
120.0	2' Omni	2	10.00	0.680	55.14	1.084	2.000	3.000	3.000	1.00	1.00	1.500
120.0	Side Arm	2	150.00	5.200	244.75	8.719	0.000	0.000	0.000	1.00	1.00	0.000
96.00	3' Omni	1	10.00	0.680	71.66	1.595	3.000	3.000	3.000	1.00	1.00	1.500
96.00	Side Arm	1	150.00	5.200	242.87	8.649	0.000	0.000	0.000	1.00	1.00	0.000
36.00	2" X 4" GPS	1	5.00	0.040	13.70	0.232	0.170	4.000	2.000	1.00	1.00	0.000
36.00	Side Arm	1	150.00	5.200	233.20	8.290	0.000	0.000	0.000	1.00	1.00	0.000
<b>Totals</b>		<b>70</b>	<b>6017.10</b>		<b>21024.57</b>					<b>Number of Appurtenances : 34</b>		

### Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
10.00	272.0	1 5/8" Coax	6	1.98	1.04	50	3	Block	0.00	N	0.50	1.00	0.00
10.00	272.0	1 5/8" Coax	6	1.98	1.04	0	2	Individual	0.00	N	0.50	1.00	0.00
10.00	272.0	1 5/8" Coax	6	1.98	0.82	50	Lin App	Block	0.00	N	0.50	1.00	0.00
10.00	272.0	1 5/8" Fiber	1	1.63	1.61	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	260.0	1 5/8" Coax	12	1.98	0.82	33	2	Block	0.00	N	0.50	1.00	0.00
10.00	260.0	1/2" Coax	1	0.65	0.16	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	230.0	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00

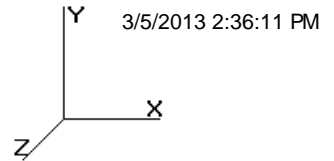
**Site Number: 10047**  
**Location: Portland ME, ME**  
**Code: ANSI/TIA-222 Rev G**  
**Struct Class : II**  
**Exposure : B**  
**Topo : 1**



**Tower Loading**

0.00	230.0	1/4" Coax	1	0.34	0.06	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	202.0	1 5/8" Coax	6	1.98	0.82	50	1	Block	0.00	N	0.50	1.00	0.00
10.00	188.0	1 1/4" Coax	1	1.55	0.66	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	184.0	1 5/8" Coax	6	1.98	1.04	50	Lin App	Block	0.00	N	0.50	1.00	0.00
10.00	168.0	1/2" Coax	2	0.63	0.15	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	168.0	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	160.0	7/8" Coax	1	1.09	0.33	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	140.0	1 5/8" Coax	1	1.98	0.82	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	140.0	1/4" Coax	1	0.34	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	125.0	7/8" Coax	1	1.09	0.33	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	120.0	1/2" Coax	2	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	120.0	7/8" Coax	1	1.09	0.33	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
10.00	96.00	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
10.00	36.00	1/2" Coax	1	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



**Force/Stress Summary**

Section: 1		PIROD42B		Bot Elev (ft): 0.00				Height (ft): 5.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 2 1/4" SOLID	-125.35	1.2D + 1.0Di +	1.80	100	100	100	38.3	50.0	160.68	0	0	0.00	0.00	78 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SOL - 3/4" SOLID	-5.60	1.2D + 1.0Di +	2.440	50	50	50	78.1	50.0	12.73	0	0	0.00	0.00	44 Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi	Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls		
LEG		0.00		0	0	0.00	0	0	0	0.00	0.00	0			
HORIZ	SOL - 3/4" SOLID	16.93	1.2D + 1.0Di +	50	65	19.88	0	0	0	0.00	0.00	85	Member		
DIAG	SOL - 3/4" SOLID	2.67	1.2D + 1.0Di +	50	65	19.88	0	0	0	0.00	0.00	13	Member		

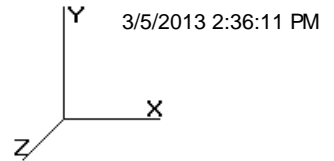
  

Section: 2		PIROD42		Bot Elev (ft): 5.00				Height (ft): 15.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 2 1/4" SOLID	-114.35	1.2D + 1.0Di +	2.39	100	100	100	51.0	50.0	147.98	0	0	0.00	0.00	77 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SOL - 3/4" SOLID	-0.72	1.2D + 1.0Di +	4.238	50	50	50	122.0	50.0	6.70	0	0	0.00	0.00	10 Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi	Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls		
LEG		0.00		0	0	0.00	0	0	0	0.00	0.00	0			
HORIZ	SOL - 3/4" SOLID	7.48	1.2D + 1.0Di +	50	65	19.88	0	0	0	0.00	0.00	37	Member		
DIAG	SOL - 3/4" SOLID	0.60	1.2D + 1.0Di +	50	65	19.88	0	0	0	0.00	0.00	3	Member		

Section: 3		1		Bot Elev (ft): 20.00				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 2 1/4" SOLID	-112.13	1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	75 Member X
HORIZ	SOL - 3/4" SOLID	-0.21	1.2D + 1.6W	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	5 Member X
DIAG	SOL - 3/4" SOLID	-1.67	1.2D + 1.6W	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	24 Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi	Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls		
LEG		0.00		0	0	0.00	0	0	0	0.00	0.00	0			
HORIZ	SOL - 3/4" SOLID	0.82	1.2D + 1.6W 60	50	65	19.88	0	0	0	0.00	0.00	4	Member		
DIAG	SOL - 3/4" SOLID	0.83	1.2D + 1.6W	50	65	19.88	0	0	0	0.00	0.00	4	Member		

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Force/Stress Summary

Section: 4		1		Bot Elev (ft): 40.00				Height (ft): 20.000								
		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use			
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 2 1/4" SOLID	-109.66	1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	73	Member X
HORIZ	SOL - 3/4" SOLID	-0.53	1.2D + 1.6W 60	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	12	Member X
DIAG	SOL - 3/4" SOLID	-2.83	1.2D + 1.6W 90	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	41	Member X
Max Tension Member		Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use				
		(kip)		(ksi)	(ksi)	(kip)		Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls			
LEG		0.00		0	0	0.00	0	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	1.42	1.2D + 1.6W	50	65	19.88	0	0	0	0.00	0.00	7	Member			
DIAG	SOL - 3/4" SOLID	1.85	1.2D + 1.6W	50	65	19.88	0	0	0	0.00	0.00	9	Member			

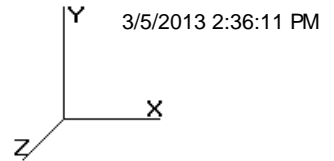
  

Section: 5		1		Bot Elev (ft): 60.00				Height (ft): 20.000								
		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use			
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 2 1/4" SOLID	-102.50	1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	68	Member X
HORIZ	SOL - 3/4" SOLID	-0.52	1.2D + 1.6W	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	12	Member X
DIAG	SOL - 3/4" SOLID	-2.43	1.2D + 1.6W 90	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	35	Member X
Max Tension Member		Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use				
		(kip)		(ksi)	(ksi)	(kip)		Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls			
LEG		0.00		0	0	0.00	0	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	1.06	1.2D + 1.6W 60	50	65	19.88	0	0	0	0.00	0.00	5	Member			
DIAG	SOL - 3/4" SOLID	1.68	1.2D + 1.6W 90	50	65	19.88	0	0	0	0.00	0.00	8	Member			

Section: 6		1		Bot Elev (ft): 80.00				Height (ft): 20.000								
		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use			
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 2 1/4" SOLID	-98.62	1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	66	Member X
HORIZ	SOL - 3/4" SOLID	-0.06	1.2D + 1.6W	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	1	Member X
DIAG	SOL - 3/4" SOLID	-1.36	1.2D + 1.6W 60	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	19	Member X
Max Tension Member		Force	Load Case	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use				
		(kip)		(ksi)	(ksi)	(kip)		Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls			
LEG		0.00		0	0	0.00	0	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	0.82	1.2D + 1.6W 60	50	65	19.88	0	0	0	0.00	0.00	4	Member			
DIAG	SOL - 3/4" SOLID	0.97	1.2D + 1.6W 60	50	65	19.88	0	0	0	0.00	0.00	4	Member			

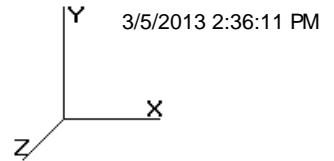
Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



**Force/Stress Summary**

Section: 7		1		Bot Elev (ft): 100.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 2 1/4" SOLID	-94.06	1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	63 Member X
HORIZ	SOL - 3/4" SOLID	-0.93	1.2D + 1.6W 60	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	22 Member X
DIAG	SOL - 3/4" SOLID	-3.56	1.2D + 1.6W 90	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	52 Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi t (kip)	Pn Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG		0.00		0	0	0.00	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	1.64	1.2D + 1.6W	50	65	19.88	0	0	0.00	0.00	8	Member			
DIAG	SOL - 3/4" SOLID	2.87	1.2D + 1.6W 90	50	65	19.88	0	0	0.00	0.00	14	Member			
Section: 8		1		Bot Elev (ft): 120.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 2 1/4" SOLID	-85.46	1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	57 Member X
HORIZ	SOL - 3/4" SOLID	-0.78	1.2D + 1.6W	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	19 Member X
DIAG	SOL - 3/4" SOLID	-3.15	1.2D + 1.6W 90	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	46 Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi t (kip)	Pn Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG		0.00		0	0	0.00	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	1.27	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	6	Member			
DIAG	SOL - 3/4" SOLID	2.53	1.2D + 1.6W 90	50	65	19.88	0	0	0.00	0.00	12	Member			
Section: 9		1		Bot Elev (ft): 140.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fy (ksi)	phi Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 2 1/4" SOLID	-83.75	1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	56 Member X
HORIZ	SOL - 3/4" SOLID	-0.11	1.2D + 1.6W 90	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	2 Member X
DIAG	SOL - 3/4" SOLID	-1.82	1.2D + 1.6W 60	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	26 Member X
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Fu (ksi)	phi t (kip)	Pn Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG		0.00		0	0	0.00	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	0.80	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	4	Member			
DIAG	SOL - 3/4" SOLID	1.42	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	7	Member			

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Force/Stress Summary

Section: 10 1		Bot Elev (ft): 160.0						Height (ft): 20.000							
		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use		
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn (kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls
LEG	SOL - 2 1/4" SOLID	-79.47 1.2D + 1.0Di +	2.33	100	100	100	49.8	50.0	149.28	0	0	0.00	0.00	53	Member X
HORIZ	SOL - 3/4" SOLID	-0.56 1.2D + 1.6W 60	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	13	Member X
DIAG	SOL - 3/4" SOLID	-2.57 1.2D + 1.6W 60	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	37	Member X
Max Tension Member		Force (kip) Load Case	Fy (ksi)	Fu (ksi)	phi	Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG		0.00	0	0	0.00	0	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	1.19 1.2D + 1.6W	50	65	19.88	0	0	0	0.00	0.00	5	Member			
DIAG	SOL - 3/4" SOLID	2.29 1.2D + 1.6W 90	50	65	19.88	0	0	0	0.00	0.00	11	Member			

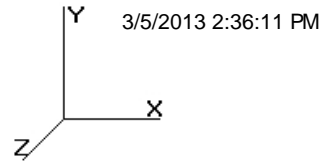
  

Section: 11 2		Bot Elev (ft): 180.0						Height (ft): 20.000							
		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use		
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn (kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls
LEG	SOL - 2" SOLID	-70.14 1.2D + 1.0Di +	2.33	100	100	100	56.0	50.0	112.40	0	0	0.00	0.00	62	Member X
HORIZ	SOL - 3/4" SOLID	-0.36 1.2D + 1.6W	3.500	80	80	80	125.4	50.0	6.34	0	0	0.00	0.00	5	Member X
DIAG	SOL - 3/4" SOLID	-1.78 1.2D + 1.6W 90	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	26	Member X
Max Tension Member		Force (kip) Load Case	Fy (ksi)	Fu (ksi)	phi	Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG		0.00	0	0	0.00	0	0	0	0.00	0.00	0				
HORIZ	SOL - 3/4" SOLID	0.76 1.2D + 1.6W 60	50	65	19.88	0	0	0	0.00	0.00	3	Member			
DIAG	SOL - 3/4" SOLID	1.40 1.2D + 1.6W 60	50	65	19.88	0	0	0	0.00	0.00	7	Member			

Section: 12 2		Bot Elev (ft): 200.0						Height (ft): 20.000							
		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use		
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Pn (kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls
LEG	SOL - 2" SOLID	-65.30 1.2D + 1.0Di +	2.33	100	100	100	56.0	50.0	112.40	0	0	0.00	0.00	58	Member X
HORIZ	SOL - 3/4" SOLID	-1.38 1.2D + 1.6W 60	3.500	80	80	80	125.4	50.0	6.34	0	0	0.00	0.00	21	Member X
DIAG	SOL - 3/4" SOLID	-3.92 1.2D + 1.6W 60	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	57	Member X
Max Tension Member		Force (kip) Load Case	Fy (ksi)	Fu (ksi)	phi	Pn (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls			
LEG	SOL - 2" SOLID	10.46 1.2D + 1.6W 60	50	65	141.37	0	0	0	0.00	0.00	7	Member			
HORIZ	SOL - 3/4" SOLID	1.56 1.2D + 1.6W	50	65	19.88	0	0	0	0.00	0.00	7	Member			
DIAG	SOL - 3/4" SOLID	3.79 1.2D + 1.6W 60	50	65	19.88	0	0	0	0.00	0.00	19	Member			

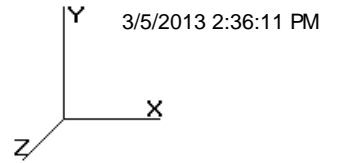
Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Force/Stress Summary

Section: 13		2 - 5'		Bot Elev (ft): 220.0				Height (ft): 5.000								
		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use			
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 2" SOLID	-38.26	1.2D + 1.6W	2.17	100	100	100	52.0	50.0	116.00	0	0	0.00	0.00	32	Member X
HORIZ	SOL - 3/4" SOLID	-1.14	1.2D + 1.6W 60	3.500	80	80	80	125.4	50.0	6.34	0	0	0.00	0.00	17	Member X
DIAG	SOL - 3/4" SOLID	-3.58	1.2D + 1.6W 60	4.117	50	50	50	118.6	50.0	7.10	0	0	0.00	0.00	50	Member X
Max Tension Member		Force	Len	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use				
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls				
LEG		0.00		0	0	0.00	0	0	0.00	0.00	0					
HORIZ	SOL - 3/4" SOLID	1.17	1.2D + 1.6W	50	65	19.88	0	0	0.00	0.00	5	Member				
DIAG	SOL - 3/4" SOLID	3.57	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	17	Member				
Section: 14		3		Bot Elev (ft): 225.0				Height (ft): 20.000								
Max Compression Member		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use			
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 1 3/4" SOLID	-38.52	1.2D + 1.6W 60	2.33	100	100	100	64.0	50.0	80.23	0	0	0.00	0.00	48	Member X
HORIZ	SOL - 3/4" SOLID	-1.20	1.2D + 1.6W	3.500	80	80	80	125.4	50.0	6.34	0	0	0.00	0.00	18	Member X
DIAG	SOL - 3/4" SOLID	-3.60	1.2D + 1.6W 60	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	52	Member X
Max Tension Member		Force	Len	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use				
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls				
LEG		0.00		0	0	0.00	0	0	0.00	0.00	0					
HORIZ	SOL - 3/4" SOLID	1.44	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	7	Member				
DIAG	SOL - 3/4" SOLID	3.00	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	15	Member				
Section: 15		3		Bot Elev (ft): 245.0				Height (ft): 20.000								
Max Compression Member		Force	Len	Bracing %			Fy	phi	Num	Num	Shear	Bear	Use			
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	SOL - 1 3/4" SOLID	-46.55	1.2D + 1.6W 60	2.33	100	100	100	64.0	50.0	80.23	0	0	0.00	0.00	58	Member X
HORIZ	SOL - 3/4" SOLID	-0.43	1.2D + 1.6W	3.500	80	80	80	125.4	50.0	6.34	0	0	0.00	0.00	6	Member X
DIAG	SOL - 3/4" SOLID	-1.60	1.2D + 1.6W 60	4.206	50	50	50	121.1	50.0	6.80	0	0	0.00	0.00	23	Member X
Max Tension Member		Force	Len	Fy	Fu	phi	Pn	Num	Num	Shear	Bear	Use				
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls				
LEG	SOL - 1 3/4" SOLID	1.42	1.2D + 1.6W	50	65	108.24	0	0	0.00	0.00	1	Member				
HORIZ	SOL - 3/4" SOLID	0.69	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	3	Member				
DIAG	SOL - 3/4" SOLID	1.41	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	7	Member				

Site Number: 10047  
 Location: Portland ME, ME  
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 Struct Class : II  
 Exposure : B  
 Topo : 1

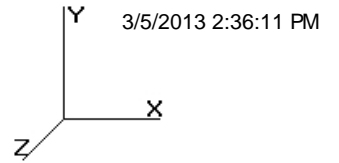


### Force/Stress Summary

Section: 16		Top	Bot Elev (ft): 265.0				Height (ft): 10.000									
		Force	Len	Bracing %			Fy	phi		Shear	Bear	Use				
		(kip)	(ft)	X	Y	Z	(ksi)	Pn	Num	Num	phiRnv	phiRn	%	Controls		
		Load Case				KL/R			Bolts	Holes	(kip)	(kip)				
<b>Max Compression Member</b>																
LEG	SOL - 1 3/4" SOLID	-42.86	1.2D + 1.6W 60	0.67	100	100	100	18.3	50.0	105.62	0	0	0.00	0.00	40	Member X
HORIZ	SOL - 3/4" SOLID	-0.17	1.2D + 1.6W	3.500	100	100	100	156.8	50.0	4.06	0	0	0.00	0.00	4	Member X
DIAG	SOL - 3/4" SOLID	-2.87	1.2D + 1.6W 90	4.116	50	50	50	118.5	50.0	7.10	0	0	0.00	0.00	40	Member X
<b>Max Tension Member</b>																
LEG	SOL - 1 3/4" SOLID	0.45	1.2D + 1.6W	50	65	108.24	0	0	0.00	0.00	0	0	0	Member		
HORIZ	SOL - 3/4" SOLID	0.27	1.2D + 1.6W 60	50	65	19.88	0	0	0.00	0.00	0	0	1	Member		
DIAG	SOL - 3/4" SOLID	2.60	1.2D + 1.6W 90	50	65	19.88	0	0	0.00	0.00	0	0	13	Member		



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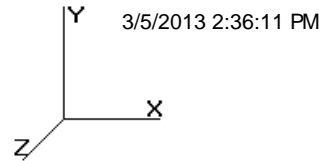
### Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.0D + 1.0W Service 90 deg	A1b	7.63	-14.43	-4.69	
	A1a	-20.40	-34.83	-11.50	
	A1	-0.55	-24.60	16.18	
	1	-0.26	110.08	0.00	
1.0D + 1.0W Service 60 deg	A1b	10.26	-19.00	-6.45	
	A1a	-21.27	-36.52	-12.28	
	A1	-0.46	-18.97	12.11	
	1	-0.23	110.66	-0.13	
1.0D + 1.0W Service Normal	A1b	17.29	-30.23	-10.52	
	A1a	-17.29	-30.24	-10.52	
	A1	0.00	-12.60	7.77	
	1	0.00	109.34	-0.26	
1.2D + 1.0Di + 1.0Wi 90 deg	A1b	19.80	-30.33	-12.38	
	A1a	-35.38	-53.30	-19.47	
	A1	-1.84	-41.77	31.93	
	1	0.10	344.87	-0.03	
1.2D + 1.0Di + 1.0Wi 60 deg	A1b	22.54	-35.31	-14.79	
	A1a	-36.03	-55.19	-20.81	
	A1	-1.54	-35.24	26.93	
	1	0.06	345.05	0.03	
1.2D + 1.0Di + 1.0Wi Normal	A1b	31.19	-48.36	-19.79	
	A1a	-31.19	-48.37	-19.79	
	A1	0.00	-28.32	22.03	
	1	0.00	344.67	0.14	
1.2D + 1.6W 90 deg	A1b	3.38	-11.83	-3.18	
	A1a	-61.69	-103.61	-33.81	
	A1	-2.78	-57.77	37.61	
	1	0.25	215.66	-0.63	
1.2D + 1.6W 60 deg	A1b	8.80	-22.13	-7.44	
	A1a	-58.98	-101.52	-34.09	
	A1	-2.06	-22.07	11.39	
	1	-0.46	187.97	-0.29	
1.2D + 1.6W Normal	A1b	50.62	-89.04	-32.25	
	A1a	-50.62	-89.04	-32.25	
	A1	0.00	-9.64	3.07	
	1	0.00	230.36	0.73	

Max Reactions (kip)

	<u>Base</u>	<u>Anch1</u>
Vertical	345.05	-103.61
Horizontal	0.73	70.34

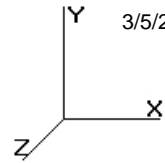
Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
 Exposure : B  
 Topo : 1



### Cable Forces Summary

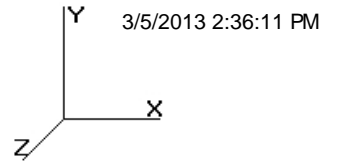
Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kip)	Applied Tension (kip)	Use %	
1.2D + 1.6W Normal	54.67	9/16 EHS	A1	29	21.00	0.18	0	
		9/16 EHS	A1b	29a	21.00	10.28	48	
		9/16 EHS	A1a	29b	21.00	10.28	48	
	110.00	5/8 EHS	A1	57	25.44	0.21	0	
		5/8 EHS	A1b	57a	25.44	15.65	61	
		5/8 EHS	A1a	57b	25.44	15.65	61	
	165.33	11/16 EHS	A1	85	30.00	0.74	2	
		11/16 EHS	A1b	85a	30.00	17.51	58	
		11/16 EHS	A1a	85b	30.00	17.50	58	
	214.67	5/8 EHS	A1	109	25.44	1.29	5	
		5/8 EHS	A1b	109a	25.44	11.94	46	
		5/8 EHS	A1a	109b	25.44	11.94	46	
		5/8 EHS	A1	T5	25.44	1.30	5	
		5/8 EHS	A1a	T5b	25.44	12.41	48	
		5/8 EHS	A1b	T5a	25.44	11.29	44	
		5/8 EHS	A1b	T5	25.44	12.43	48	
		5/8 EHS	A1a	T5a	25.44	11.30	44	
		5/8 EHS	A1	T5b	25.44	1.30	5	
		270.00	11/16 EHS	A1	139	30.00	2.35	7
			11/16 EHS	A1b	139a	30.00	12.06	40
			11/16 EHS	A1a	139b	30.00	12.06	40
	5/8 EHS		A1	T7	25.44	2.17	8	
	5/8 EHS		A1a	T7b	25.44	10.71	42	
	5/8 EHS		A1b	T7a	25.44	9.45	37	
	5/8 EHS		A1b	T7	25.44	10.74	42	
	5/8 EHS		A1a	T7a	25.44	9.48	37	
	5/8 EHS		A1	T7b	25.44	2.17	8	
	1.2D + 1.6W 60 deg		54.67	9/16 EHS	A1	29	21.00	1.36
9/16 EHS		A1b		29a	21.00	1.29	6	
9/16 EHS		A1a		29b	21.00	10.82	51	
110.00		5/8 EHS	A1	57	25.44	1.58	6	
		5/8 EHS	A1b	57a	25.44	1.53	6	
		5/8 EHS	A1a	57b	25.44	17.02	66	
165.33		11/16 EHS	A1	85	30.00	2.40	8	
		11/16 EHS	A1b	85a	30.00	2.37	7	
		11/16 EHS	A1a	85b	30.00	19.89	66	
214.67		5/8 EHS	A1	109	25.44	3.00	11	
		5/8 EHS	A1b	109a	25.44	3.01	11	
		5/8 EHS	A1a	109b	25.44	13.75	54	
		5/8 EHS	A1	T5	25.44	3.20	12	
		5/8 EHS	A1a	T5b	25.44	14.02	55	
		5/8 EHS	A1b	T5a	25.44	2.98	11	
		5/8 EHS	A1b	T5	25.44	3.04	11	
		5/8 EHS	A1a	T5a	25.44	13.27	52	
		5/8 EHS	A1	T5b	25.44	2.82	11	
		270.00	11/16 EHS	A1	139	30.00	4.47	14
			11/16 EHS	A1b	139a	30.00	4.53	15
			11/16 EHS	A1a	139b	30.00	14.15	47
5/8 EHS			A1	T7	25.44	4.23	16	
5/8 EHS			A1a	T7b	25.44	11.84	46	
5/8 EHS			A1b	T7a	25.44	3.95	15	

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
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 Topo : 1



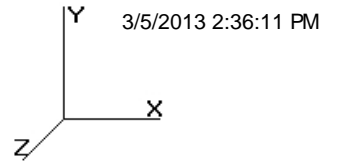
		5/8 EHS	A1b	T7	25.44	4.20	16
		5/8 EHS	A1a	T7a	25.44	11.59	45
		5/8 EHS	A1	T7b	25.44	3.82	15
1.2D + 1.6W 90 deg	54.67	9/16 EHS	A1	29	21.00	6.58	31
		9/16 EHS	A1b	29a	21.00	0.30	1
		9/16 EHS	A1a	29b	21.00	11.84	56
	110.00	5/8 EHS	A1	57	25.44	9.43	37
		5/8 EHS	A1b	57a	25.44	0.48	1
		5/8 EHS	A1a	57b	25.44	18.33	72
	165.33	11/16 EHS	A1	85	30.00	10.38	34
		11/16 EHS	A1b	85a	30.00	1.02	3
		11/16 EHS	A1a	85b	30.00	20.65	68
	214.67	5/8 EHS	A1	109	25.44	7.67	30
		5/8 EHS	A1b	109a	25.44	1.58	6
		5/8 EHS	A1a	109b	25.44	13.92	54
		5/8 EHS	A1	T5	25.44	8.45	33
		5/8 EHS	A1a	T5b	25.44	13.75	54
		5/8 EHS	A1b	T5a	25.44	1.57	6
		5/8 EHS	A1b	T5	25.44	1.61	6
		5/8 EHS	A1a	T5a	25.44	13.88	54
		5/8 EHS	A1	T5b	25.44	6.87	27
	270.00	11/16 EHS	A1	139	30.00	8.36	27
		11/16 EHS	A1b	139a	30.00	2.75	9
		11/16 EHS	A1a	139b	30.00	13.98	46
		5/8 EHS	A1	T7	25.44	7.83	30
		5/8 EHS	A1a	T7b	25.44	11.25	44
		5/8 EHS	A1b	T7a	25.44	2.50	9
		5/8 EHS	A1b	T7	25.44	2.56	10
		5/8 EHS	A1a	T7a	25.44	11.92	46
		5/8 EHS	A1	T7b	25.44	6.57	25
1.2D + 1.0Di + 1.0Wi Normal	54.67	9/16 EHS	A1	29	21.00	5.33	25
		9/16 EHS	A1b	29a	21.00	7.19	34
		9/16 EHS	A1a	29b	21.00	7.19	34
	110.00	5/8 EHS	A1	57	25.44	5.28	20
		5/8 EHS	A1b	57a	25.44	8.26	32
		5/8 EHS	A1a	57b	25.44	8.26	32
	165.33	11/16 EHS	A1	85	30.00	5.74	19
		11/16 EHS	A1b	85a	30.00	9.16	30
		11/16 EHS	A1a	85b	30.00	9.15	30
	214.67	5/8 EHS	A1	109	25.44	5.71	22
		5/8 EHS	A1b	109a	25.44	8.57	33
		5/8 EHS	A1a	109b	25.44	8.57	33
		5/8 EHS	A1	T5	25.44	5.68	22
		5/8 EHS	A1a	T5b	25.44	8.68	34
		5/8 EHS	A1b	T5a	25.44	8.32	32
		5/8 EHS	A1b	T5	25.44	8.68	34
		5/8 EHS	A1a	T5a	25.44	8.32	32
		5/8 EHS	A1	T5b	25.44	5.69	22
	270.00	11/16 EHS	A1	139	30.00	6.84	22
		11/16 EHS	A1b	139a	30.00	9.78	32
		11/16 EHS	A1a	139b	30.00	9.79	32
		5/8 EHS	A1	T7	25.44	6.19	24
		5/8 EHS	A1a	T7b	25.44	9.22	36
		5/8 EHS	A1b	T7a	25.44	8.80	34
		5/8 EHS	A1b	T7	25.44	9.22	36
		5/8 EHS	A1a	T7a	25.44	8.81	34
		5/8 EHS	A1	T7b	25.44	6.20	24

Site Number: 10047  
 Location: Portland ME, ME  
 Code: ANSI/TIA-222 Rev G  
 Struct Class : II  
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 Topo : 1



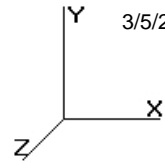
1.2D + 1.0Di + 1.0Wi 60 deg	54.67	9/16 EHS	A1	29	21.00	5.94	28	
		9/16 EHS	A1b	29a	21.00	5.91	28	
	110.00	9/16 EHS	A1a	29b	21.00	7.57	36	
		5/8 EHS	A1	57	25.44	6.20	24	
		5/8 EHS	A1b	57a	25.44	6.16	24	
	165.33	5/8 EHS	A1a	57b	25.44	9.05	35	
		11/16 EHS	A1	85	30.00	6.81	22	
		11/16 EHS	A1b	85a	30.00	6.80	22	
	214.67	11/16 EHS	A1a	85b	30.00	10.30	34	
		5/8 EHS	A1	109	25.44	6.69	26	
		5/8 EHS	A1b	109a	25.44	6.70	26	
		5/8 EHS	A1a	109b	25.44	9.54	37	
		5/8 EHS	A1	T5	25.44	6.81	26	
		5/8 EHS	A1a	T5b	25.44	9.48	37	
		5/8 EHS	A1b	T5a	25.44	6.52	25	
		5/8 EHS	A1b	T5	25.44	6.80	26	
		5/8 EHS	A1a	T5a	25.44	9.45	37	
		5/8 EHS	A1	T5b	25.44	6.47	25	
		270.00	11/16 EHS	A1	139	30.00	7.86	26
			11/16 EHS	A1b	139a	30.00	7.90	26
11/16 EHS	A1a		139b	30.00	10.93	36		
5/8 EHS	A1		T7	25.44	7.47	29		
5/8 EHS	A1a		T7b	25.44	10.01	39		
5/8 EHS	A1b		T7a	25.44	7.07	27		
5/8 EHS	A1b		T7	25.44	7.49	29		
5/8 EHS	A1a		T7a	25.44	10.00	39		
5/8 EHS	A1		T7b	25.44	7.03	27		
1.2D + 1.0Di + 1.0Wi 90 deg	54.67		9/16 EHS	A1	29	21.00	6.61	31
			9/16 EHS	A1b	29a	21.00	5.46	25
			9/16 EHS	A1a	29b	21.00	7.50	35
	110.00	5/8 EHS	A1	57	25.44	7.26	28	
		5/8 EHS	A1b	57a	25.44	5.48	21	
		5/8 EHS	A1a	57b	25.44	8.87	34	
	165.33	11/16 EHS	A1	85	30.00	7.96	26	
		11/16 EHS	A1b	85a	30.00	6.01	20	
		11/16 EHS	A1a	85b	30.00	9.99	33	
	214.67	5/8 EHS	A1	109	25.44	7.62	29	
		5/8 EHS	A1b	109a	25.44	5.99	23	
		5/8 EHS	A1a	109b	25.44	9.27	36	
		5/8 EHS	A1	T5	25.44	7.79	30	
		5/8 EHS	A1a	T5b	25.44	9.12	35	
		5/8 EHS	A1b	T5a	25.44	5.91	23	
		5/8 EHS	A1b	T5	25.44	6.01	23	
		5/8 EHS	A1a	T5a	25.44	9.28	36	
		5/8 EHS	A1	T5b	25.44	7.34	28	
		270.00	11/16 EHS	A1	139	30.00	8.80	29
			11/16 EHS	A1b	139a	30.00	7.16	23
11/16 EHS			A1a	139b	30.00	10.60	35	
5/8 EHS	A1		T7	25.44	8.38	32		
5/8 EHS	A1a		T7b	25.44	9.62	37		
5/8 EHS	A1b		T7a	25.44	6.42	25		
5/8 EHS	A1b		T7	25.44	6.67	26		
5/8 EHS	A1a		T7a	25.44	9.83	38		
5/8 EHS	A1		T7b	25.44	7.88	30		
1.0D + 1.0W Service Normal	54.67		9/16 EHS	A1	29	21.00	1.85	8
			9/16 EHS	A1b	29a	21.00	3.98	18

Site Number: 10047  
 Location: Portland ME, ME  
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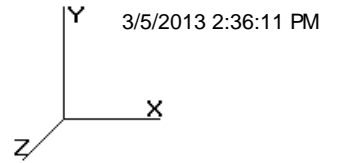
		9/16 EHS	A1a	29b	21.00	3.98	18
110.00		5/8 EHS	A1	57	25.44	1.35	5
		5/8 EHS	A1b	57a	25.44	4.68	18
		5/8 EHS	A1a	57b	25.44	4.68	18
165.33		11/16 EHS	A1	85	30.00	1.36	4
		11/16 EHS	A1b	85a	30.00	5.13	17
		11/16 EHS	A1a	85b	30.00	5.13	17
214.67		5/8 EHS	A1	109	25.44	1.65	6
		5/8 EHS	A1b	109a	25.44	4.08	16
		5/8 EHS	A1a	109b	25.44	4.08	16
		5/8 EHS	A1	T5	25.44	1.69	6
		5/8 EHS	A1a	T5b	25.44	4.15	16
		5/8 EHS	A1b	T5a	25.44	3.96	15
		5/8 EHS	A1b	T5	25.44	4.16	16
		5/8 EHS	A1a	T5a	25.44	3.96	15
		5/8 EHS	A1	T5b	25.44	1.69	6
270.00		11/16 EHS	A1	139	30.00	2.56	8
		11/16 EHS	A1b	139a	30.00	4.75	15
		11/16 EHS	A1a	139b	30.00	4.75	15
		5/8 EHS	A1	T7	25.44	2.31	9
		5/8 EHS	A1a	T7b	25.44	4.15	16
		5/8 EHS	A1b	T7a	25.44	3.93	15
		5/8 EHS	A1b	T7	25.44	4.15	16
		5/8 EHS	A1a	T7a	25.44	3.93	15
		5/8 EHS	A1	T7b	25.44	2.32	9
1.0D + 1.0W Service 60 deg	54.67	9/16 EHS	A1	29	21.00	2.56	12
		9/16 EHS	A1b	29a	21.00	2.54	12
		9/16 EHS	A1a	29b	21.00	4.64	22
110.00		5/8 EHS	A1	57	25.44	2.40	9
		5/8 EHS	A1b	57a	25.44	2.39	9
		5/8 EHS	A1a	57b	25.44	5.83	22
165.33		11/16 EHS	A1	85	30.00	2.68	8
		11/16 EHS	A1b	85a	30.00	2.69	8
		11/16 EHS	A1a	85b	30.00	6.48	21
214.67		5/8 EHS	A1	109	25.44	2.59	10
		5/8 EHS	A1b	109a	25.44	2.59	10
		5/8 EHS	A1a	109b	25.44	4.93	19
		5/8 EHS	A1	T5	25.44	2.73	10
		5/8 EHS	A1a	T5b	25.44	4.95	19
		5/8 EHS	A1b	T5a	25.44	2.54	10
		5/8 EHS	A1b	T5	25.44	2.64	10
		5/8 EHS	A1a	T5a	25.44	4.85	19
		5/8 EHS	A1	T5b	25.44	2.44	9
270.00		11/16 EHS	A1	139	30.00	3.37	11
		11/16 EHS	A1b	139a	30.00	3.38	11
		11/16 EHS	A1a	139b	30.00	5.55	18
		5/8 EHS	A1	T7	25.44	3.07	12
		5/8 EHS	A1a	T7b	25.44	4.70	18
		5/8 EHS	A1b	T7a	25.44	2.84	11
		5/8 EHS	A1b	T7	25.44	3.05	11
		5/8 EHS	A1a	T7a	25.44	4.66	18
		5/8 EHS	A1	T7b	25.44	2.80	11
1.0D + 1.0W Service 90 deg	54.67	9/16 EHS	A1	29	21.00	3.28	15
		9/16 EHS	A1b	29a	21.00	2.02	9
		9/16 EHS	A1a	29b	21.00	4.47	21
110.00		5/8 EHS	A1	57	25.44	3.55	13
		5/8 EHS	A1b	57a	25.44	1.58	6

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	5/8 EHS	A1a	57b	25.44	5.54	21
165.33	11/16 EHS	A1	85	30.00	3.90	12
	11/16 EHS	A1b	85a	30.00	1.74	5
	11/16 EHS	A1a	85b	30.00	6.12	20
214.67	5/8 EHS	A1	109	25.44	3.34	13
	5/8 EHS	A1b	109a	25.44	1.94	7
	5/8 EHS	A1a	109b	25.44	4.70	18
	5/8 EHS	A1	T5	25.44	3.50	13
	5/8 EHS	A1a	T5b	25.44	4.68	18
	5/8 EHS	A1b	T5a	25.44	1.96	7
	5/8 EHS	A1b	T5	25.44	1.96	7
	5/8 EHS	A1a	T5a	25.44	4.66	18
	5/8 EHS	A1	T5b	25.44	3.15	12
270.00	11/16 EHS	A1	139	30.00	4.06	13
	11/16 EHS	A1b	139a	30.00	2.80	9
	11/16 EHS	A1a	139b	30.00	5.33	17
	5/8 EHS	A1	T7	25.44	3.64	14
	5/8 EHS	A1a	T7b	25.44	4.46	17
	5/8 EHS	A1b	T7a	25.44	2.44	9
	5/8 EHS	A1b	T7	25.44	2.54	9
	5/8 EHS	A1a	T7a	25.44	4.54	17
	5/8 EHS	A1	T7b	25.44	3.33	13

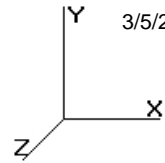
Site Number: 10047  
 Location: Portland ME, ME  
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 Struct Class : II  
 Exposure : B  
 Topo : 1



### Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
Serviceability - 60.00 Wind 60 deg	37.00	0.0342	0.0319	0.0420
	97.00	0.0828	0.0011	0.0483
	120.00	0.1026	0.0004	0.1169
	125.33	0.1087	0.0004	0.0597
	140.00	0.1218	0.0002	0.0605
	160.00	0.1325	0.0001	0.0308
	167.67	0.1351	0.0002	0.0253
	183.00	0.1424	0.0001	0.0133
	187.67	0.1435	0.0001	0.0158
	203.00	0.1429	0.0001	0.0086
	230.33	0.1526	0.0000	0.0350
	259.67	0.1575	0.0000	0.0246
272.17	0.1485	0.0000	0.0309	
Serviceability - 60.00 Wind 90 deg	37.00	0.0368	0.0492	0.0436
	97.00	0.0863	0.0021	0.0476
	120.00	0.1055	0.0005	0.1110
	125.33	0.1112	0.0004	0.0528
	140.00	0.1232	0.0002	0.0558
	160.00	0.1315	0.0001	0.0441
	167.67	0.1328	0.0002	0.0111
	183.00	0.1375	0.0001	0.0103
	187.67	0.1379	0.0001	0.0170
	203.00	0.1343	0.0001	0.0135
	230.33	0.1400	0.0000	0.0269
	259.67	0.1402	0.0000	0.0365
272.17	0.1292	0.0000	0.0431	
Serviceability - 60.00 Wind Normal	37.00	0.0312	-0.0002	0.0434
	97.00	0.0798	0.0000	0.0452
	120.00	0.0971	0.0000	0.1152
	125.33	0.1025	0.0000	0.0557
	140.00	0.1129	0.0000	0.0398
	160.00	0.1191	0.0000	0.0234
	167.67	0.1199	0.0000	0.0240
	183.00	0.1227	0.0000	0.0064
	187.67	0.1224	0.0000	0.0087
	203.00	0.1171	0.0000	0.0144
	230.33	0.1166	0.0000	0.0142
	259.67	0.1129	0.0000	0.0426
272.17	0.1001	0.0000	0.0508	
100.00 mph 60 deg with No Ice	37.00	0.1788	0.7929	0.2378
	97.00	0.4707	0.8737	0.3184
	120.00	0.6028	0.9044	0.6743
	125.33	0.6412	0.9108	0.3814
	140.00	0.7314	0.9212	0.4062
	160.00	0.8228	0.9354	0.1112
	167.67	0.8508	0.9411	0.2355
	183.00	0.9184	0.9417	0.1820
187.67	0.9340	0.9418	0.1649	

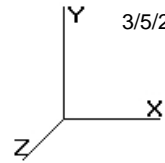
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	203.00	0.9645	0.9330	0.1615
	230.33	1.0694	0.9186	0.2859
	259.67	1.1561	0.9117	0.0286
	272.17	1.1388	0.9108	0.0327
<b>100.00 mph 90 deg with No Ice</b>	37.00	0.2725	0.7274	0.3937
	97.00	0.7502	0.6521	0.5000
	120.00	0.9550	0.6238	0.8516
	125.33	1.0084	0.7035	0.5240
	140.00	1.1369	0.6974	0.5597
	160.00	1.2700	0.6901	0.1949
	167.67	1.3100	0.5834	0.2874
	183.00	1.3949	0.6833	0.2397
	187.67	1.4146	0.5735	0.1602
	203.00	1.4518	0.6756	0.1938
	230.33	1.5584	0.6684	0.2690
	259.67	1.6279	0.6639	0.0410
	272.17	1.6035	0.6633	0.0578
<b>100.00 mph Normal to Face with No Ice</b>	37.00	0.2822	-0.0025	0.4514
	97.00	0.8264	-0.0008	0.5734
	120.00	1.0592	-0.0005	0.9940
	125.33	1.1207	0.0009	0.6432
	140.00	1.2681	0.0009	0.6119
	160.00	1.4280	0.0008	0.2797
	167.67	1.4788	-0.0001	0.4549
	183.00	1.5820	0.0008	0.2937
	187.67	1.6065	0.0000	0.3481
	203.00	1.6609	0.0002	0.2279
	230.33	1.7820	0.0005	0.2949
	259.67	1.8737	0.0008	0.0054
	272.17	1.8566	0.0003	0.0291
<b>40.00 mph 60 deg with 1.00 in Radial Ice</b>	37.00	0.0380	0.0250	0.0536
	97.00	0.1031	0.0021	0.0661
	120.00	0.1302	0.0008	0.1393
	125.33	0.1379	0.0008	0.0788
	140.00	0.1544	0.0004	0.0776
	160.00	0.1682	0.0002	0.0132
	167.67	0.1713	0.0002	0.0256
	183.00	0.1765	0.0001	0.0067
	187.67	0.1763	0.0000	0.0168
	203.00	0.1692	0.0002	0.0330
	230.33	0.1538	0.0001	0.0330
	259.67	0.1211	0.0001	0.1116
	272.17	0.0924	0.0001	0.1276
<b>40.00 mph 90 deg with 1.00 in Radial Ice</b>	37.00	0.0445	0.0483	0.0626
	97.00	0.1158	0.0038	0.0660
	120.00	0.1414	0.0012	0.1328
	125.33	0.1479	0.0010	0.0653
	140.00	0.1602	0.0005	0.0648
	160.00	0.1649	0.0005	0.0555
	167.67	0.1631	0.0006	0.0457
	183.00	0.1582	0.0004	0.0690
	187.67	0.1548	0.0004	0.0840
	203.00	0.1370	0.0004	0.1076
	230.33	0.1118	-0.0001	0.1280



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40.00 mph Normal with 1.00 in Radial Ice

259.67	0.1157	-0.0001	0.2032
272.17	0.1374	-0.0002	0.2194
37.00	0.0444	-0.0007	0.0646
97.00	0.1203	-0.0001	0.0636
120.00	0.1439	0.0000	0.1405
125.33	0.1503	0.0001	0.0587
140.00	0.1597	0.0000	0.0432
160.00	0.1568	0.0000	0.0567
167.67	0.1509	0.0000	0.0355
183.00	0.1350	0.0000	0.0908
187.67	0.1272	0.0000	0.0903
203.00	0.0920	0.0002	0.1429
230.33	0.0159	0.0001	0.1706
259.67	0.0941	0.0001	0.2702
272.17	0.1584	0.0000	0.2874
272.17	0.0000	0.0000	0.0000