



# TANGENT COMPOSITE STRUCTURE DATA



Western Red Cedar

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# TANGENT SINGLE-LAYER STRUCTURE DATA

The tables below provide ANSI 05.1 and NESC Grade B pole strength.

There is not an industry standard on composite pole deflection, therefore wood pole deflection is provided with composite equivalent values.

Trident recommends within acceptable deflection ( $\pm 10\%$  of wood pole) equivalency on tangent applications and within strength equivalency on guyed applications.

Contact Trident for assistance with unguyed (self-supporting) and partially guyed applications utilizing composite poles.

Pole		Pole Data																				
Ht. (ft.)	CLASS	Wood Pole																				
		Modulus of Elasticity, E (psi)		Class		5	4	3	2	1	H1	H2	H3	H4	H5	H6						
		1,430,000		Circumf., C <sub>i</sub> (in)		19	34.5	37.5	40	42.5	48	51	53.5	56.5	62	64.5						
				Diameter, D <sub>i</sub> (in)		6.05	10.98	11.94	12.73	13.53	15.28	16.23	17.03	17.98	19.74	20.53						
		Western Red Cedar (WRC)							Composite Diameter (in)													
		D <sub>b</sub> (in.)		Average Weight (lbs.)		Fiber Stress, f, (psi)		One-Layer Composite Pole w/5% LEL Strength & NESC Grade B Construction														
				ANSI 05.1		NESC Grade B*		Weight (lb/ft)		16		26		31		36						
				6,000		3,900		Inertia, I (in) <sup>4</sup>		317		651		936		1460						
				Strength (lbs.)		Defl. (in)				12		14		15		17						
				Strength (lbs.)		Defl. (in)				Defl. (in)		Wt. (lb)		Defl. (in)		Wt. (lb)						
35 ft. Maximum Tangent Structure Load (lbs.)								→		5,124 lbs.		13,638 lbs.		17,491 lbs.		21,580 lbs.						
Maximum Groundline Moment										140,910		375,056		481,014		593,463						
35	5	NA	569	1,900	67	1,235	33		11	560	4	910	3	1,085	2	1,260						
	4	10.98	648	2,400	37	1,560	18	14	6		4		3									
	3	11.94	750	3,000	34	1,950	17	18	7		5		4									
	2	12.73	859	3,700	32	2,405	16	22	9		6		4									
	1	13.53	978	4,500	30	2,925	15	27	10		8		5									
40 ft. Maximum Tangent Structure Load (lbs.)								→		4,403 lbs.		11,721 lbs.		15,032 lbs.		18,546 lbs.						
Maximum Groundline Moment										140,910		375,056		481,014		593,463						
40	4	11.62	797	2,400	50	1,560	33		22	640	6	1,040	7	1,240	4	1,440						
	3	12.57	916	3,000	46	1,950	30	28	7		8		6									
	2	13.53	1,061	3,700	43	2,405	28	34	9		10		7									
	1	14.32	1,206	4,500	41	2,925	26	42	10		12		8									
	H1	15.28	NA	5,400	36	3,510	23	50	13		15		10									
	H2	16.23	NA	6,400	34	4,160	22	60	15		17		12									
	H3	17.03	NA	7,500	32	4,875	21		17		20		14									
	H4	17.98	NA	8,700	31	5,655	20		20		24		16									
	H5	NA	NA	10,000	28	6,500	18		23		27		19									
	H6	NA	NA	11,400	27	7,410	17		26		31		21									
	45 ft. Maximum Tangent Structure Load (lbs.)								→		3,861 lbs.		10,276 lbs.		13,178 lbs.		16,259 lbs.					
Maximum Groundline Moment										140,910		375,056		481,014		593,463						
45	3	13.21	1,103	3,000	60	1,950	39		41	720	16	1,170	12	1,395	8	1,620						
	2	14.16	1,263	3,700	56	2,405	37	51	20		15		10									
	1	15.12	1,444	4,500	53	2,925	34	62	24		18		12									
	H1	15.92	NA	5,400	47	3,510	30	74	29		22		15									
	H2	17.03	NA	6,400	44	4,160	29		34		26		18									
	H3	17.83	NA	7,500	42	4,875	27		40		30		21									
	H4	18.78	NA	8,700	40	5,655	26		46		35		24									
	H5	19.74	NA	10,000	36	6,500	24		53		40		27									
	H6	20.53	NA	11,400	35	7,410	23		60		46		31									
	50 ft. Maximum Tangent Structure Load (lbs.)								→		3,437 lbs.		9,148 lbs.		11,732 lbs.		14,475 lbs.					
	Maximum Groundline Moment										140,910		375,056		481,014		593,463					
50	3	13.85	1,296	3,000	76	1,950	49		58	800	22	1,300	17	1,550	12	1,800						
	2	14.80	1,500	3,700	71	2,405	46	71	28		21		14									
	1	15.76	1,709	4,500	67	2,925	43	87	33		25		17									
	H1	16.71	1,916	5,400	59	3,510	38		40		30		21									
	H2	17.67	2,124	6,400	56	4,160	36		48		36		25									
	H3	18.62	2,333	7,500	53	4,875	34		56		42		29									
	H4	19.58	2,541	8,700	50	5,655	33		65		49		33									
	H5	20.53	2,749	10,000	46	6,500	30		74		56		38									
	H6	21.33	2,957	11,400	44	7,410	29		85		64		44									

Pole		Pole Data															
Ht. (ft.)	C L A S S	Wood Pole															
		Modulus of Elasticity, E (psi)		Class		5	4	3	2	1	H1	H2	H3	H4	H5	H6	
		1,430,000		Circumf., C <sub>i</sub> (in)		19	34.5	37.5	40	42.5	48	51	53.5	56.5	62	64.5	
				Diameter, D <sub>i</sub> (in)		6.05	10.98	11.94	12.73	13.53	15.28	16.23	17.03	17.98	19.74	20.53	
		Western Red Cedar (WRC)							Composite Diameter (in)								
		D <sub>b</sub> (in.)	Average Weight (lbs.)	Fiber Stress, f, (psi)						One-Layer Composite Pole w/5% LEL Strength & NESC Grade B Construction							
ANSI 05.1				NESC Grade B*			Weight (lb/ft)		16		26		31		36		
6,000				3,900			Inertia, I (in) <sup>4</sup>		317		651		936		1460		
Strength (lbs.)	Defl. (in)			Strength (lbs.)	Defl. (in)			12		14		15		17			
								Defl. (in)	Wt. (lb)	Defl. (in)	Wt. (lb)	Defl. (in)	Wt. (lb)	Defl. (in)	Wt. (lb)		
55 ft. Maximum Tangent Structure Load (lbs.)										3,097 lbs.		8,243 lbs.		10,572 lbs.		13,043 lbs.	
Maximum Groundline Moment										147,104		375,056		481,014		593,463	
55	2	15.44	1,728	3,700	87	2,405	57	97	880	37	1,430	28	1,705	19	1,980		
	H1	16.39	1,975	4,500	82	2,925	53	117		45		34		24			
	H2	17.51	2,223	5,400	73	3,510	47			55		41		28			
	H3	18.30	2,471	6,400	73	4,160	45			65		49		33			
	H4	19.42	2,719	7,500	65	4,875	42			76		57		39			
	H5	20.37	2,967	8,700	62	5,655	40			88		66		45			
	H6	21.33	3,214	10,000	56	6,500	37			101		76		52			
60 ft. Maximum Tangent Structure Load (lbs.)										2,818 lbs.		7,501 lbs.		9,620 lbs.		11,869 lbs.	
Maximum Groundline Moment										146,547		375,056		481,014		593,463	
60	2	15.92	1,969	3,700	106	2,405	69	127	960	49	1,560	37	1,860	25	2,160		
	H1	17.03	2,256	4,500	99	2,925	65			60		45		31			
	H2	17.98	2,544	5,400	88	3,510	57			72		54		37			
	H3	18.94	2,832	6,400	83	4,160	54			85		64		44			
	H4	20.05	3,119	7,500	79	4,875	51			100		75		52			
	H5	21.01	3,407	8,700	75	5,655	49			116		88		60			
	H6	21.96	3,693	10,000	68	6,500	44			133		101		69			
65 ft. Maximum Tangent Structure Load (lbs.)										2,586 lbs.		6,882 lbs.		8,826 lbs.		10,889 lbs.	
Maximum Groundline Moment										146,081		375,056		481,014		593,463	
65	1	17.51	2,544	4,500	118	2,925	77		1,690	77	2,015	58	2,340	40			
	H1	18.62	2,867	5,400	104	3,510	68			93		70		48			
	H2	19.58	3,192	6,400	98	4,160	64			110		83		57			
	H3	20.69	3,515	7,500	94	4,875	61			129		97		67			
	H4	21.65	3,840	8,700	89	5,655	58			149		113		77			
	H5	22.76	4,163	10,000	81	6,500	53			172		130		89			
	H6	23.71	4,486	11,400	78	7,410	51			196		148		101			
70 ft. Maximum Tangent Structure Load (lbs.)										2,388 lbs.		6,357 lbs.		8,153 lbs.		10,059 lbs.	
Maximum Groundline Moment										145,687		375,056		481,014		593,463	
70	1	17.98	2,858	4,500	138	2,925	90		1,820	98	2,170	74	2,520	51			
	H1	19.10	3,228	5,400	122	3,510	80			117		88		61			
	H2	20.21	3,598	6,400	115	4,160	75			139		105		72			
	H3	21.33	3,968	7,500	110	4,875	71			163		123		84			
	H4	22.28	4,338	8,700	104	5,655	68			189		143		98			
	H5	23.40	4,708	10,000	95	6,500	62					164		112			
	H6	24.35	5,079	11,400	91	7,410	59					187		128			
75 ft. Maximum Tangent Structure Load (lbs.)										2,219 lbs.		5,906 lbs.		7,575 lbs.		9,346 lbs.	
Maximum Groundline Moment										145,349		375,056		481,014		593,463	
75	1	18.46	3,155	4,500	160	2,925	104		1,950	121	2,325	92	2,700	63			
	H1	19.58	3,535	5,400	142	3,510	92			146		110		75			
	H2	20.69	3,915	6,400	133	4,160	87			173		130		89			
	H3	21.80	4,295	7,500	127	4,875	83			202		153		105			
	H4	22.92	4,675	8,700	120	5,655	78			235		177		121			
	H5	24.03	5,055	10,000	110	6,500	71					204		139			
	H6	24.99	5,435	11,400	106	7,410	69					232		159			
80 ft. Maximum Tangent Structure Load (lbs.)										2,072 lbs.		5,516 lbs.		7,074 lbs.		8,727 lbs.	
Maximum Groundline Moment										145,055		375,056		481,014		593,463	
80	1	18.94	3,515	4,500	184	2,925	119		2,080	149	2,480	112	2,880	77			
	H1	20.05	3,958	5,400	163	3,510	106			178		135		92			
	H2	21.33	4,401	6,400	153	4,160	99			211		160		109			
	H3	22.44	4,844	7,500	146	4,875	95			248		187		128			
	H4	23.55	5,286	8,700	138	5,655	90					217		149			
	H5	24.51	5,729	10,000	126	6,500	82					249		171			
	H6	25.62	6,171	11,400	121	7,410	79							195			

Pole		Pole Data																			
Ht. (ft.)	C L A S S	Wood Pole																			
		Modulus of Elasticity, E (psi)		Class		5	4	3	2	1	H1	H2	H3	H4	H5	H6					
		1,430,000		Circumf., C <sub>1</sub> (in)		19	34.5	37.5	40	42.5	48	51	53.5	56.5	62	64.5					
				Diameter, D <sub>1</sub> (in)		6.05	10.98	11.94	12.73	13.53	15.28	16.23	17.03	17.98	19.74	20.53					
		Western Red Cedar (WRC)							Composite Diameter (in)												
D <sub>b</sub> (in.)	Average Weight (lbs.)	Fiber Stress, f, (psi)						One-Layer Composite Pole w/5% LEL Strength & NESC Grade B Construction													
		ANSI 05.1		NESC Grade B*				Weight (lb/ft)	16		26		31		36						
		6,000		3,900				Inertia, I (in) <sup>4</sup>	317		651		936		1460						
		Strength (lbs.)	Defl. (in)	Strength (lbs.)	Defl. (in)			12		14		15		17							
								Defl. (in)	Wt. (lb)	Defl. (in)	Wt. (lb)	Defl. (in)	Wt. (lb)	Defl. (in)	Wt. (lb)						
85 ft. Maximum Tangent Structure Load (lbs.)							→							1,944 lbs.		5,173 lbs.		6,635 lbs.		8,186 lbs.	
Maximum Groundline Moment														144,798		375,056		481,014		593,463	
85	1	19.42	3,873	4,500	209	2,925	136				180	2,210	136	2,635	93	3,240					
	H1	20.53	4,354	5,400	185	3,510	120			215	163										
	H2	21.80	4,837	6,400	174	4,160	113			255	193										
	H3	22.92	5,319	7,500	166	4,875	108			299	226										
	H4	24.03	5,802	8,700	157	5,655	102				262										
	H5	25.15	6,285	10,000	143	6,500	93				301										
	H6	26.26	6,766	11,400	138	7,410	89														
90 ft. Maximum Tangent Structure Load (lbs.)							→							1,830 lbs.		4,871 lbs.		6,247 lbs.		7,707 lbs.	
Maximum Groundline Moment														144,570		375,056		481,014		593,463	
90	1	19.89	4,189	4,500	236	2,925	153				215	2,340	162	2,790	111	3,240					
	H1	21.01	4,652	5,400	209	3,510	136			258	194										
	H2	22.28	5,114	6,400	196	4,160	128			305	230										
	H3	23.40	5,577	7,500	187	4,875	122				270										
	H4	24.51	6,039	8,700	177	5,655	115				313										
	H5	25.78	6,502	10,000	161	6,500	105														
	H6	26.90	6,964	11,400	155	7,410	101														
95 ft. Maximum Tangent Structure Load (lbs.)							→							1,729 lbs.		4,602 lbs.		5,902 lbs.		7,282 lbs.	
Maximum Groundline Moment														144,368		375,056		481,014		593,463	
95	1	20.21	4,580	4,500	264	2,925	171				254	2,470	192	2,945	131	3,420					
	H1	21.49	5,085	5,400	234	3,510	152			305	230										
	H2	22.76	5,591	6,400	220	4,160	143			361	273										
	H3	23.87	6,096	7,500	210	4,875	136				320										
	H4	25.15	6,601	8,700	198	5,655	129				371										
	H5	26.26	7,107	10,000	181	6,500	118														
	H6	27.37	7,612	11,400	174	7,410	113														
100 ft. Maximum Tangent Structure Load (lbs.)							→							1,638 lbs.		4,361 lbs.		5,593 lbs.		6,901 lbs.	
Maximum Groundline Moment														144,187		375,056		481,014		593,463	
100	1	20.69	5,101	4,500	294	2,925	191				298	2,600	225	3,100	154	3,600					
	H1	21.96	5,706	5,400	260	3,510	169			357	270										
	H2	23.08	6,324	6,400	245	4,160	159			424	320										
	H3	24.35	6,915	7,500	233	4,875	152				375										
	H4	25.62	7,520	8,700	221	5,655	144														
	H5	26.74	8,124	10,000	201	6,500	131														
	H6	27.85	8,730	11,400	194	7,410	126														
105 ft. Maximum Tangent Structure Load (lbs.)							→							1,557 lbs.		4,144 lbs.		5,315 lbs.		6,558 lbs.	
Maximum Groundline Moment														144,024		375,056		481,014		593,463	
105	1	21.01	5,472	4,500	325	2,925	211				346	2,730	262	3,255	179	3,780					
	H1	22.28	6,053	5,400	288	3,510	187			416	314										
	H2	23.55	6,634	6,400	271	4,160	176				372										
	H3	24.83	7,216	7,500	258	4,875	168				436										
	H4	26.10	7,797	8,700	245	5,655	159														
	H5	27.22	8,379	10,000	223	6,500	145														
	H6	28.49	8,961	11,400	214	7,410	139														
110 ft. Maximum Tangent Structure Load (lbs.)							→							1,483 lbs.		3,948 lbs.		5,063 lbs.		6,247 lbs.	
Maximum Groundline Moment														143,877		375,056		481,014		593,463	
110	1	21.49	5,914	4,500	358	2,925	233				298	2,860	302	3,410	207	3,960					
	H1	22.76	6,532	5,400	317	3,510	206			357	363										
	H2	24.03	7,150	6,400	299	4,160	194				430										
	H3	25.31	7,768	7,500	285	4,875	185				504										
	H4	26.58	8,385	8,700	270	5,655	175														
	H5	27.69	9,003	10,000	246	6,500	160														
	H6	28.97	9,622	11,400	236	7,410	154														

# TANGENT MULTI-LAYER STRUCTURE DATA

Pole		Pole Data																			
Ht. (ft.)	CLASS	Wood Pole																			
		Modulus of Elasticity, E (psi)		Class		5	4	3	2	1	H1	H2	H3	H4	H5	H6					
		1,430,000		Circumf., C <sub>i</sub> (in)		19	34.5	37.5	40	42.5	48	51	53.5	56.5	62	64.5					
				Diameter, D <sub>i</sub> (in)		6.05	10.98	11.94	12.73	13.53	15.28	16.23	17.03	17.98	19.74	20.53					
		Western Red Cedar (WRC)						Composite Diameter (in)													
		D <sub>b</sub> (in.)		Average Weight (lbs.)		Fiber Stress, f, (psi)				One-Layer Composite Pole w/5% LEL Strength & NESC Grade B Construction											
				ANSI 05.1		NESC Grade B*		Weight (lb/ft)	421		57		67		73		93		109		
				6,000		3,900		Inertia, I (in) <sup>4</sup>	968		1587		2392		1904		3043		3360		
				Strength (lbs.)	Defl. (in)	Strength (lbs.)	Defl. (in)	12/14		14/15		15/17		12/14/15		14/15/17		12/14/15/17			
								Defl. (in)	Wt (lb)	Defl. (in)	Wt (lb)	Defl. (in)	Wt (lb)	Defl. (in)	Wt (lb)	Defl. (in)	Wt (lb)	Defl. (in)	Wt (lb)		
35 ft. Maximum Tangent Structure Load (lbs.)								→	36,776 lbs.		65,114 lbs.		81,655 lbs.		108,453 lbs.		168,471 lbs.		214,440 lbs.		
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104		
35	5	NA	569	1,900	67	1,235	33	2	1470	1	1995	1	2345	0	2555	0	3255	0	3815		
	4	10.98	648	2,400	37	1,560	18	2		1		1		0		0					
	3	11.94	750	3,000	34	1,950	17	2		1		1		0		0					
	2	12.73	859	3,700	32	2,405	16	3		2		1		0		0					
	1	13.53	978	4,500	30	2,925	15	4		2		1		1		0					
40 ft. Maximum Tangent Structure Load (lbs.)								→	31,605 lbs.		55,957 lbs.		70,172 lbs.		93,202 lbs.		144,780 lbs.		184,284 lbs.		
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104		
40	4	11.62	797	2,400	50	1,560	33	3	1680	2	2280	1	2680	1	2920	0	3720	0	4360		
	3	12.57	916	3,000	46	1,950	30	4		2		1		0		0					
	2	13.53	1,061	3,700	43	2,405	28	5		3		1		0		0					
	1	14.32	1,206	4,500	41	2,925	26	6		3		1		1		1					
	H1	15.28	NA	5,400	36	3,510	23	7		4		2		1		1					
	H2	16.23	NA	6,400	34	4,160	22	8		5		2		1		1					
	H3	17.03	NA	7,500	32	4,875	21	9		6		2		1		1					
	H4	17.98	NA	8,700	31	5,655	20	11		6		3		2		1					
	H5	NA	NA	10,000	28	6,500	18	12		7		3		2		1					
H6	NA	NA	11,400	27	7,410	17	14	8	4	2	1										
45 ft. Maximum Tangent Structure Load (lbs.)								→	27,708 lbs.		49,058 lbs.		61,521 lbs.		81,711 lbs.		126,930 lbs.		161,564 lbs.		
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104		
45	3	13.21	1,103	3,000	60	1,950	39	5	1890	3	2565	2	3015	1	3285	1	4185	1	4905		
	2	14.16	1,263	3,700	56	2,405	37	7		4		2		1		1					
	1	15.12	1,444	4,500	53	2,925	34	8		5		2		1		1					
	H1	15.92	NA	5,400	47	3,510	30	10		6		3		2		1					
	H2	17.03	NA	6,400	44	4,160	29	12		7		3		2		1					
	H3	17.83	NA	7,500	42	4,875	27	14		8		4		2		1					
	H4	18.78	NA	8,700	40	5,655	26	16		9		4		3		2					
	H5	19.74	NA	10,000	36	6,500	24	18		11		5		3		2					
	H6	20.53	NA	11,400	35	7,410	23	21		12		6		3		2					
50 ft. Maximum Tangent Structure Load (lbs.)								→	24,667 lbs.		43,674 lbs.		54,768 lbs.		72,743 lbs.		112,999 lbs.		143,832 lbs.		
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104		
50	3	13.85	1,296	3,000	76	1,950	49	8	2100	5	2,850	3	3,350	2	3,650	1	4,650	1	5,450		
	2	14.80	1,500	3,700	71	2,405	46	9		6		3		2		1					
	1	15.76	1,709	4,500	67	2,925	43	12		7		3		2		1					
	H1	16.71	1,916	5,400	59	3,510	38	14		8		4		2		1					
	H2	17.67	2,124	6,400	56	4,160	36	16		10		4		3		2					
	H3	18.62	2,333	7,500	53	4,875	34	19		11		5		3		2					
	H4	19.58	2,541	8,700	50	5,655	33	22		13		6		4		2					
	H5	20.53	2,749	10,000	46	6,500	30	26		15		7		4		3					
	H6	21.33	2,957	11,400	44	7,410	29	29		17		8		5		3					

55 ft. Maximum Tangent Structure Load (lbs.)								→	22,227 lbs.		39,355 lbs.		49,352 lbs.		65,549 lbs.		101,823 lbs.		129,607 lbs.			
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104			
55	2	15.44	1,728	3,700	87	2,405	57		13	2310	8	3135	5	3685	3	4015	2	5115	1	5995		
	1	16.39	1,975	4,500	82	2,925	53		16		9		6		4		3		2			
	H1	17.51	2,223	5,400	73	3,510	47		19		11		7		5		3		2			
	H2	18.30	2,471	6,400	73	4,160	45		22		13		9		6		4		2			
	H3	19.42	2,719	7,500	65	4,875	42		26		15		10		7		5		3			
	H4	20.37	2,967	8,700	62	5,655	40		30		18		12		8		6		4			
	H5	21.33	3,214	10,000	56	6,500	37		35		21		14		9		7		5			
H6	22.12	3,462	11,400	54	7,410	35		40	23	16	11	8	6	4								
60 ft. Maximum Tangent Structure Load (lbs.)								→	20,227 lbs.		35,813 lbs.		44,910 lbs.		59,649 lbs.		92,659 lbs.		117,942 lbs.			
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104			
60	2	15.92	1,969	3,700	106	2,405	69		17	2520	10	3420	7	4020	5	4380	3	5580	2	6540		
	1	17.03	2,256	4,500	99	2,925	65		21		12		8		5		3		2			
	H1	17.98	2,544	5,400	88	3,510	57		25		15		10		7		4		3			
	H2	18.94	2,832	6,400	83	4,160	54		29		17		12		8		5		3			
	H3	20.05	3,119	7,500	79	4,875	51		34		20		14		9		6		4			
	H4	21.01	3,407	8,700	75	5,655	49		40		24		16		11		7		4			
	H5	21.96	3,693	10,000	68	6,500	44		46		27		18		12		8		5			
H6	22.92	3,981	11,400	65	7,410	43		52	31	21	14	9	6	4								
65 ft. Maximum Tangent Structure Load (lbs.)								→	18,557 lbs.		32,856 lbs.		41,202 lbs.		54,724 lbs.		85,008 lbs.		108,204 lbs.			
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104			
65	1	17.51	2,544	4,500	118	2,925	77		27	2730	16	3705	11	4355	7	4745	4	6045	3	7085		
	H1	18.62	2,867	5,400	104	3,510	68		32		19		13		9		5		3			
	H2	19.58	3,192	6,400	98	4,160	64		38		22		15		10		6		4			
	H3	20.69	3,515	7,500	94	4,875	61		44		26		18		12		7		5			
	H4	21.65	3,840	8,700	89	5,655	58		51		31		20		14		8		5			
	H5	22.76	4,163	10,000	81	6,500	53		59		35		23		16		10		6			
	H6	23.71	4,486	11,400	78	7,410	51		67		40		27		18		11		7			
70 ft. Maximum Tangent Structure Load (lbs.)								→	17,142 lbs.		30,350 lbs.		38,059 lbs.		50,550 lbs.		78,525 lbs.		99,951 lbs.			
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104			
70	1	17.98	2,858	4,500	138	2,925	90		34	2940	20	3990	13	4690	9	5110	6	6510	4	7630		
	H1	19.10	3,228	5,400	122	3,510	80		40		24		16		11		7		4			
	H2	20.21	3,598	6,400	115	4,160	75		48		28		19		13		8		5			
	H3	21.33	3,968	7,500	110	4,875	71		56		33		22		15		9		6			
	H4	22.28	4,338	8,700	104	5,655	68		65		39		26		17		11		7			
	H5	23.40	4,708	10,000	95	6,500	62		75		44		30		20		12		8			
	H6	24.35	5,079	11,400	91	7,410	59		85		51		34		23		14		9			
75 ft. Maximum Tangent Structure Load (lbs.)								→	15,927 lbs.		28,199 lbs.		35,362 lbs.		46,968 lbs.		72,960 lbs.		92,868 lbs.			
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104			
75	1	18.46	3,155	4,500	160	2,925	104		42	3150	25	4275	17	5025	11	5475	7	6975	4	8175		
	H1	19.58	3,535	5,400	142	3,510	92		50		30		20		13		8		5			
	H2	20.69	3,915	6,400	133	4,160	87		59		35		24		16		10		6			
	H3	21.80	4,295	7,500	127	4,875	83		69		41		28		19		11		7			
	H4	22.92	4,675	8,700	120	5,655	78		81		48		32		22		13		8			
	H5	24.03	5,055	10,000	110	6,500	71		93		55		37		25		15		10			
	H6	24.99	5,435	11,400	106	7,410	69		106		63		42		28		17		11			
80 ft. Maximum Tangent Structure Load (lbs.)								→	14,873 lbs.		26,333 lbs.		33,022 lbs.		43,860 lbs.		68,132 lbs.		86,722 lbs.			
Maximum Groundline Moment									1,011,349		1,790,634		2,245,506		2,982,464		4,632,955		5,897,104			
80	1	18.94	3,515	4,500	184	2,925	119		51	3360	30	4560	20	5360	14	5840	8	7440	5	8720		
	H1	20.05	3,958	5,400	163	3,510	106		61		36		24		16		10		6			
	H2	21.33	4,401	6,400	153	4,160	99		73		43		29		19		12		8			
	H3	22.44	4,844	7,500	146	4,875	95		85		51		34		23		14		9			
	H4	23.55	5,286	8,700	138	5,655	90		99		59		39		26		16		10			
	H5	24.51	5,729	10,000	126	6,500	82		113		67		45		30		19		12			
	H6	25.62	6,171	11,400	121	7,410	79		129		77		51		35		21		14			

85 ft. Maximum Tangent Structure Load (lbs.)								→		13,950 lbs.	24,698 lbs.	30,973 lbs.	41,137 lbs.	63,903 lbs.	81,339 lbs.				
Maximum Groundline Moment										1,011,349	1,790,634	2,245,506	2,982,464	4,632,955	5,897,104				
85	1	19.42	3,873	4,500	209	2,925	136	62	3570	37	4845	25	5695	16	6205	10	7905	6	9265
	H1	20.53	4,354	5,400	185	3,510	120	74		44		29		20		12		8	
	H2	21.80	4,837	6,400	174	4,160	113	88		52		35		23		14		9	
	H3	22.92	5,319	7,500	166	4,875	108	103		61		41		27		17		11	
	H4	24.03	5,802	8,700	157	5,655	102	119		71		47		32		20		13	
	H5	25.15	6,285	10,000	143	6,500	93	137		81		54		37		23		14	
	H6	26.26	6,766	11,400	138	7,410	89	156		93		62		42		26		16	
90 ft. Maximum Tangent Structure Load (lbs.)								→		13,134 lbs.	23,255 lbs.	29,162 lbs.	38,733 lbs.	60,168 lbs.	76,586 lbs.				
Maximum Groundline Moment										1,011,349	1,790,634	2,245,506	2,982,464	4,632,955	5,897,104				
90	1	19.89	4,189	4,500	236	2,925	153	74	3780	44	5130	29	6030	20	6570	12	8370	8	9810
	H1	21.01	4,652	5,400	209	3,510	136	88		53		35		24		15		9	
	H2	22.28	5,114	6,400	196	4,160	128	105		62		42		28		17		11	
	H3	23.40	5,577	7,500	187	4,875	122	123		73		49		33		20		13	
	H4	24.51	6,039	8,700	177	5,655	115	143		85		57		38		23		15	
	H5	25.78	6,502	10,000	161	6,500	105	164		97		65		44		27		17	
	H6	26.90	6,964	11,400	155	7,410	101	187		111		74		50		31		20	
95 ft. Maximum Tangent Structure Load (lbs.)								→		12,409 lbs.	21,971 lbs.	27,552 lbs.	36,595 lbs.	56,846 lbs.	72,357 lbs.				
Maximum Groundline Moment										1,011,349	1,790,634	2,245,506	2,982,464	4,632,955	5,897,104				
95	1	20.21	4,580	4,500	264	2,925	171	87	3990	52	5415	35	6365	23	6935	14	8835	9	10355
	H1	21.49	5,085	5,400	234	3,510	152	105		62		42		28		17		11	
	H2	22.76	5,591	6,400	220	4,160	143	124		74		49		33		20		13	
	H3	23.87	6,096	7,500	210	4,875	136	145		86		58		39		24		15	
	H4	25.15	6,601	8,700	198	5,655	129	169		100		67		45		28		18	
	H5	26.26	7,107	10,000	181	6,500	118	194		115		77		52		32		20	
	H6	27.37	7,612	11,400	174	7,410	113	221		131		88		59		36		23	
100 ft. Maximum Tangent Structure Load (lbs.)								→		11,760 lbs.	20,821 lbs.	26,111 lbs.	34,680 lbs.	53,872 lbs.	68,571 lbs.				
Maximum Groundline Moment										1,011,349	1,790,634	2,245,506	2,982,464	4,632,955	5,897,104				
100	1	20.69	5,101	4,500	294	2,925	191	102	4200	61	5700	41	6700	27	7300	17	9300	11	10900
	H1	21.96	5,706	5,400	260	3,510	169	123		73		49		33		20		13	
	H2	23.08	6,324	6,400	245	4,160	159	146		86		58		39		24		15	
	H3	24.35	6,915	7,500	233	4,875	152	171		101		68		46		28		18	
	H4	25.62	7,520	8,700	221	5,655	144	198		118		79		53		33		21	
	H5	26.74	8,124	10,000	201	6,500	131	227		135		90		61		37		24	
	H6	27.85	8,730	11,400	194	7,410	126	259		154		103		69		43		27	
105 ft. Maximum Tangent Structure Load (lbs.)								→		11,175 lbs.	19,786 lbs.	24,812 lbs.	32,955 lbs.	51,193 lbs.	65,161 lbs.				
Maximum Groundline Moment										1,011,349	1,790,634	2,245,506	2,982,464	4,632,955	5,897,104				
105	1	21.01	5,472	4,500	325	2,925	211	119	4410	71	5985	47	7035	32	7665	20	9765	13	11445
	H1	22.28	6,053	5,400	288	3,510	187	143		85		57		38		23		15	
	H2	23.55	6,634	6,400	271	4,160	176	169		101		67		45		28		18	
	H3	24.83	7,216	7,500	258	4,875	168	198		118		79		53		33		21	
	H4	26.10	7,797	8,700	245	5,655	159	230		137		91		61		38		24	
	H5	27.22	8,379	10,000	223	6,500	145	265		157		105		71		43		28	
	H6	28.49	8,961	11,400	214	7,410	139	302		179		120		81		50		32	
110 ft. Maximum Tangent Structure Load (lbs.)								→		10,646 lbs.	18,849 lbs.	23,637 lbs.	31,394 lbs.	48,768 lbs.	62,075 lbs.				
Maximum Groundline Moment										1,011,349	1,790,634	2,245,506	2,982,464	4,632,955	5,897,104				
110	1	21.49	5,914	4,500	358	2,925	233	138	4620	82	6270	55	7370	37	8030	23	10230	14	11990
	H1	22.76	6,532	5,400	317	3,510	206	165		98		66		44		27		17	
	H2	24.03	7,150	6,400	299	4,160	194	196		116		78		52		32		21	
	H3	25.31	7,768	7,500	285	4,875	185	229		136		91		61		38		24	
	H4	26.58	8,385	8,700	270	5,655	175	266		158		106		71		44		28	
	H5	27.69	9,003	10,000	246	6,500	160	306		182		121		82		50		32	
	H6	28.97	9,622	11,400	236	7,410	154	348		207		138		93		57		37	



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