



# TANGENT COMPOSITE STRUCTURE DATA



Southern Yellow Pine

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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		
		2,130,000		Circumf., C <sub>i</sub> (in)		19	21	23	25	27	29	31	33	35	37	39		
				Diameter, D <sub>i</sub> (in)		6.05	6.68	7.32	7.96	8.59	9.23	9.87	10.50	11.14	11.78	12.41		
		Southern Yellow Pine (SYP)				Composite Diameter (in)												
		Fiber Stress, f, (psi)				One-Layer Composite Pole w/5% LEL Strength & NESC Grade B Construction												
D <sub>b</sub> (in.)	Average Weight (lbs.)	ANSI 05.1		NESC Grade B*		Weight (lb/ft)		26		31		36						
		8,000		5,200		16		26		31		36						
		Strength (lbs.)		Defl. (in)		Strength (lbs.)		Defl. (in)		Strength (lbs.)		Defl. (in)		Strength (lbs.)		Defl. (in)		
		8,000		5,200		317		651		936		1456						
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	9.89	740	1,900	45	1,235	29	560	910	1,085	1,260	11	4	3	2			
	4	10.72	990	2,400	41	1,560	27					14	6	4	3			
	3	11.55	1,060	3,000	37	1,950	24					18	7	5	4			
	2	12.38	1,140	3,700	34	2,405	22					22	9	6	4			
	1	13.20	1,310	4,500	32	2,925	21					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	11.37	1,060	2,400	55	1,560	36	640	1,040	1,240	1,440	22	9	7	4			
	3	12.19	1,225	3,000	50	1,950	33					28	11	8	6			
	2	13.01	1,410	3,700	46	2,405	30					34	13	10	7			
	1	13.84	1,630	4,500	43	2,925	28					42	16	12	8			
	H1	14.66		5,400	40	3,510	26					50	19	15	10			
	H2	16.42		6,400	37	4,160	24					60	23	17	12			
	H3	17.24		7,500	35	4,875	23						27	20	14			
	H4	18.07		8,700	33	5,655	22						31	24	16			
	H5	18.89		10,000	31	6,500	20						36	27	19			
	H6	19.72		11,400	30	7,410	19						41	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	12.65	1,475	3,000	66	1,950	43	720	1,170	1,395	1,620	41	16	12	8			
	2	13.65	1,705	3,700	60	2,405	39					51	20	15	10			
	1	14.47	1,965	4,500	56	2,925	36					62	24	18	12			
	H1	15.29		5,400	52	3,510	34					74	29	22	15			
	H2	16.30		6,400	49	4,160	32						34	26	18			
	H3	17.12		7,500	46	4,875	30						40	30	21			
	H4	17.94		8,700	43	5,655	28						46	35	24			
	H5	18.76		10,000	41	6,500	27						53	40	27			
	H6	19.58		11,400	39	7,410	25						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	13.20	1,750	3,000	83	1,950	54	800	1,300	1,550	1,800	58	22	17	12			
	2	14.19	2,020	3,700	76	2,405	50					71	28	21	14			
	1	15.11	2,330	4,500	71	2,925	46					87	33	25	17			
	H1	15.92		5,400	66	3,510	43						40	30	21			
	H2	16.92		6,400	61	4,160	40						48	36	25			
	H3	17.74		7,500	58	4,875	38						56	42	29			
	H4	18.56		8,700	54	5,655	35						65	49	34			
H5	19.55		10,000	51	6,500	33		74	56	39								
H6	20.37		11,400	49	7,410	32		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
		2,130,000		Circumf., C <sub>i</sub> (in)		19	21	23	25	27	29	31	33	35	37	39
				Diameter, D <sub>i</sub> (in)		6.05	6.68	7.32	7.96	8.59	9.23	9.87	10.50	11.14	11.78	12.41
		Southern Yellow Pine (SYP)					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)		26		31		36				
8,000				5,200		Inertia, I (in) <sup>4</sup>		317		651		936		1456		
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	14.65	2,355	3,700	94	2,405	61	97	880	37	1,430	28	1,705	19	1,980	
	1	15.56	2,715	4,500	87	2,925	56	117		45		34		24		
	H1	16.56	3,136	5,400	81	3,510	53			55		41		28		
	H2	17.37	3,578	6,400	81	4,160	49			65		49		34		
	H3	18.36	3,983	7,500	71	4,875	46			76		57		39		
	H4	19.36	4,363	8,700	67	5,655	44			88		66		46		
	H5	20.17		10,000	63	6,500	41			101		76		52		
H6	21.17		11,400	60	7,410	39		115	87	60						
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	15.10	2,710	3,700	113	2,405	74	127	960	49	1,560	37	1,860	26	2,160	
	1	16.02	3,130	4,500	105	2,925	68			60		45		31		
	H1	17.01	3,572	5,400	98	3,510	64			72		54		37		
	H2	18.00	4,025	6,400	91	4,160	59			85		64		44		
	H3	18.99	4,571	7,500	86	4,875	56			100		75		52		
	H4	19.81	5,075	8,700	81	5,655	53			116		88		60		
	H5	20.80	5,574	10,000	77	6,500	50			133		101		69		
H6	21.79	6,214	11,400	73	7,410	47		152	115	79						
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	16.48	3,555	4,500	125	2,925	81		1,690	77	2,015	58	2,340	40	2,640	
	H1	17.47	4,030	5,400	116	3,510	75			93		70		48		
	H2	18.46	4,529	6,400	109	4,160	71			110		83		57		
	H3	19.45	4,711	7,500	102	4,875	66			129		97		67		
	H4	20.43	5,689	8,700	96	5,655	63			149		113		77		
	H5	21.42	6,308	10,000	91	6,500	59			172		130		89		
	H6	22.41	6,978	11,400	86	7,410	56					148		102		
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	16.95	4,005	4,500	146	2,925	95		1,820	98	2,170	74	2,520	51	2,820	
	H1	17.93	4,488	5,400	136	3,510	88			117		88		61		
	H2	18.92	5,070	6,400	127	4,160	83			139		105		72		
	H3	20.08	5,689	7,500	120	4,875	78			163		123		84		
	H4	21.06	6,427	8,700	113	5,655	73			189		143		98		
	H5	22.05	7,077	10,000	107	6,500	69					164		113		
	H6	22.86	7,758	11,400	101	7,410	66					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	17.42	4,475	4,500	169	2,925	110		1,950	121	2,325	92	2,700	63	3,000	
	H1	18.40	4,997	5,400	158	3,510	102			146		110		76		
	H2	19.56	5,528	6,400	147	4,160	96			173		130		90		
	H3	20.54	6,308	7,500	138	4,875	90			202		153		105		
	H4	21.52	7,067	8,700	131	5,655	85			235		177		122		
	H5	22.50	7,868	10,000	124	6,500	80					204		140		
	H6	23.49	8,507	11,400	117	7,410	76					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	17.89	4,965	4,500	194	2,925	126		2,080	149	2,480	112	2,880	77	3,180	
	H1	18.87	5,528	5,400	181	3,510	117			178		135		92		
	H2	19.85	6,183	6,400	169	4,160	110			211		160		110		
	H3	21.00	6,958	7,500	159	4,875	103			248		187		128		
	H4	21.98	7,784	8,700	150	5,655	97					217		149		
	H5	22.96	8,492	10,000	142	6,500	92					249		171		
	H6	23.94	9,454	11,400	134	7,410	87							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	
		2,130,000		Circumf., C <sub>i</sub> (in)		19	21	23	25	27	29	31	33	35	37	39	
				Diameter, D <sub>i</sub> (in)		6.05	6.68	7.32	7.96	8.59	9.23	9.87	10.50	11.14	11.78	12.41	
		Southern Yellow Pine (SYP)							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)		26		31		36			
				8,000		5,200		Inertia, I (in) <sup>4</sup>		651		936		1456			
				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)	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	18.18	5,480	4,500	221	2,925	143			180	2,210	136	2,635	93	3,240		
	H1	19.33	5,912	5,400	205	3,510	134		215	163		112					
	H2	20.31	6,755	6,400	192	4,160	125		255	193		132					
	H3	21.46	7,644	7,500	181	4,875	117		299	226		155					
	H4	22.44	8,481	8,700	170	5,655	111			262		180					
	H5	23.59	9,324	10,000	161	6,500	105			301		207					
	H6	24.57	10,312	11,400	153	7,410	99					236					
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	18.48	6,005	4,500	249	2,925	162			215	2,340	162	2,790	111	3,240		
	H1	19.63	6,510	5,400	232	3,510	151		258	194		134					
	H2	20.78	7,348	6,400	217	4,160	141		305	230		158					
	H3	21.93	8,310	7,500	204	4,875	132			270		186					
	H4	22.91	9,204	8,700	192	5,655	125			313		215					
	H5	24.06	10,202	10,000	182	6,500	118					247					
	H6	25.03	11,248	11,400	172	7,410	112					282					
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	18.79	6,550	4,500	279	2,925	181			254	2,470	192	2,945	132	3,420		
	H1	20.10	7,025	5,400	260	3,510	169		305	230		158					
	H2	21.25	7,972	6,400	243	4,160	158		361	273		187					
	H3	22.23	9,001	7,500	228	4,875	148			320		220					
	H4	23.37	10,015	8,700	215	5,655	140			371		255					
	H5	24.52	11,086	10,000	203	6,500	132					293					
	H6	25.50	12,116	11,400	193	7,410	125										
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	19.26	7,115	4,500	310	2,925	202			298	2,600	225	3,100	154	3,600		
	H1	20.41	7,675	5,400	289	3,510	188		357	270		185					
	H2	21.55	8,642	6,400	270	4,160	176		424	320		220					
	H3	22.74	9,729	7,500	254	4,875	165			375		257					
	H4	23.84	10,884	8,700	239	5,655	156					299					
	H5	24.98	12,028	10,000	227	6,500	147					343					
	H6	25.96	13,161	11,400	215	7,410	140										
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	19.57	7,900	4,500	344	2,925	223			298	2,730	262	3,255	180	3,780		
	H1	20.71	8,232	5,400	320	3,510	208		357	314		216					
	H2	22.02	9,261	6,400	299	4,160	195			372		256					
	H3	23.20	10,468	7,500	281	4,875	183			436		300					
	H4	24.35	12,152	8,700	265	5,655	172					347					
	H5	25.28	12,844	10,000	251	6,500	163					399					
	H6	26.42	14,196	11,400	238	7,410	155										
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	19.87	8,700	4,500	379	2,925	246			298	2,860	302	3,410	208	3,960		
	H1	21.18	8,871	5,400	353	3,510	229		357	363		249					
	H2	22.32	9,958	6,400	330	4,160	214			430		295					
	H3	23.47	11,263	7,500	310	4,875	201			513		346					
	H4	24.61	12,548	8,700	292	5,655	190					401					
	H5	25.75	13,842	10,000	276	6,500	180										
	H6	26.89	15,272	11,400	262	7,410	170										

# 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			
		2,130,000		Circumf., C <sub>i</sub> (in)		19		21		23		25		27		29		31		33		35		37		39	
				Diameter, D <sub>i</sub> (in)		6.05		6.68		7.32		7.96		8.59		9.23		9.87		10.50		11.14		11.78		12.41	
		Southern Yellow Pine (SYP)									Composite Diameter (in)																
		D <sub>b</sub> (in.)		Average Weight (lbs.)		Fiber Stress, f <sub>i</sub> (psi)				One-Layer Composite Pole w/5% LEL Strength & NESC Grade B Construction																	
ANSI 05.1						NESC Grade B*		Weight (lb/ft)		42		57		67		73		93		109							
8,000						5,200		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)					
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	9.89	740	1,900	45	1,235	29	2	1470	1	1995	1	2345	0	2555	0	3255	0	3815								
	4	10.72	990	2,400	41	1,560	27	2		1		1		0		0											
	3	11.55	1,060	3,000	37	1,950	24	2		1		1		0		0											
	2	12.38	1,140	3,700	34	2,405	22	3		2		1		0		0											
	1	13.20	1,310	4,500	32	2,925	21	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	11.37	1,060	2,400	55	1,560	36	3	1680	2	2280	1	2680	1	2920	0	3720	0	4360								
	3	12.19	1,225	3,000	50	1,950	33	4		2		1		1		0											
	2	13.01	1,410	3,700	46	2,405	30	5		3		1		1		0											
	1	13.84	1,630	4,500	43	2,925	28	6		3		1		1		1											
	H1	14.66		5,400	40	3,510	26	7		4		2		1		1											
	H2	16.42		6,400	37	4,160	24	8		5		2		1		1											
	H3	17.24		7,500	35	4,875	23	9		6		2		2		1											
	H4	18.07		8,700	33	5,655	22	11		6		3		2		1											
	H5	18.89		10,000	31	6,500	20	12		7		3		2		1											
	H6	19.72		11,400	30	7,410	19	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	12.65	1,475	3,000	66	1,950	43	5	1890	3	2565	2	3015	1	3285	1	4185	1	4905								
	2	13.65	1,705	3,700	60	2,405	39	7		4		2		1		1											
	1	14.47	1,965	4,500	56	2,925	36	8		5		2		1		1											
	H1	15.29		5,400	52	3,510	34	10		6		3		2		1											
	H2	16.30		6,400	49	4,160	32	12		7		3		2		1											
	H3	17.12		7,500	46	4,875	30	14		8		4		2		1											
	H4	17.94		8,700	43	5,655	28	16		9		4		3		2											
	H5	18.76		10,000	41	6,500	27	18		11		5		3		2											
	H6	19.58		11,400	39	7,410	25	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	13.20	1,750	3,000	83	1,950	54	8	2100	5	2,850	3	3,350	2	3,650	1	4,650	1	5,450								
	2	14.19	2,020	3,700	76	2,405	50	9		6		3		2		1											
	1	15.11	2,330	4,500	71	2,925	46	12		7		3		2		1											
	H1	15.92		5,400	66	3,510	43	14		8		4		2		1											
	H2	16.92		6,400	61	4,160	40	16		10		4		3		2											
	H3	17.74		7,500	58	4,875	38	19		11		5		3		2											
	H4	18.56		8,700	54	5,655	35	22		13		6		4		2											
	H5	19.55		10,000	51	6,500	33	26		15		7		4		3											
	H6	20.37		11,400	49	7,410	32	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	14.65	2,355	3,700	94	2,405	61		13	2310	8	3135	5	3685	3	4015	2	5115	1	5995		
	1	15.56	2,715	4,500	87	2,925	56	16	9		6		4		3		2					
	H1	16.56	3,136	5,400	81	3,510	53	19	11		7		5		3		2					
	H2	17.37	3,578	6,400	81	4,160	49	22	13		9		6		4		2					
	H3	18.36	3,983	7,500	71	4,875	46	26	15		10		7		4		3					
	H4	19.36	4,363	8,700	67	5,655	44	30	18		12		8		5		3					
	H5	20.17		10,000	63	6,500	41	35	21		14		9		6		4					
	H6	21.17		11,400	60	7,410	39	40	23		16		11		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	15.10	2,710	3,700	113	2,405	74		17	2520	10	3420	7	4020	5	4380	3	5580	2	6540		
	1	16.02	3,130	4,500	105	2,925	68	21	12		8		5		3		2					
	H1	17.01	3,572	5,400	98	3,510	64	25	15		10		7		4		3					
	H2	18.00	4,025	6,400	91	4,160	59	29	17		12		8		5		3					
	H3	18.99	4,571	7,500	86	4,875	56	34	20		14		9		6		4					
	H4	19.81	5,075	8,700	81	5,655	53	40	24		16		11		7		4					
	H5	20.80	5,574	10,000	77	6,500	50	46	27		18		12		8		5					
	H6	21.79	6,214	11,400	73	7,410	47	52	31		21		14		9		5					
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	16.48	3,555	4,500	125	2,925	81		27	2730	16	3705	11	4355	7	4745	4	6045	3	7085		
	H1	17.47	4,030	5,400	116	3,510	75	32	19		13		9		5		3					
	H2	18.46	4,529	6,400	109	4,160	71	38	22		15		10		6		4					
	H3	19.45	4,711	7,500	102	4,875	66	44	26		18		12		7		5					
	H4	20.43	5,689	8,700	96	5,655	63	51	31		20		14		8		5					
	H5	21.42	6,308	10,000	91	6,500	59	59	35		23		16		10		6					
	H6	22.41	6,978	11,400	86	7,410	56	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	16.95	4,005	4,500	146	2,925	95		34	2940	20	3990	13	4690	9	5110	6	6510	4	7630		
	H1	17.93	4,488	5,400	136	3,510	88	40	24		16		11		7		4					
	H2	18.92	5,070	6,400	127	4,160	83	48	28		19		13		8		5					
	H3	20.08	5,689	7,500	120	4,875	78	56	33		22		15		9		6					
	H4	21.06	6,427	8,700	113	5,655	73	65	39		26		17		11		7					
	H5	22.05	7,077	10,000	107	6,500	69	75	44		30		20		12		8					
	H6	22.86	7,758	11,400	101	7,410	66	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	17.42	4,475	4,500	169	2,925	110		42	3150	25	4275	17	5025	11	5475	7	6975	4	8175		
	H1	18.40	4,997	5,400	158	3,510	102	50	30		20		13		8		5					
	H2	19.56	5,528	6,400	147	4,160	96	59	35		24		16		10		6					
	H3	20.54	6,308	7,500	138	4,875	90	69	41		28		19		11		7					
	H4	21.52	7,067	8,700	131	5,655	85	81	48		32		22		13		8					
	H5	22.50	7,868	10,000	124	6,500	80	93	55		37		25		15		10					
	H6	23.49	8,507	11,400	117	7,410	76	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	17.89	4,965	4,500	194	2,925	126		51	3360	30	4560	20	5360	14	5840	8	7440	5	8720		
	H1	18.87	5,528	5,400	181	3,510	117	61	36		24		16		10		6					
	H2	19.85	6,183	6,400	169	4,160	110	73	43		29		19		12		8					
	H3	21.00	6,958	7,500	159	4,875	103	85	51		34		23		14		9					
	H4	21.98	7,784	8,700	150	5,655	97	99	59		39		26		16		10					
	H5	22.96	8,492	10,000	142	6,500	92	113	67		45		30		19		12					
	H6	23.94	9,454	11,400	134	7,410	87	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	18.18	5,480	4,500	221	2,925	143	62	3570	37	4845	25	5695	16	6205	10	7905	6	9265	
	H1	19.33	5,912	5,400	205	3,510	134			74		44		29		20		12		8
	H2	20.31	6,755	6,400	192	4,160	125			88		52		35		23		14		9
	H3	21.46	7,644	7,500	181	4,875	117			103		61		41		27		17		11
	H4	22.44	8,481	8,700	170	5,655	111			119		71		47		32		20		13
	H5	23.59	9,324	10,000	161	6,500	105			137		81		54		37		23		14
	H6	24.57	10,312	11,400	153	7,410	99			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	18.48	6,005	4,500	249	2,925	162	74	3780	44	5130	29	6030	20	6570	12	8370	8	9810	
	H1	19.63	6,510	5,400	232	3,510	151			88		53		35		24		15		9
	H2	20.78	7,348	6,400	217	4,160	141			105		62		42		28		17		11
	H3	21.93	8,310	7,500	204	4,875	132			123		73		49		33		20		13
	H4	22.91	9,204	8,700	192	5,655	125			143		85		57		38		23		15
	H5	24.06	10,202	10,000	182	6,500	118			164		97		65		44		27		17
	H6	25.03	11,248	11,400	172	7,410	112			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	18.79	6,550	4,500	279	2,925	181	87	3990	52	5415	35	6365	23	6935	14	8835	9	10355	
	H1	20.10	7,025	5,400	260	3,510	169			105		62		42		28		17		11
	H2	21.25	7,972	6,400	243	4,160	158			124		74		49		33		20		13
	H3	22.23	9,001	7,500	228	4,875	148			145		86		58		39		24		15
	H4	23.37	10,015	8,700	215	5,655	140			169		100		67		45		28		18
	H5	24.52	11,086	10,000	203	6,500	132			194		115		77		52		32		20
	H6	25.50	12,116	11,400	193	7,410	125			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	19.26	7,115	4,500	310	2,925	202	102	4200	61	5700	41	6700	27	7300	17	9300	11	10900	
	H1	20.41	7,675	5,400	289	3,510	188			123		73		49		33		20		13
	H2	21.55	8,642	6,400	270	4,160	176			146		86		58		39		24		15
	H3	22.74	9,729	7,500	254	4,875	165			171		101		68		46		28		18
	H4	23.84	10,884	8,700	239	5,655	156			198		118		79		53		33		21
	H5	24.98	12,028	10,000	227	6,500	147			227		135		90		61		37		24
	H6	25.96	13,161	11,400	215	7,410	140			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	19.57	7,900	4,500	344	2,925	223	119	4410	71	5985	47	7035	32	7665	20	9765	13	11445	
	H1	20.71	8,232	5,400	320	3,510	208			143		85		57		38		23		15
	H2	22.02	9,261	6,400	299	4,160	195			169		101		67		45		28		18
	H3	23.20	10,468	7,500	281	4,875	183			198		118		79		53		33		21
	H4	24.35	12,152	8,700	265	5,655	172			230		137		91		61		38		24
	H5	25.28	12,844	10,000	251	6,500	163			265		157		105		71		43		28
	H6	26.42	14,196	11,400	238	7,410	155			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	19.87	8,700	4,500	379	2,925	246	138	4620	82	6270	55	7370	37	8030	23	10230	14	11990	
	H1	21.18	8,871	5,400	353	3,510	229			165		98		66		44		27		17
	H2	22.32	9,958	6,400	330	4,160	214			196		116		78		52		32		21
	H3	23.47	11,263	7,500	310	4,875	201			229		136		91		61		38		24
	H4	24.61	12,548	8,700	292	5,655	190			266		158		106		71		44		28
	H5	25.75	13,842	10,000	276	6,500	180			306		182		121		82		50		32
	H6	26.89	15,272	11,400	262	7,410	170			348		207		138		93		57		37



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