



## Broadband Pole Design Properties

### 90 Ft. AGL Standard Tapered Steel Poles

Physical Properties for 90 Ft. Tapered Steel Poles			
	Light	Medium	Heavy
Design Number	T90LA	T90MA	T90HA
Tip OD, in.	6.50	9.00	12.00
OD @ grade, in.	18.50	21.00	24.00
Butt OD, in.	21.12	23.91	27.20
Number Sides	12	16	18
Δ Dia, in/ft	0.1453	0.1453	0.1453
Side Taper, in/ft	0.0727	0.0727	0.0727
Embedment, ft.	18	20	22
Auger Dia, ft.	3.0	3.0	3.5
Backfill Type	Aggregate	Aggregate	Aggregate
Total Length, ft.	108	110	112
Bare Pole Wt, lbs.	3,250	3,946	4,825
No. of Sections	3	3	3

EPA (ft <sup>2</sup> ) for 90 Ft. Tapered Steel Poles										
Wind Speed, MPH		Light			Medium			Heavy		
Fastest Mile	3-sec Gust	Sway Limit			Sway Limit			Sway Limit		
		4°	3°	2°	4°	3°	2°	4°	3°	2°
70	85	21	11	2	51	33	16	106	77	44
80	100	21	11	2	43	33	16	73	73	44
90	110	14	11	2	25	25	16	50	50	44
100	120	4	4	2	12	12	12	33	33	33
110	130	—	—	—	3	3	3	21	21	21
120	140	—	—	—	—	—	—	13	13	13

#### Notes

1. The tabulated EPA values represent the total EPA capacity of the pole. The capacity is based on the assumption that 80% of the total EPA is located at the top of the pole and the remaining 20% is located 20 ft. below the top. When all loading is located at the top of the pole, the tabulated EPA capacity must be reduced by 20%. Refer to *Antenna Index* for the EPA values and sway limitations for specific antenna types.
2. The dash (—) in the table indicates that the pole is not adequate to support antennas for the indicated wind speed.
3. Bare pole weight represents the weight of the pole without accessories.
4. Designs are based on a maximum of (6) ½" internally routed coax per elevation, 90 lbs per elevation for mounts, and antenna weights in pounds equal to 6 times the tabulated EPA values.
5. Pole embedment is based on ANSI/TIA/EIA-222-F normal soil conditions.

Designed By: Mar  
Date: 7/31/07

Checked By: HSA  
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 Section Data

Section No.		Light	Medium	Heavy
	Design Number	T90LA	T90MA	T90HA
1 (top)	Length, ft.	15.42	18.08	20.92
	Galv. Wt., lbs	249	394	599
	Min. Splice, in.	11.5	15.5	20.0
	Max. Splice, in.	17.0	21.5	27.0
2	Length, ft.	48.00	48.00	48.00
	Galv. Wt., lbs	1,180	1,462	1,803
	Min. Splice, in.	20.0	23.5	28.0
	Max. Splice, in.	27.0	31.5	37.0
3 (bottom)	Length, ft.	48.00	48.00	48.00
	Galv. Wt., lbs	1,820	2,090	2,424
	Min. Splice, in.	—	—	—
	Max. Splice, in.	—	—	—

	Maximum Reactions		
	Light	Medium	Heavy
Download, kips	4.8	5.9	7.4
OTM, ft-kips	218.3	278.6	358.8
Shear, kips	4.8	6.4	7.3

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