ANCHOR BOLTS

Anchor Bolts are fabricated from carbon steel bar conforming to AASHTO M314 Grade-55 or ASTM F1554 Grade-55. Bolts have an “L” bend on one end and are galvanized a minimum of 12 inches on the threaded end. Four anchor bolts are provided per pole. Each anchor bolt is furnished with two hex nuts and two flat washers.

ANCHOR BASE

The anchor base (base plate) is fabricated from structural quality hot rolled carbon steel plate conforming to ASTM A36. The base plate telescopes the pole shaft and is circumferentially welded top and bottom. Please refer to the charted bolt circles and detail drawings to determine the type of hole or slot accommodation made for the anchor bolt.

POLE SHAFT

The pole shaft conforms to ASTM A595 Grade-A and is supplied in 11 gauge (0.1196"), 7 gauge (0.1793") 5 gauge (0.2092") or 3 gauge (0.2391") thickness. The pole can be either one-piece or two piece construction, with a full length longitudinal high frequency electric resistance weld. The DS210 series is round in cross-section having a uniform taper of approximately 0.14 inches per foot of length. The DS220 series shaft is square in cross section having flat sides, radiused corners and a uniform taper of approximately 0.11 inches per foot of length.

HANDHOLE

The reinforcing handhole rim consists of either a nominal 3" x 5" rectangular shaped tubing or 4" x 6.5" oval shaped pipe material. The 3" x 5" handhole is provided with a steel attachment bar, steel cover, and one round head machine screw. The 4" x 6.5" handhole includes two tabs for mounting a steel cover with hex head attachment screws. Both handhole types are welded in the pole shaft and are located 1'-6" above the base.

ELECTRICAL GROUND

A nut holder is provided near the handhole and includes a .5"-13UNC hex head bolt and nut.

NUT COVERS (OPTIONAL)

Nut covers for anchor bolts are zinc die cast. Each cover is fastened to the shaft by a 0.25" stainless steel, self-tapping, hex head screw. Nut covers are a standard component for the DS210 series and are NOT available for the DS220 series.

FULL BASE COVER (STANDARD)

The optional full base cover is fabricated from ABS plastic. Valmont reserves the right to provide a steel assembly on some applications depending upon the finish requirement and/or pole shaft base diameter. Both steel and plastic covers are a two-piece assembly secured together with two fasteners. A full base cover is a standard component on the DS220 series.

POLE TOP TENON (STANDARD)

Pole top tenons are fabricated from structural quality hot rolled carbon steel with a guaranteed minimum yield strength of 30,000 psi. A pole top plate and tenon of weldable grade hot rolled commercial quality carbon steel is circumferentially welded to the top of the pole shaft. This plate provides an internal weather resistant wiring race-way into the pole top tenon. Standard sizes are either 2.38" O.D. x 4" long (P2) or 4" O.D. x 6" long (P4) steel tubing. See page 1 for other available sizes.

POLE TOP CAP

A removable cap is available as an option to be used in conjunction with drilled shafts for direct luminaire arm attachment.

STANDARD FINISH

Standard finishes available are galvanize, prime coat (powder), and finish coat (powder). For information regarding the scope and application of these coatings please refer to page 5.

FASTENING HARDWARE

All structural fasteners are galvanized high strength carbon steel. All fasteners are galvanized or zinc plated carbon steel or stainless steel.

DESIGN

The standards shown in this section are designed to withstand dead loads and theoretical dynamic loads developed by variable wind speeds, as charted, with an appropriate gust factor under the following conditions:

The luminaire(s) and/or mounting bracket(s) center of gravity, or centroid, is assumed to be located a maximum of 2'-6" above the pole top. For purposes of design, effective projected area (EPA) is considered to be the product of the actual projected area and the drag coefficient.

The listed weights include luminaire(s) and/or mounting bracket(s) and are based on a weight to EPA ratio of 25 pounds per square foot.

The wind velocities are based on 10 mph increments from 80 mph through 100 mph (reference wind map). Standards to be located in areas of known abnormal conditions require special consideration. For example: coastal areas, airports, and areas of special winds such as the Chinook type along the eastern slope of the Rocky Mountains.

Standards are designed for ground mounted applications. Standards mounted on structures, such as bridges and buildings, also necessitate special consideration requiring Valmont’s recommendation.

Height correction factors and drag coefficients are applied to the entire structure. An appropriate safety factor is maintained based on the minimum yield strength of the material incorporated in the standard. Secondary moments are considered on all designs.

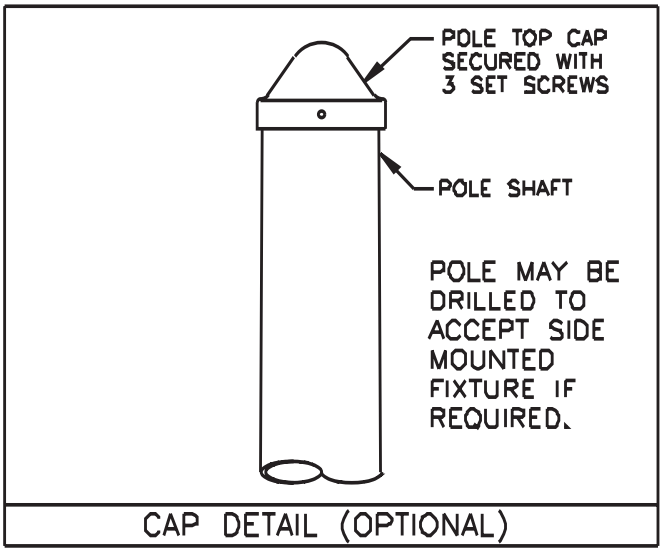
Maximum weight and EPA values for DS220 products are determined by analyzing stress from two wind directions as shown. Due to the increased area and reduced section properties, stress levels across the points generally control the allowable loads.

Valmont Industries, Inc. reserves the right to install various, engineer approved, material hanging accommodations to facilitate the manufacturing process. If this method is not acceptable, Valmont Industries, Inc. must be notified by the customer prior to manufacturing.

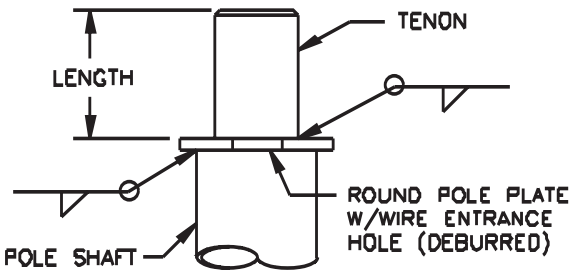
Nominal Mounting Height (ft)	Shaft					Pole Base				Anchor Bolts	80MPH w/1.3 Gust		90MPH w/1.3 Gust		100MPH w/1.3 Gust	
	Designation Number	Base O.D. (in)	Top O.D. (in)	Wall Thk. (ga)	Struct. Weight (lbs)	Bolt Circle Dia. (in)	Bolt Circle ± (in)	Square (in)	Thk. (in)	Dia. x Lngth. x Hk. (in)	Max. EPA (ft^2)	Max. Weight (lbs)	Max. EPA (ft^2)	Max. Weight (lbs)	Max. EPA (ft^2)	Max. Weight (lbs)
20	**590A200-P2	5.9	3.1	11	140	9.0	.5	10.00	0.88	1.00 x 36 x 4	19.3	482	15.1	377	12.2	305
	650A200-P2	6.5	3.7	11	160	9.5	.5	10.50	0.88	1.00 x 36 x 4	24.2	605	19.3	482	15.6	390
25	**590A250-PL	5.9	2.4	11	155	9.0	.5	10.00	0.88	1.00 x 36 x 4	12.5	312	9.9	247	8.0	200
	700A250-P2	7.0	3.5	11	200	10.0	.5	10.88	0.88	1.00 x 36 x 4	20.3	507	16.2	405	13.1	327
	700E250-P2	7.0	3.5	7	280	10.0	.5	10.88	1.00	1.00 x 36 x 4	30.5	760	24.0	625	19.8	495
30	660A300-PL	6.6	2.4	11	200	9.5	.5	10.50	0.88	1.00 x 36 x 4	11.7	292	9.3	232	7.5	187
	800A300-P2	8.0	3.8	11	265	11.0	.5	11.50	0.88	1.00 x 36 x 4	18.9	473	14.9	373	12.0	300
	800E300-P2	8.0	3.8	7	380	11.0	.5	11.50	1.25	1.25 x 42 x 6	33.5	838	27.0	675	22.0	550
35	730A350-PL	7.3	2.4	11	250	10.5	.5	11.25	0.88	1.00 x 36 x 4	11.2	280	8.9	222	7.1	177
	850A350-P2	8.5	3.6	11	315	11.5	.5	12.00	1.00	1.00 x 36 x 4	18.9	472	15.1	377	12.2	305
	950A350-P2	9.5	4.6	11	370	13.0	.5	13.00	1.00	1.00 x 36 x 4	23.2	580	18.2	455	14.5	363
39	782A389-PL	7.8	2.4	11	285	11.0	.5	11.50	0.88	1.00 x 36 x 4	10.7	267	8.5	212	6.6	165
	900A389-P2	9.0	3.6	11	355	12.5	.5	12.38	1.00	1.00 x 36 x 4	17.2	430	13.5	338	10.8	270
	900E389-P2	9.0	3.6	7	515	12.5	.5	12.38	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
45	T00A450-P2	10.0	3.7	11	450	13.5	.5	14.00	1.00	1.00 x 36 x 4	17.4	435	13.5	338	10.6	265
	T00E450-P2	10.0	3.7	7	650	13.5	.5	14.00	1.25	1.25 x 42 x 6	28.5	715	23.0	575	19.0	475
	E00E450-P4	11.0	4.7	7	780	15.0	.5	16.50	1.50	1.25 x 42 x 6	35.7	893	28.0	700	22.3	558
50	T00A500-P2	10.0	3.0	11	475	13.5	.5	14.00	1.00	1.00 x 36 x 4	13.2	330	10.6	265	8.3	208
	T00E500-P2	10.0	3.0	7	680	13.5	.5	14.00	1.25	1.25 x 42 x 6	20.5	512	16.5	412	13.6	340
	E00E500-P4	11.0	4.0	7	812	15.0	.5	16.50	1.50	1.25 x 42 x 6	29.9	748	23.5	588	18.6	465
	H00E500-P4	13.0	6.0	7	1020	17.0	N/A	18.00	1.50	1.50 x 54 x 6	50.4	1260	39.7	992	31.4	785
	H00J500-P4	13.0	6.0	3	1335	17.5	N/A	18.50	1.75	1.75 x 84 x 6	69.2	1730	55.0	1375	44.2	1105
55	E00E550-P4	11.0	3.5	7 & 11	890	15.0	.5	16.50	1.50	1.25 x 42 x 6	21.6	540	17.7	442	14.7	367
	W00E550-P4	12.0	4.5	7 & 11	975	16.0	N/A	17.00	1.50	1.50 x 54 x 6	32.2	805	25.9	647	21.1	527
	W504550-P4	12.5	5.2	5 & 7	1225	16.5	N/A	17.50	1.50	1.50 x 54 x 6	43.8	1095	35.0	875	28.6	715
60	W00E600-P4	12.0	4.0	7 & 7	1060	16.0	N/A	17.00	1.50	1.50 x 54 x 6	25.9	647	20.7	517	16.8	420
	H00E600-P4	13.0	4.8	7 & 11	1075	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.1	752	24.5	612	20.2	505
	W504600-P4	12.5	4.5	5 & 7	1275	16.5	N/A	17.50	1.50	1.50 x 54 x 6	34.0	850	27.6	690	22.6	565
65	H00E650-P4	13.0	4.3	7 & 7	1200	17.0	N/A	18.00	1.50	1.50 x 54 x 6	27.3	682	22.0	550	17.9	447
	H004650-P4	13.0	4.3	5 & 7	1400	17.0	N/A	18.00	1.50	1.50 x 54 x 6	30.8	770	24.8	620	20.4	510
70	H00E700-P4	13.0	3.6	7 & 7	1270	17.0	N/A	18.00	1.50	1.50 x 54 x 6	20.6	515	16.7	417	13.7	342
	H004700-P4	13.0	3.6	5 & 7	1440	17.0	N/A	18.00	1.50	1.50 x 54 x 6	23.6	590	19.2	480	15.8	395

DS210 NOTES:

1. **3" x 5" nominal handhole - all others 4" x 6.5" nominal.
2. Structure weight is a nominal value which includes the pole shaft and base plate only.
3. Designs showing two shaft gauges indicates structure is provided as a two-piece, field assembled, unit. Heavier gauge is the bottom section.
4. Maximum weight and EPA values are based on top mounted luminaires and/or brackets having a centroid 2'-6" above the nominal mounting height.

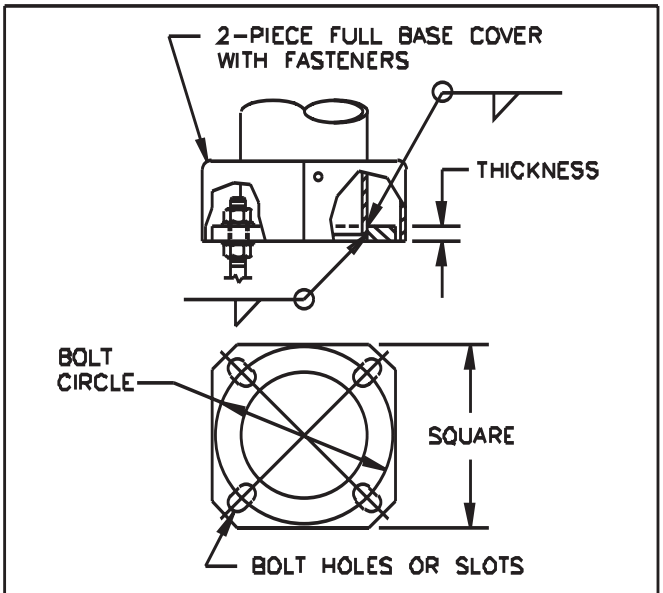


CAP DETAIL (OPTIONAL)

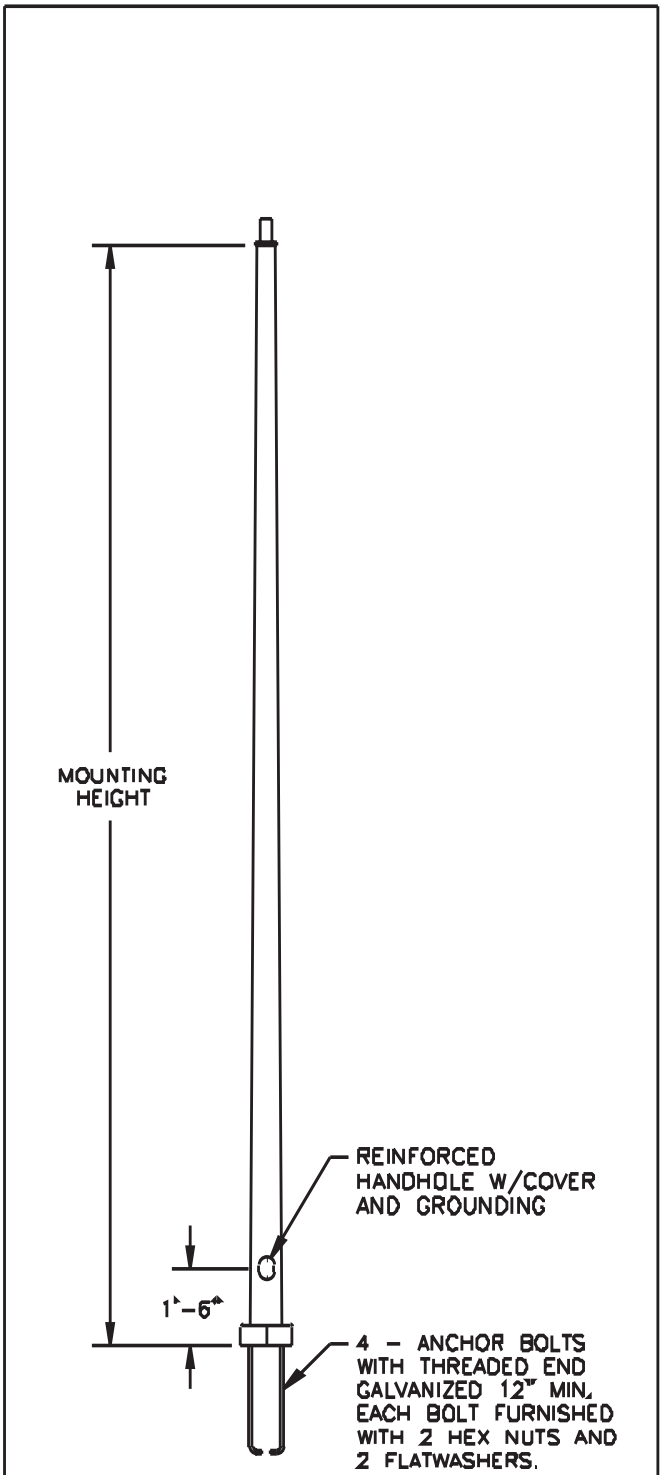


DESIGN NUMBER	O.D. (in)	PIPE SIZE	LENGTH (in)
P2	2.375	2.0" SCHED 80	4
P4	4.000	3.5" SCHED 40	6
PL	2.400	POLE TOP	N.A.

TENON DETAIL (STANDARD)



POLE BASE DETAIL



DS210 POLE DETAIL