



**SUN EARTH INC.**

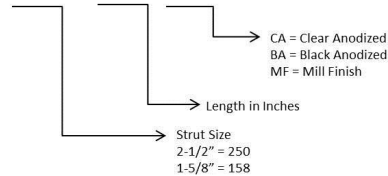
**SUNEARTH SOLAR STRUT ENGINEERING DATA**

**PROPERTIES OF SECTIONS**

I = Moment of Inertia  
 E = Young's Modulus  
 $\sigma_y$  = Yield Stress  
 c = Distance to Centroid  
 L = Strut Length  
 P = Load  
 w = Distributed Load

**Part Number Designation**

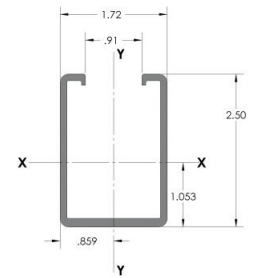
**10070-###-###-XX**



$I_x(in^4)$	$c(in.)$	Solar Strut Size	$E(psi)$	$\sigma_y(psi)$	$I_y(in^4)$
0.625	1.447	2-1/2"	10007604	31183	0.408
0.219	0.955	1-5/8"	10007604	31183	0.287

**2-1/2" Solar Strut**

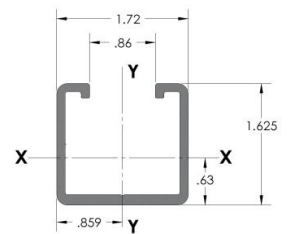
Beam Span(in.)	Maximum Uniform Load(lbf)	Uniform Load at Deflection = L/240 (lbf)	Maximum Fixed Column Load (lbf)	Cantilever Distance (in.)	Maximum Cantilever Uniform Load (lbf)
24	2992	2315	17862	20	897
36	1993	1028	7939	25	717
48	1494	577	4466	30	597
60	1194	367	2858	35	511
72	994	254	1985	40	447
84	851	185	1458	45	397
96	743	140	1116	50	357
108	659	109	882	55	324
120	592	86	714	60	296



Wt. = 0.97 lbs/ft  
 Area = 0.81 in<sup>2</sup>

**1-5/8" Solar Strut**

Beam Span(in.)	Maximum Uniform Load(lbf)	Uniform Load at Deflection = L/240 (lbf)	Maximum Fixed Column Load (lbf)	Cantilever Distance (in.)	Maximum Cantilever Uniform Load (lbf)
24	1588	811	6259	20	476
36	1058	359	2782	25	380
48	793	201	1565	30	316
60	633	127	1001	35	270
72	527	87	695	40	235
84	451	63	511	45	209
96	393	47	391	50	187
108	349	36	309	55	169
120	313	28	250	60	154



Wt. = 0.75 lbs/ft  
 Area = 0.64 in<sup>2</sup>

\*Values listed in the tables above are subjected to a Factor of Safety of 1.5



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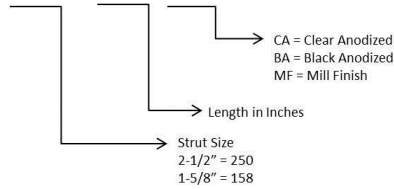
## SUNEARTH SOLAR STRUT ENGINEERING DATA

### PROPERTIES OF SECTIONS

$I$  = Moment of Inertia  
 $E$  = Young's Modulus  
 $\sigma_y$  = Yield Stress  
 $c$  = Distance to Centroid  
 $L$  = Strut Length  
 $P$  = Load

### Part Number Designation

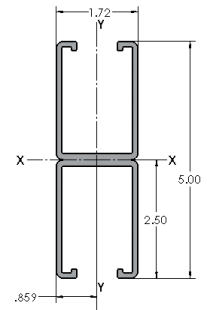
10070-###-###-XX



$I_x(in^4)$	$c(in.)$	Solar Strut Size	$E(psi)$	$\sigma_y(psi)$	$I_y(in^4)$
3.193	2.5	2-1/2" - D	10007604	31183	0.821
1.011	1.625	1-5/8" - D	10007604	31183	0.575

### 2-1/2" - D Solar Strut

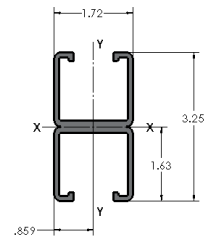
Beam Span(in.)	Maximum Uniform Load(lbf)	Uniform Load at Deflection = $L/240$ (lbf)	Maximum Fixed Column Load (lbf)	Cantilever Distance (in.)	Maximum Cantilever Uniform Load (lbf)
24	8849	11834	91255	20	2654
36	5898	5258	40558	25	2123
48	4423	2956	22814	30	1768
60	3537	1890	14601	35	1515
72	2946	1311	10139	40	1325
84	2524	962	7449	45	1178
96	2207	735	5703	50	1059
108	1961	579	4506	55	963
120	1764	467	3650	60	882



Wt. = 1.93 lbs/ft  
 Area = 1.65 in<sup>2</sup>

### 1-5/8" - D Solar Strut

Beam Span(in.)	Maximum Uniform Load(lbf)	Uniform Load at Deflection = $L/240$ (lbf)	Maximum Fixed Column Load (lbf)	Cantilever Distance (in.)	Maximum Cantilever Uniform Load (lbf)
24	4310	3746	28894	20	1292
36	2873	1664	12842	25	1033
48	2154	935	7223	30	860
60	1722	597	4623	35	737
72	1434	413	3210	40	644
84	1228	303	2359	45	571
96	1074	230	1806	50	514
108	954	181	1427	55	466
120	857	145	1156	60	426



Wt. = 1.49 lbs/ft  
 Area = 1.27 in<sup>2</sup>

\*Values listed in the tables above are subjected to a Factor of Safety of 1.5