

DESIGN GUIDE NO. PA-1: ROOF GUTTERS & DOWNSPOUTS

Gutter Style	Gutter Size (inches)	Gutter Slope (in/ft)	Max Roof Areas for [1]		Max Gutter Capacity (CFS) [4]	Compatible Downspouts - size / cfs [5]									
			P = 0.5" [2]	P = 0.6" [3]		Plain Rectangular		Corrugated Round		Octagonal		Corrugated Square		Plain Rectangular	
BOX OGEE GALVANIZED	5	1/16	1580	1320	0.22	3" 0.15		3" 0.13		3" 0.13		3" 0.17		2"x3"	3"x4"
		1/8	2230	1860	0.31									0.13	0.26
		1/4	3170	2640	0.44									0.13	0.26
	6	1/16	2450	2040	0.34	3"	4"	3"	4"	3"	4"	3"	4"	3"x4"	4"x5"
		1/8	3460	2880	0.48	0.16	0.29	0.14	0.25	0.14	0.26	0.18	0.27	0.27	0.46
		1/4	4900	4080	0.68	0.16	0.29	0.14	0.25	0.14	0.26	0.18	0.27	0.27	0.46
	7	1/16	4250	3540	0.59	4"	5"	4"	5"	4"	5"	4"	5"	4"x5"	5"x6"
		1/8	5980	4980	0.83	0.32	0.5	0.28	0.45	0.28	0.45	0.3	0.48	0.51	0.74
		1/4	8420	7020	1.17	0.32	0.5	0.28	0.45	0.28	0.45	0.3	0.48	0.51	0.74
BOX OGEE ALUMINUM	5 [6]	1/64	633	528	0.09	3" 0.13		3" 0.11		3" 0.13		3" 0.14		2"x3"	3"x4"
		1/32	892	744	0.13									0.11	0.22
		1/16	1260	1050	0.18									0.13	0.22
		1/8	1785	1488	0.25									0.13	0.22
		1/4	2527	2106	0.35									0.13	0.22
	6 [6]	1/64	1094	912	0.15	3"	4"	3"	4"	3"	4"	3"	4"	2"x3"	3"x4"
		1/32	1548	1290	0.21	0.15	0.28	0.13	0.24	0.13	0.23	0.17	0.26	0.13	0.26
		1/16	2188	1824	0.30	0.15	0.28	0.13	0.24	0.13	0.23	0.17	0.26	0.13	0.26
		1/8	3096	2580	0.43	0.15	0.28	0.13	0.24	0.13	0.23	0.17	0.26	0.13	0.26
	1/4	4377	3648	0.61	0.15	0.28	0.13	0.24	0.13	0.23	0.17	0.26	0.13	0.26	
SEMI-CIRCLE	6	1/16	1150	960	0.16	3"	4"	3"	4"	3"	4"	3"	4"	3"x4"	4"x5"
		1/8	1660	1380	0.23	0.12	0.21	0.10	0.18	0.11	0.19	0.13	0.19	0.20	0.33
		1/4	2300	1920	0.32	0.12	0.21	0.10	0.18	0.11	0.19	0.13	0.19	0.20	0.33

- [1] Square feet (max gutter capacity controls)
- [2] 10-year, 5-minute rainfall
- [3] 25-year, 5-minute rainfall
- [4] with 1/2" freeboard. For roof area less than maximum, actual gutter discharge is this value times (actual roof area/maximum roof area)
- [5] Sizes that fit the gutter bottom width and their respective orifice discharge. Select size and number of downspouts that provide discharge equal to or greater than gutter capacity.
- [6] Designers should use caution when planning 1/32 and 1/64 in/ft slopes. Flatter slopes can present additional installation challenges.

