BOX FILL

Max. Number of Conductors in Outlet, Device and Junction Boxes

Box Dimension in Inches Trade Size or Type	Min. Capacity ($in.^3$)	Maximum Number of Conductors						
		No. 18	No. 16	No. 14	No. 12	No. 10	No. 8	No. 6
4 × 1-1/4 round or octagonal	12.5	8	7	6	5	5	5	2
4 × 1-1/2 round or octagonal	15.5	10	8	7	6	6	5	3
4 × 2-1/8 round or octagonal	21.5	14	12	10	9	8	7	4
4 × 1-1/4 square	18.0	12	10	9	8	7	6	3
4 × 1-1/2 square	21.0	14	12	10	9	8	7	4
4 × 2-1/8 square	30.3	20	17	15	13	12	10	6
4-11/16 × 1-1/4 square	25.5	17	14	12	11	10	8	5
4-11/16 × 1-1/2 square	29.5	19	16	14	13	11	9	5
4-11/16 × 2-1/8 square	42.0	28	24	21	18	16	14	8
3 × 2 × 1-1/2 device	7.5	5	4	3	3	3	2	1
3 × 2 × 2 device	10.0	6	5	5	4	4	3	2
3 × 2 × 2-1/4 device	10.5	7	6	5	4	4	3	2
3 × 2 × 2-1/2 device	12.5	8	7	6	5	5	4	2
3 × 2 × 2-3/4 device	14.0	9	8	7	6	5	4	2
3 × 2 × 3-1/2 device	18.0	12	10	9	8	7	6	3
4 × 2-1/8 × 1-1/2 device	10.3	6	5	5	4	4	3	2
4 × 2-1/8 × 1-7/8 device	13.0	8	7	6	5	5	4	2
4 × 2-1/8 × 2-1/8 device	14.5	9	8	7	6	5	4	2
3-3/4 × 2 × 2-1/2 masonry box/gang	14.0	9	8	7	6	5	4	2
3-3/4 × 2 × 3-1/2 masonry box/gang	21.0	14	12	10	9	8	7	2

If one or more cable clamp is in a box, it is counted the same as the largest conductor. A loop of conductor 12 inches or more counts as two conductors.

CONDUCTOR VOLUME ALLOWANCE

Wire Size (AWG)	Volume Each ($In.^3$)	Formula
18	1.50	$V = L \times W \times D$
16	1.75	Volume = Length times width times depth (in cubic inches)
14	2.00	
12	2.25	
10	2.50	
8	3.00	
6	5.00	

To find box size needed, add up total volume for all wires to be used. Then use the volume formula. Example: If total volume of all wires is 420 cubic inches — use an 8 × 10 × 6-inch box = 480 cubic inches.