

TABLE 314.16(A) Metal Boxes

Box Trade Size			Minimum Volume		Maximum Number of Conductors* (arranged by AWG size)							
mm	in.		cm ³	in. ³	18	16	14	12	10	8	6	
100 × 32	(4 × 1¼)	round/octagonal	205	12.5	8	7	6	5	5	4	2	
100 × 38	(4 × 1½)	round/octagonal	254	15.5	10	8	7	6	6	5	3	
100 × 54	(4 × 2¼)	round/octagonal	353	21.5	14	12	10	9	8	7	4	
100 × 32	(4 × 1¼)	square	295	18.0	12	10	9	8	7	6	3	
100 × 38	(4 × 1½)	square	344	21.0	14	12	10	9	8	7	4	
100 × 54	(4 × 2¼)	square	497	30.3	20	17	15	13	12	10	6	
120 × 32	(4⅞ × 1¼)	square	418	25.5	17	14	12	11	10	8	5	
120 × 38	(4⅞ × 1½)	square	484	29.5	19	16	14	13	11	9	5	
120 × 54	(4⅞ × 2¼)	square	689	42.0	28	24	21	18	16	14	8	
75 × 50 × 38	(3 × 2 × 1½)	device	123	7.5	5	4	3	3	3	2	1	
75 × 50 × 50	(3 × 2 × 2)	device	164	10.0	6	5	5	4	4	3	2	
75 × 50 × 57	(3 × 2 × 2¼)	device	172	10.5	7	6	5	4	4	3	2	
75 × 50 × 65	(3 × 2 × 2½)	device	205	12.5	8	7	6	5	5	4	2	
75 × 50 × 70	(3 × 2 × 2¾)	device	230	14.0	9	8	7	6	5	4	2	
75 × 50 × 90	(3 × 2 × 3½)	device	295	18.0	12	10	9	8	7	6	3	
100 × 54 × 38	(4 × 2¼ × 1½)	device	169	10.3	6	5	5	4	4	3	2	
100 × 54 × 48	(4 × 2¼ × 1¾)	device	213	13.0	8	7	6	5	5	4	2	
100 × 54 × 54	(4 × 2¼ × 2¼)	device	238	14.5	9	8	7	6	5	4	2	
95 × 50 × 65	(3¾ × 2 × 2½)	masonry box/gang	230	14.0	9	8	7	6	5	4	2	
95 × 50 × 90	(3¾ × 2 × 3½)	masonry box/gang	344	21.0	14	12	10	9	8	7	4	
min. 44.5 depth	FS — single cover/gang (1¾)		221	13.5	9	7	6	6	5	4	2	
min. 60.3 depth	FD — single cover/gang (2¾)		295	18.0	12	10	9	8	7	6	3	
min. 44.5 depth	FS — multiple cover/gang (1¾)		295	18.0	12	10	9	8	7	6	3	
min. 60.3 depth	FD — multiple cover/gang (2¾)		395	24.0	16	13	12	10	9	8	4	

*Where no volume allowances are required by 314.16(B)(2) through (B)(6).

(1) Standard Boxes. The volumes of standard boxes that are not marked with their volume shall be as given in Table 314.16(A).

(2) Other Boxes. Boxes 1650 cm³ (100 in.³) or less, other than those described in Table 314.16(A), and nonmetallic boxes shall be durably and legibly marked by the manufacturer with their volume(s). Boxes described in Table 314.16(A) that have a volume larger than is designated in the table shall be permitted to have their volume marked as required by this section.

(B) Box Fill Calculations. The volumes in 314.16(B)(1) through (B)(6), as applicable, shall be added together. No allowance shall be required for small fittings such as locknuts and bushings. Each space within a box installed with a barrier shall be calculated separately.

(1) Conductor Fill. Each conductor that originates outside the box and terminates or is spliced within the box shall be counted once, and each conductor that passes through the box without splice or termination shall be counted once. Each loop or coil of unbroken conductor not less than twice the minimum length required for free conductors in 300.14 shall be counted twice. The conductor fill shall be calculated using Table 314.16(B)(1). A conductor, no part of which leaves the box, shall not be counted.

Exception: An equipment grounding conductor or conductors or not over four fixture wires smaller than 14 AWG, or both, shall be permitted to be omitted from the calculations where they enter a box from a domed luminaire or similar canopy and terminate within that box.

(2) Clamp Fill. Where one or more internal cable clamps, whether factory or field supplied, are present in the box, a single volume allowance in accordance with Table 314.16(B)(1) shall be made based on the largest conductor present in the box. No allowance shall be required for a cable connector with its clamping mechanism outside the box.

(3) Support Fittings Fill. Where one or more luminaire studs or hickey are present in the box, a single volume allowance in accordance with Table 314.16(B)(1) shall be made for each type of fitting based on the largest conductor present in the box.

(4) Device or Equipment Fill. For each yoke or strap containing one or more devices or equipment, a double volume allowance in accordance with Table 314.16(B)(1) shall be made for each yoke or strap based on the largest conductor connected to a device(s) or equipment supported by that yoke or strap. A device or utilization equipment wider than a single