

Code Questions For Box Fill (Article 314.16) # 1

- (1) Number of Conductors in Outlet, Device, and Junction Boxes, and Conduit Bodies. Boxes and conduit bodies shall be of sufficient size to provide free space for all enclosed conductors. In no case shall the volume of the box, as calculated in Table 314.16(A), be _____ than the fill calculation as calculated in Table 314.16(B).
- (a) more
(b) the same
- (c) less
(d) none of these
- Art _____
- (2) The volume of a wiring enclosure (box) shall be the total volume of the assembled _____ and, where used, the space provided by plaster rings, domed covers, extension rings, and so forth, that are marked with their volume or are made from boxes the dimensions of which are listed in Table 314.16(A).
- (a) sections
(b) enclosure
- (c) volume
(d) none of these
- Art _____
- (3) Nonmetallic boxes shall be durably and legibly marked by the _____ with their volume.
- (a) supplier
(b) code
- (c) maker
(d) manufacturer
- Art _____
- (4) The volumes in paragraphs 314.16(B)(1) through (B)(5), as applicable, shall be added together. No allowance shall be required for _____.
- (a) small fittings
(b) locknuts
- (c) bushings
(d) all of these
- Art _____
- (5) 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. A conductor, no part of which leaves the box, shall not be _____.
- (a) added
(b) counted
- (c) increased
(d) reduced
- Art _____
- (6) An equipment grounding conductor or conductors or not over four fixture wires smaller than #14 AWG, or both, shall be permitted to be _____ from the calculations where they enter a box from a domed luminaire or similar canopy and terminate within that box.
- (a) omitted
(b) counted
- (c) increased
(d) reduced
- Art _____

(7) 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) shall be made based on the largest _____ present in the box. No allowance shall be required for a cable connector with its clamping mechanism outside the box.

- (a) allowance (c) conductor Art _____
(b) volume (d) enclosure

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

- (a) luminaire (c) box Art _____
(b) conductor (d) picture

(9) For each yoke or strap containing one or more devices or equipment, a double volume allowance in accordance with Table 314.16(B) shall be made for each yoke or strap based on the largest conductor connected to a _____ or equipment supported by that yoke or strap.

- (a) switch (c) fitting Art _____
(b) receptacle (d) device

(10) Where one or more equipment grounding conductors or equipment bonding jumpers enter a box, a single volume allowance in accordance with Table 314.16(B) shall be made based on the largest equipment grounding conductor or equipment bonding jumper present in the _____.

- (a) switch (c) box Art _____
(b) device (d) receptacle

Journeyman Exam: Box Fill Questions # 2

1. A box contains two #14, and two #12 conductors, a single-pole switch and two #12 ground conductors. What size metallic box is required ?
2. A box contains two #6 conductors, one #10 neutral, and two #12 grounds. What size box is required ?
3. A box contains one yolk for a receptacle, one yolk for a switch, two #12 conductors, and there are cable clamps in the box. What is the total cubic inches required for the box ?
4. A box contains:
 - 2 fixture wires
 - 1 fixture stud
 - 1 hickey
 - 3 grounding conductors
 - 6 #14 THW conductors (looped through)
 - 4 #12 THW conductors (2 entering, 2 leaving)
 - 1 pigtail
 - 1 bonding jumper
5. The total cubic inch area equals ?
 - (a) 25-26"
 - (b) 26-27"
 - (c) 27-28"
 - (d) none of these
6. A _____ metal square box will best accommodate the cubic inch total.
 - (a) 4" x 2-1/8"
 - (b) 4-11/16 x 2-1/8"
 - (c) 4" x 1-1/4"
 - (d) 4" x 1-1/2"