

GENERAL INFORMATION

STANDARDS, 2014 NATIONAL ELECTRICAL CODES®

Applications: Steel Boxes

RACO® high-quality steel boxes:

- Are used in branch circuit wiring
- Accommodate wiring devices, such as switches and receptacles
- Most may also serve as fixture supports
- Provide excellent protection for wiring system or devices
- Must be closed with a cover, light fixture canopy or wallplate
- Permit access to conductors for maintenance
- Allow for branch circuit runs
- Provide two-hour fire rating for 4x4 or smaller wall opening

Product Features: Outlet Boxes for Fixture or Fan Support

These high-quality boxes:

- Are listed to support lighting fixture canopies or fans
- Feature oversized #10 screws to provide strength and rigidity

Product Features: TKO® Knockouts

- TKO® knockouts offer greater flexibility with RACO® combination 1/2" and 3/4" knockout
- Stock just one product instead of two or three
- One product for the installer to carry

TKO® Provides Reliable Grounding Path

- Independent tests conducted by UL prove that the TKO passes the same high-current fault test used to test grounding bushings and ground lugs
- RACO® TKO knockout is UL Listed, providing bonding without the use of bonding jumpers
- Suitable for bonding without any additional bonding means around concentric (or eccentric, TKO) knockouts where used in circuits above or below 250V
- This knockout does not impair the electrical connection to ground

Most RACO® Boxes Have At Least One Tapped #10-32 Grounding Hole

- The products that do not have a grounding screw hole are: plenum boxes catalog numbers 226 and 239

Product Features: Combination Screw Heads

- Cover and clamp screws have combination slotted/Phillips heads
- Self-tapping screws provide for 100% thread engagement

Metallic Boxes: Fire Resistance Rating Wall Penetrations*

Listed single- and double-gang metallic outlet and switch boxes with metallic or nonmetallic cover plates, also 4x4 and octagon boxes may be used in bearing and non-bearing wood stud and steel stud walls with ratings not exceeding two hours.

The surface area of individual metallic outlet or switch boxes shall not exceed 16 square inches through a fire rated wall. The aggregate surface area of the boxes shall not exceed 100 square inches per 100 square feet. Boxes located on opposite sides of walls or partitions shall be separated by a horizontal distance of 24 inches.

The metallic outlet or switch boxes shall be securely fastened to the studs, and the opening in the wallboard facing shall be cut so that the clearance between the box and the wallboard does not exceed 1/8 inch.

* Reference: UL Fire Resistance Directory (Orange Book)

Standard Material: Steel Covers, Outlet And Switch Boxes

- Steel boxes and covers are made of .0625 inch thick pre-galvanized sheet steel
- Handy Box covers are made of .030 inch thick galvanized sheet steel

Compliances

RACO® steel boxes and covers generally carry the following compliance ratings. Check specific catalog pages for individual compliances.

- UL Listed – Standard 514-A, file E195978 ("QCIT" Category)
- Boxes and covers are listed for their Electrical Applications (electrical codes), UL Electrical Construction Equipment Online Directory (electrical codes).
- Boxes are listed for Fire Resistance Directory, including the Two-Hour Fire Rating, (building codes) UL Orange Book
- UL Classified Standard – UL263 file R16536, CEYY, QBWY
- CSA Certified – C22.2 #18, CSA File LR-1082
- ANSI/NEMA OS1
- Federal Manufacturer's number 28488



For installation guidelines and to learn more about RACO® products, visit the NEMA website at <http://www.nema.org>.

The National Electrical Manufacturers Association (NEMA) website is a valuable electrical resource providing the information you need - quickly.

RACO® UL Guide Cards

You can download and print out any or all UL Guide Cards issued to RACO®. Just go to the RACO website at www.hubbell-raco.com and click on the UL symbol. Every RACO UL guide card is listed by product category. Click on the live link (right hand column in blue type) and the UL Guide Card will appear. Save to your computer or print it out.

UL Guide Information Pages

UL publishes the most frequently asked questions concerning product ratings, configurations, installations, uses allowed or not allowed, grounding and bonding, and much more. Each UL category has a unique Guide Information Page. Live links to each UL Guide Information Page appears just below the RACO UL guide card for each product category.



4" SQUARE BOXES – WELDED WITH CONDUIT KO'S



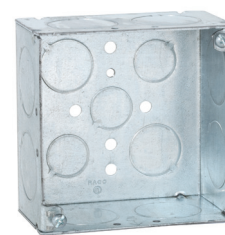
232, 8232



232RAC



231, 8231



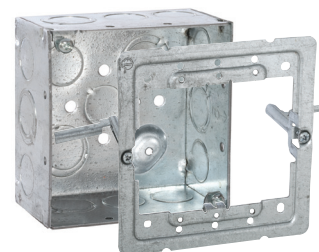
233, 8233



232SM



911-3



232-OW

CAT. #	DESCRIPTION	CUBIC INCHES (CM ³)	KNOCKOUTS		STD. PKG.	BAR CODE
			SIDES CONDUIT	BOTTOM CONDUIT		
4" Square Box, 2-1/8" Deep – Welded with Conduit KO's						
232	600V, Raised Ground	30.3 (496.5)	(8) 1/2", (4) TKO®	(2) 1/2", (2) TKO®	25	—
8232	600V, Raised Ground	30.3 (496.5)	(8) 1/2", (4) TKO®	(2) 1/2", (2) TKO®	25	
232RAC	600V	30.3 (496.5)	(8) 1/2", (4) TKO®	(3) 1/2", (2) TKO®	25	—
231	—	30.3 (496.5)	(8) 3/4"	(1) 1/2", (4) 3/4"	25	—
8231	—	30.3 (496.5)	(8) 3/4"	(1) 1/2", (4) 3/4"	25	
233	—	30.3 (496.5)	(8) 1"	(3) 1/2", (2) 3/4"	25	—
8233	—	30.3 (496.5)	(8) 1"	(3) 1/2", (2) 3/4"	25	
232SM	600V, Raised Ground, 10" #12 Stranded Copper Pigtail	30.3 (496.5)	(8) 1/2", (4) TKO®	(2) 1/2", (2) TKO®	25	
911-3	600V, Painted Red	30.3 (496.5)	(8) 1/2", (4) TKO®	(2) 1/2", (2) TKO®	25	
232-OW	600V, Raised Ground, Old Work, 4" Sq. Box Mounting of One or Two Device Applications	30.3 (496.5)	(8) 1/2", (4) TKO®	(2) 1/2", (2) TKO®	25	

APPLICATIONS

- RACO® Boxes are installed in walls or ceilings for lighting fixtures, switches or receptacles
- Square boxes are used where multiple conductor runs are split into two or more directions to bring power to a number of electrical devices

PRODUCT FEATURES

- Combination screw heads provide for faster installation
- TKO® knockouts offer greater flexibility with RACO patented combination 1/2" and 3/4" knockout
- Red boxes, covers and extensions for dedicated life safety alarm circuits

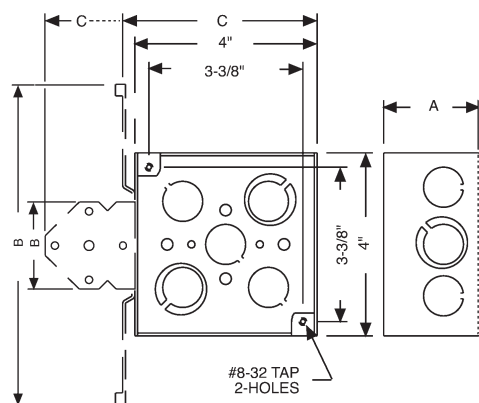
COMPLIANCE

- File E195978
- All RACO single gang, two gang, 4" square, and single gang gangable U.L. listed steel boxes are acceptable for use in 2-hour fire rated walls. For additional information, consult U.L. "Fire Resistance Directory" or the U.L. website at www.ul.com
- **600V** Per U.L. 514-A, suitable for use without a bonding jumper in circuits up to 600 volts

U.S. Patent 7,300,025, B2 (232-OW)

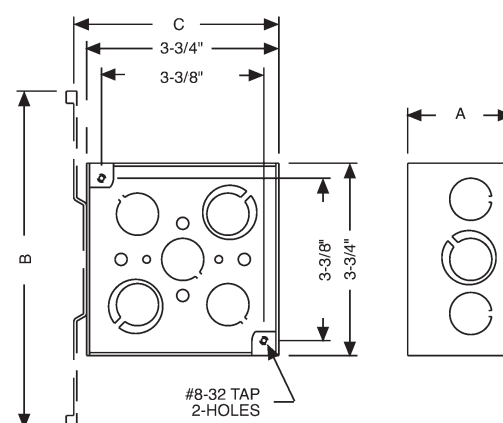
SQUARE BOXES

4" SQUARE CONDUIT BOXES



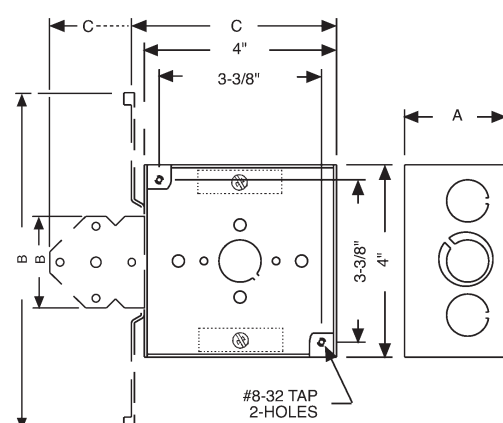
CAT. #	DIMENSIONS		
	A (INSIDE)	B	C
181	1-1/2"	-	-
185	1-1/4"	-	-
187	1-1/2"	-	-
199	1-1/2"	6-7/8"	4-3/8"
202	1-1/2"	-	-
204	1-1/2"	-	-
207	2-1/8"	-	-
226	1-1/2"	-	-
227	1-1/2"	4-5/8"	5-1/2"
236	2-1/8"	7-5/8"	4-3/8"
237	2-1/8"	7-5/8"	4-3/8"
238	2-1/8"	4-5/8"	5-1/2"
239	2-1/8"	-	-
251	2-1/8"	1-31/32"	6"
8197	1-1/2"	7-3/8"	4-3/8"
189, 8189	1-1/2"	-	-
189F	1-1/2"	-	-
189H	1-1/2"	3-1/8"	4-15/16"
189HS	1-1/2"	3-1/8"	4-15/16"
189HWP	1-1/2"	3-1/8"	4-15/16"
189M	1-1/2"	3-1/8"	4-15/16"
189RAC	1-1/2"	-	-
189SM	1-1/2"	-	-
190, 8190	1-1/2"	-	-
191, 8191	1-1/2"	-	-
192, 8192	1-1/2"	-	-
192SM	1-1/2"	-	-
193, 8193	1-1/2"	1-31/32"	6"
196, 8196	1-1/2"	6-7/8"	4-3/8"
201, 8201	1-1/2"	-	-
203, 8203	1-1/2"	-	-
208, 8208	1-1/2"	6-13/16"	5-15/16"
231, 8231	2-1/8"	-	-
232, 8232	2-1/8"	-	-
232F	2-1/8"	-	-
232H	2-1/8"	3-1/8"	4-15/16"
232HS	2-1/8"	3-1/8"	4-15/16"
232HWP	2-1/8"	3-1/8"	4-15/16"
232M	2-1/8"	7"	4-15/16"
232-OW	2-1/8"	-	-
232RAC	2-1/8"	-	-
232SM	2-1/8"	-	-
233, 8233	2-1/8"	-	-
235, 8235	2-1/8"	7"	4-5/16"
911-3	2-1/8"	-	-
911-4	2-1/8"	7-5/8"	4-3/8"
911-6	1-1/2"	-	-
911-9	1-1/2"	-	-

3-3/4" SQUARE CONDUIT BOXES



CAT. #	DIMENSIONS		
	A (INSIDE)	B	C
255	3-1/2"	7-5/8"	3-3/4"
911-1	3-1/2"	7-5/8"	3-3/4"
256	3-1/2"	-	-
911-2	3-1/2"	-	-

4" SQUARE CABLE BOXES



CAT. #	DIMENSIONS		
	A (INSIDE)	B	C
223	1-1/2"	6-7/8"	4-3/8"
224	1-1/2"	1-31/32"	6"
225	1-1/2"	1-31/32"	6"
228	1-1/2"	4-5/8"	5-1/2"
229	1-1/2"	4-5/8"	5-1/2"
242	2-1/8"	-	-
243	2-1/8"	4-5/8"	5-1/2"
248	1-1/2"	-	-
249	2-1/8"	1-31/32"	6"
211, 8211	1-1/2"	-	-
213, 8213	1-1/2"	-	-
213HWP	1-1/2"	3-1/8"	4-15/16"
218, 8218	1-1/2"	6-7/8"	4-3/8"
240, 8240	2-1/8"	7"	4-5/16"
241, 8241	2-1/8"	7"	4-5/16"
248HWP	2-1/8"	3-1/8"	4-15/16"