

**IBC 23-1** - Copyright ©2015 International Code Council, Inc.  
**2308.3.1, 2308.3.2**

**2308.3 Foundations and footings.** Foundations and footings shall be designed and constructed in accordance with Chapter 18. Connections to foundations and footings shall comply with this section.

**2308.3.1 Foundation plates or sills.** Foundation plates or sills resting on concrete or masonry foundations shall comply with Section 2304.3.1. Foundation plates or sills shall be bolted or anchored to the foundation with not less than 1/2-inch-diameter (12.7 mm) steel bolts or *approved* anchors spaced to provide equivalent anchorage as the steel bolts. Bolts shall be embedded at least 7 inches (178 mm) into concrete or masonry. **The bolts shall be located in the middle third of the width of the plate.** Bolts shall be spaced not more than 6 feet (1829 mm) on center and there shall be not less than two bolts or anchor straps per piece with one bolt or anchor strap located not more than 12 inches (305 mm) or less than 4 inches (102 mm) from each end of each piece. Bolts in sill plates of braced wall lines in structures over two stories above grade shall be spaced not more than 4 feet (1219 mm) on center. A properly sized nut and washer shall be tightened on each bolt to the plate.

**Exceptions:**

- ~~1. Along braced wall lines in structures assigned to Seismic Design Category E, steel bolts with a minimum nominal diameter of 5/8 inch (15.9 mm) or approved anchor straps load-rated in accordance with Section 2304.10.3 and spaced to provide equivalent anchorage shall be used.~~
- ~~2. Bolts in braced wall lines in structures over two stories above grade shall be spaced not more than 4 feet (1219 mm) on center.~~

**2308.3.1.1 ~~2308.3.2~~ Braced wall line sill plate anchorage in Seismic Design Category ~~D~~ and E.**

Sill plates along *braced wall lines* in buildings assigned to *Seismic Design Category D* shall be anchored with not less than 1/2 inch diameter (12.7 mm) anchor bolts with steel plate washers between the foundation sill plate and the nut, or approved anchor straps load-rated in accordance with Section 2304.10.3 and spaced to provide equivalent anchorage. ~~Plate~~ Such washers shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16-inch (4.76 mm) larger than the bolt diameter and a slot length not to exceed 1-3/4 inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

**2308.3.1.2 Braced wall line sill plate anchorage in Seismic Design Category E.** Sill plates along *braced wall lines* in buildings assigned to *Seismic Design Category E* shall be anchored with not less than 5/8 inch diameter (15.9 mm) anchor bolts with steel plate washers between the foundation sill plate and the nut, or approved anchor straps load-rated in accordance with Section 2304.10.3 and spaced to provide equivalent anchorage. Plate washers shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16-inch (4.76 mm) larger than the bolt diameter and a slot length not to exceed 1-3/4 inches (44 mm), provided a standard cut washer is placed between the plate washer and the nut.

**Reason:** In the course of reviewing S273-12 during the previous code cycle, the editorial reorganization of Section 2308, two inconsistencies in the foundation anchorage section were identified, however at the time the BCAC did not want to make any changes that could be perceived as technical changes. The **primary** purpose of this proposal is to bring these changes forward.

The first change relocates Exception #2 under Section 2308.3.1, the 4 foot anchor bolt spacing requirement for three-story structures, into the base provision moves from. This move is in keeping with a general philosophy that exceptions should be relaxations to a base provision, not more stringent. The actual implementation of the bolt spacing requirement is not changed.

The second change creates a new subsection specific to anchorage requirements for Seismic Design Category E. The requirements from the existing paragraph on Seismic Design Category D and E are copied, and the language from Exception #1 under Section 2308.3.1 is moved to the new paragraph. At the same time, the existing seismic section is changed so that it only applies to Seismic Design Category D. Both sections will now appear as subsections of the basic foundation sill anchorage requirements.

In addition, the language successfully added last cycle by proposal RB219-13 to Section R403.1.6 of the IRC is brought over to this corresponding section in the IBC. The intent of this language is to clarify the location of the anchor bolts relative to the middle third of the plate. The requirement insures there is adequate distance from the bolts to the edge of the plate such that the anchor bolts can achieve their anticipated capacity without causing the plate to fail in shear parallel to the grain.