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## BUILDINGS BULLETIN 2014-018

### OTCR

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**Supersedes:** Buildings Bulletin 2014-012 dated September 1, 2014

**Related Bulletin(s):** 2010-005 dated March 5, 2010 and 2009-009 dated October 20, 2009

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**Purpose:** This document establishes alternative acceptance criteria for post-installed expansion, undercut and adhesive anchors installed in concrete elements as prescribed in the NYC Construction Codes.

**Related Code Section(s):** BC 1912  
BC 1704.32

**Subject(s):** Concrete, anchors, expansion anchors; Concrete, anchors, undercut anchors; Concrete, post-installed anchors

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**Background:** Post-installed expansion, undercut and adhesive anchors installed in concrete elements are designed in accordance with ACI 318<sup>1</sup> Appendix D as modified by sections BC 1908.1.9 and 1908.1.10. Subsequently, Appendix D requires post-installed expansion, and undercut anchors to be qualified in accordance with ACI 355.2<sup>2</sup> and adhesive anchors to be qualified in accordance with ACI 355.4<sup>3</sup>. This bulletin establishes alternative qualification criteria for post-installed expansion and undercut anchors in concrete.

**Description:** Expansion, undercut and adhesive anchors are defined in ACI 318 Appendix D Section D.1.

**Evaluation Scope:** NYC Construction Codes

**Evaluation Criteria:** Pursuant to section AC 28-113, the Office of Technical Certification and Research (OTCR) recognizes:

- Expansion and undercut anchors tested and evaluated in accordance with ICC-ES AC193 "*Acceptance Criteria for Mechanical Anchors in Concrete Elements*"<sup>4</sup>.
- Adhesive anchors tested and evaluated in accordance with ICC-ES AC 308 "*Post-installed Adhesive Anchors in Concrete Elements*"<sup>5</sup>.

Acceptable expansion, undercut and adhesive anchors shall have an evaluation report issued in accordance applicable ICC-ES Acceptance Criteria and shall comply with the conditions of this bulletin.

**Uses:** Expansion, undercut and adhesive anchors are used to transmit structural loads from one connected element to the other. The evaluation report issued in accordance with ICC-ES AC193 or AC 308 (as applicable) provides qualification criteria for each loading condition.

**Conditions of Acceptance:** Expansion, undercut and adhesive anchors evaluated in accordance with this bulletin shall be designed and installed in accordance with the NYC Construction Codes and the following:

**A. Design**

1. Expansion, undercut and adhesive anchors shall be designed in accordance with ACI 318 Appendix D.

**B. Installation Requirements**

1. Expansion, undercut and adhesive anchors shall be installed in accordance with ACI 318 Appendix D Section D.9, the manufacturer's instructions, the evaluation report issued in accordance with ICC-ES AC 193 or AC 308 (as applicable), and the conditions of this bulletin.
2. Expansion, undercut and adhesive anchors shall be labeled in accordance with 28-113.4 and ICC-ES AC193 Section 2.1.3.

**C. Special Inspection**

1. The installation of expansion, undercut and adhesive anchors shall be subject to special inspection pursuant to section BC 1704.32, 1 RCNY Section 101-06, ACI 318 Appendix D Section D.9 and the evaluation report issued in accordance with ICC-ES AC 193 or AC 308 (as applicable).

- Reference Standards:**
1. ACI 318–11 “*Building Code Requirements for Structural Concrete*” ([www.concrete.org](http://www.concrete.org))
  2. ACI 355.2 “*Qualification of Post-installed Mechanical Anchors in Concrete*” ([www.concrete.org](http://www.concrete.org))
  3. ACI 355.4 “*Qualification of Adhesive Anchors in Concrete*” ([www.concrete.org](http://www.concrete.org))
  4. ICC-ES AC 193 “*Acceptance Criteria for Mechanical Anchors in Concrete Elements*” ([www.icc-es.org](http://www.icc-es.org))
  5. ICC-ES AC 308 “*Post-installed Adhesive Anchors in Concrete Elements*” ([www.icc-es.org](http://www.icc-es.org))