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## BUILDINGS BULLETIN 2014-019

### OTCR

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**Supersedes:** Buildings Bulletin 2014-013 dated September 1, 2014

**Related Bulletin(s):** 2009-021 dated October 29, 2009

**Issuer:** Alan D. Price, P.E.  
Director, Office of Technical Certification and Research

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**Purpose:** This bulletin establishes acceptance criteria for post-installed screw anchors installed in hardened concrete as an alternative material in the NYC Construction Codes.

**Related Code Section(s):** BC 1704.32  
BC 1912.1.1

**Subject(s):** Concrete, Anchors, Screw Anchoring; Post-installed anchors

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**Background:** The NYC Construction Codes requires post-installed anchors installed in hardened concrete to be designed in accordance with ACI 318<sup>1</sup> Appendix D. Screw anchors are outside the scope of Appendix D and therefore requires Department approval as required by section BC 1912.1.1. This Bulletin establishes acceptance criteria for screw anchors installed in hardened concrete.

**Description:** Screw anchoring systems are post-installed, threaded mechanical fasteners placed in predrilled holes in concrete elements. The anchors derive their tensile holding strengths from the mechanical interlock of the fastener threads with the grooves cut into the concrete during the anchor installation.

**Evaluation Scope:** NYC Construction Codes

**Evaluation Criteria:** Pursuant to section AC 28-113, the Office of Technical Certification and Research (OTCR) recognizes screw anchoring systems tested and evaluated in accordance with ICC-ES AC193 "*Acceptance Criteria for Mechanical Anchors in Concrete Elements*"<sup>2</sup>. Acceptable screw anchoring systems shall have an evaluation report issued in accordance with Annex 1 of AC193 and shall comply with the conditions of this bulletin.

**Uses:** Screw anchors are used to resist the loading conditions of static or seismic loads in

tension, shear, or combined tension and shear in cracked and uncracked, low-strength concrete and high-strength concrete. Evaluation reports issued in accordance with AC 193 Annex 1 provide qualification criteria for each loading condition.

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

**A. Design**

1. Screw anchoring systems shall be designed in accordance with ACI 318 Appendix D as modified by ICC-ES AC193 Annex 1.

**B. Installation Requirements**

1. Installation requirements shall be in accordance with the manufacturer's instructions, the applicable evaluation report issued in accordance with ICC-ES AC 193, and the conditions of this bulletin.
2. Screw anchor shall be labeled in accordance with section AC 28-113.4 and as per ICC-ES AC 193 Section 2.1.3.

**C. Special Inspection**

1. The installation of screw anchors shall be subject to special inspections pursuant to section BC 1704.32, 1 RCNY Section 101-06 and the evaluation report issued in accordance with ICC-ES AC 193.

- Reference Standards:**
1. ACI 318 – 11 "*Building Code Requirements for Structural Concrete*". ([www.concrete.org](http://www.concrete.org))
  2. ICC-ES AC193 "*Acceptance Criteria for Mechanical Anchors in Concrete Elements*". ([www.icc-es.org](http://www.icc-es.org))