

**Position Statement:**

It is acceptable to use adhesive anchor systems that have been approved by the Authority Having Jurisdiction under a Research Report (also known as an Evaluation Report) that recognizes compliance with the 2009 International Building Code, with the following modifications and limitations:

- Design and installation shall be in accordance with ACI 318-11.
  - The design equations and installation information provided in previous Research Reports (Evaluation Reports) based on ACI 318-08 shall be disregarded.
  - Updated Research Reports (Evaluation Reports) showing compliance with IBC 2009 but based on design equations from ACI 318-11 shall be accepted.
- Inspection and installation verification testing shall be in accordance with the 2012 IBC with Georgia amendments, ACI 318-11, and ACI 355.4-11.
- This position is valid through Jan 15, 2015, at which time it is understood that new Research Reports (Evaluation Reports) will be re-published showing compliance with the 2012 IBC.

**Background and Rationale:**

The use of adhesive anchors is not explicitly covered by the provisions of the International Building Code (IBC). As such it requires the approval of the Authority Having Jurisdiction (AHJ) when the adhesive anchor can be shown to comply with the intent of the code as is allowed in the Alternative Means of Code Compliance (AMC) provision of the IBC<sup>1</sup>. Additionally, this provision introduces the use of valid Research Reports when they are issued by sources approved by the AHJ, and Test Reports that must be reviewed by the AHJ. (Research Reports are commonly known as Evaluation Reports, and will be referred to herein occasionally as ERs).

The long form history of Evaluation Reports can best be understood by reviewing the white paper submitted at the 2011 SEAoC convention by the SEAoC Evaluation Reports Committee. In summary, the original and sole provider of ERs was ICC Evaluation Services (ICC-ES), a non-profit subsidiary of the International Code Council (ICC). ICC-ES produced "Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements" (AC 308). This document established testing procedures as well as design procedures for post-installed adhesive anchors in concrete elements for current code editions. Manufacturers would have their products tested in accordance with this AC and following the review of this independent testing ICC-ES would issue an ER reflecting the code edition which for a product is

recognized. These reports become the basis by which adhesive anchors are qualified for use, design, installation, and inspection. This was the accepted process up through the 2009 IBC.

With the publication of ACI 318-11, referenced in the 2012 IBC, design and testing provisions of adhesive anchors was finally included in Appendix D. The testing procedure referenced in this document is ACI 355.4-11, which was largely based on AC 308. Due to the schedule of these modifications, ICC-ES was not able to update AC 308 to align with ACI 355.4-11 until June 2013. ICC-ES intends to have design equation compliance in their ERs by January 15, 2014, however they will not have testing compliance ERs published for any adhesive anchors until Jan 15, 2015. With the adoption of the 2012 IBC with Georgia Amendments starting Jan 01, 2014 and a 90 day grace period ending March 31, 2014, a position statement as formulated above would be highly recommended to cover the use of adhesive anchors during a period where there are effectively no code compliant anchors. The continued use of 2009 IBC compliant adhesive anchors per ACI 318-08 is not recommended due to the changes in bond stress parameters and bond strength calculations.

Finally, in response to an expanded AMC market, other organizations now have competing evaluation services to produce Research Reports. As it stands now there are many recognized providers, and generally the ones which are accredited by ANSI per ISO/IEC Guide 65 are also the ones which are commonly accepted by AHJs and Design Professionals in Responsible Charge. There is however currently no code mandated requirement for accreditation.

It is recommended that in addition to the position statement on adhesive anchors, SEAoG also develop a position statement on the use of any post installed anchor (not just adhesive) having a current Research Report from an ISO/IEC Guide 65 accredited provider. This should be discussed in the proper arena where specific uses, requirements, and concerns can be properly brought forward. The common providers for ERs, such as ICC-ES and IAPMO, are in this group, however not all anchor manufacturers are staying current with testing and research reports for every code cycle. This is a concern considering the rate of change in code requirements in this area of AMCs.

1. *It should be noted that because the Georgia Amendments strike chapter 1 of the IBC from the governing document it is the responsibility of the AHJ to not only allow the use of a particular AMC but either adopt back in section 104.11 of the 2012 IBC or provide similar guidelines. Otherwise I am not sure how one would justify the use of any post-installed anchor on a project in the state of Georgia.*