Elyse G. Levy, S.E.
Senior Staff Engineer
ICC Evaluation Service, Inc.
Chicago Regional Office
4051 W. Flossmoor Road
Country Club Hills, IL 60478

January 18, 2010

Subject: Public Comment on ICC-ES AC118 for February 2010 hearing

Dear Ms. Levy:

By means of this letter, Hilti, Inc. would like to submit official public comments on your letter dated December 29th, 2009 regarding proposed revisions to ICC-ES Acceptance Criteria for Tapping Screw Fasteners, AC118.

Below, comments are presented on the proposed draft as they appear in the draft. Some comments are editorial in nature and others are substantial.

1. **Section 1.4.9, Page 4 – On the second line of this section, there are two commas after the word "less".**

2. **Section 2.4, Page 5 – It is unclear what the intent of adding the phrase, "prepared by third-party testing laboratory"? Is this simply meant to distinguish between the tests required to be done by a third party lab and testing to be done at the manufacturing facility or is this a separate requirement?**

3. **Section 3.1, Page 6 – Hilti's position is that the last line of this section is overly restrictive and is not required by the International Building Code (IBC), the International Residential Code (IRC), nor the ASTM standards referenced in ICC-ES AC118. Installation performance of screw fasteners should remain outside the scope of ICC-ES acceptance criteria, unless specifically required by the building code or reference standards.**

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4. **Section 3.3.4, Page 8 – Hilti recommends that this section should include "as necessary" regarding testing per Section 6 of ASTM C 954. It is unreasonable to evaluate a drywall screw fastener to the requirements for a lathing screw fastener as their intended use is different.**

5. **Section 3.8.2, Page 9 – In the portion of the crossed-out text for Section 3.8.1.2 a phi symbol has been added. We do not understand the purpose of this addition and assume it is a typographical error.**

6. **Section 3.9, Page 10 – It is unclear what is intended by the statement, "As a condition of acceptance, the failure of the connection shall not be due to the failure of the screws". Hilti does not believe that this wording is clear as to its purpose. Please clarify.**

7. **Section 3.9.3, Page 11 – Hilti's position that the pullover tests per Section 4.3 (AISI S905) are intended for cold-formed steel connections. This would not be an appropriate test method for evaluating screw fastened sheathing material.**

8. **Sections 3.9.4 and 3.9.5, Page 11 – Hilti does not believe that screw fasteners intended for use for steel deck attachment should be specifically part of ICC-ES AC118. These screw fasteners should be addressed within ICC-ES AC43 if the intended use for the screw fasteners is for steel deck attachment. Including these fasteners in ICC-ES AC118 might create a safety concern if performance data is published that could be used in a steel deck diaphragm system, when the screw fasteners have not been properly tested and evaluated to ICC-ES AC43.**

9. **Table 2, Page 15 – Similar to Sections 3.9.4 and 3.9.5, screw fasteners intended for use in steel deck diaphragm applications should be addressed solely under ICC-ES AC43. For this reason, the 3rd and 4th rows from the bottom of this table should be removed.**

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We look forward to working with ICC-ES in order to create a reasonable and useful acceptance criteria for the evaluation of screw fasteners. We welcome an opportunity to continue our dialogue on ICC-ES AC118 prior to the hearing. Please contact me by phone at (918) 872-5805 or by e-mail at drew.liechti@hilti.com.

Thank you for your consideration.

Regards,

Andrew T. Liechti, P.E.
Technical Services Engineer

cc: William Gould, P.E.
Michael Beaton, P.E.

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January 19, 2010

Elyse Levy, S.E.
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Subject: ICC-ES AC118 Revision Proposal (AC118-0210-R1)

Dear Ms. Levy,

This letter provides our comments on the proposed revisions to ICC-ES AC118 posted to your website on December 29, 2009.

Item 4a on the bottom of page 2 of your cover letter states that ICC-ES applicants have not sought recognition for the use of their fasteners in code-prescribed assemblies. We have an active ICC-ES submittal in which we are seeking recognition for the use of their fasteners in code-prescribed assemblies.

Section 3.9.1 states "As a condition of acceptance, the failure of the connection shall not be due to the failure of the screws." However, failure of a screw is expected when a screw is used for thicker steel connections. Indeed, screw failure is not precluded by the AISI North American Specification for the Design of Cold-Formed Steel Structural Members (S200-07). Therefore, we recommend this sentence be deleted.

We recommend that the cells in **Table 2** under the Propriety Specifications columns and in the prescriptive row columns have the letter "O" inserted in them to designate these as optional. Also, these letters would have a superscript 2 and the added footnote 2 would state "If a proprietary screw has equal or exceeds the characteristics or performance of a non-proprietary screw, it may be used in the code-prescribed assemblies." This is for when a manufacturer would like to use their proprietary screw in a code prescribed assembly such as a wood panel or steel sheathed, cold-formed steel framed shear wall.

Please email me at jellis@strongtie.com or call me at 714-738-2029 with any questions or comments you may have.

Sincerely,
Simpson Strong-Tie Co., Inc.

Jeff Ellis, P.E., S.E. dw/AK
Code Report & Branch Engineering Manager

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January 18, 2010

Ms. Elyse Levy
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RE: AC118-0210R1

Dear Ms. Levy;

The revisions to AC118 are extensive and the new Table 2 is a very good idea. Please consider these comments in the further revisions of the acceptance criteria.

Starting in Section 3.3, the testing laboratory is assigned responsibilities that are not within the scope of laboratory accreditation. Testing laboratories are accredited to conduct specific tests. However, the assessment and evaluation of the resulting data is not within the accreditation of testing laboratory unless it is part of the test method. The evaluation of the test data is the responsibility of a design professional or other person knowledgeable in the subject. These are examples where the laboratory is made responsible for data evaluation:

- Section 3.3.1 – "The testing laboratory shall compare" the dimensional measurements and case depth to the manufacturer specifications.
- Section 3.3.2 – "The testing laboratory shall confirm" that screws are made with material that comply with manufacturer specifications
- Section 3.4.1 – "The testing laboratory shall compare" the dimensions to the manufacturer specifications.
- Section 3.4.2 – "The testing laboratory shall confirm" that screws are produced from materials that comply with the manufacturer specifications.
- Section 3.4.3 – "The testing laboratory shall verify" that the screws comply with the screw manufacturer's specification for mechanical properties.

The testing laboratory issues a test report to be used for confirmation or verification of compliance with a standard through comparison and analysis. The language in these sections should be modified so that the test report can be used by an appropriate party that is responsible for the comparisons and evaluation of compliance.

For tapping screws in compliance with ASTM C954 (screws to attach gypsum to CFS), the "performance" test relies on ASTM C954, Section 10.5. This performance test is installation performance of the fastener, not an installed construction performance. Further, the pull-over and pull-out properties for single fasteners are not demonstrated in an assembly test. This is a stark contrast to the requirements for other types of fasteners.

In Table 2, for IRC prescriptive use, steel-to-steel connections, proprietary screws are subject to connection testing following "Section 3.9, Pull out."

- What is the meaning of the “pull out” notation? Is this interpreted that only pull-out testing is needed? For steel-to-steel framing connections, shear is more often the critical property rather than pull out.
- A proprietary fastener is not required to demonstrate end and edge distance minimums?

Stanley Fastening Systems appreciates the opportunity to comment on this acceptance criteria.

Sincerely,

STANLEY FASTENING SYSTEMS, L.P.

[electronic]

Robert J. Leichti
Compliance Manager, Fasteners