



Fastening Systems

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Mr. Michael O'Reardon
ICC-Evaluation Service
900 Montclair Road, Suite A
Birmingham, AL 35213**RE: AC389-1009**

Dear Mr. O'Reardon;

Please consider these comments in the revision of AC389-1009. The comments are focused on the testing requirements as given in Section 4.2.

The proposed new language requires testing each fastener to be recognized for siding materials attachment. This testing requirement acts as a barrier to substitution of fasteners even though alternate fasteners can be shown by analysis to meet or exceed the tested fastener performance. Fastener pull-through performance as tested using ASTM D1037 for a given material and a nail with flat (or nearly flat) under-head geometry is controlled by the head diameter and head bearing-area ratio. The head bearing-area ratio (R_{BA}) can be calculated from the area of the head (A_{hd}) and the area of the shank (A_{sk}) as,

$$R_{BA} = (A_{hd} - A_{sk})/A_{hd}$$

For a given nominal head diameter, a fastener with a head bearing-area ratio of 0.84 would have greater pull-through resistance than one with head bearing-area ratio of 0.70. Also, a fastener with a larger nominal head diameter and a head bearing-area ratio equivalent to a smaller nail will have a pull-through resistance at least as good as the smaller fastener. Further, it is not necessary to evaluate pull-through for fasteners that may have the same nominal head diameter and head bearing-area ratio but differ in collation, deformation of the shank, or corrosion resistance method. Thus, fastener qualification testing should be based on nominal head diameter and head bearing-area ratio where fasteners with equivalent or greater nominal head diameter and equivalent or greater head bearing-area ratios are equally qualified with respect to pull-through performance unless otherwise tested.

Revision – Ten specimens of each the minimum fastener shall be tested to determine pull-through strength, minimum spacing, and minimum edge and end distances.

Rationale – The testing requirement is improved if it recognizes the main pull-through controlling characteristic of the fasteners, which addresses the need of the report holder to specify other equivalent fasteners, and the needs of builders to make substitutions that will provide equivalent or better performance while meeting installation requirements given by the evaluation report.

I appreciate the opportunity to comment on this acceptance criteria.

Sincerely,

STANLEY FASTENING SYSTEMS, L.P.

[electronic]
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