



To: ICC-ES Evaluation Committee
From: Steven Thorsell, AIA, CSI
Date: February 1, 2008
Subject: Proposed Revisions to the Acceptance Criteria for Water-resistive Barriers, Subject AC38-0208-R1 (ST/MB)

MEMO

A public comment has been received from Mr. Terry Viness of Sto Corp., in a letter dated January 22, 2008, regarding the subject criteria. The comment is posted on our web site and will be available at the Evaluation Committee meeting. There are 4 primary items noted in this letter.

Two of the items are related to the inclusion of the evaluation of air barrier material properties in AC38. Staff's response is that the proposed revisions to AC38 are being made because ICC-ES has received an application for a conversion of legacy reports currently under the scope of AC38. As part of this conversion application the applicant has asked to have air barrier properties included along with the other properties evaluated under AC38. Staff agrees with Sto Corp. that the materials covered under AC212 also function as water-resistive barriers, which is the same as the scope of AC38, however, due to their difference in composition (liquid-applied versus sheet goods) they are covered under separate criteria. Likewise, it is staff's opinion that any additional property recognition should also be contained within the respective criteria. With regards to the inclusion of this same property and test method in AC212, staff would be able to proceed with making these proposed revisions and presenting them to the Committee for consideration upon receipt of an application to make this revision. However, to date we have not received an application with this request. Therefore, staff feels that it is appropriate to proceed with the proposed revisions to AC38.

The other two items noted are related to the proposed referenced test method, ASTM E 2178. One comment is that ASTM E 2178 does not address air leakage under both positive and negative pressures. Since this test is for a material only, it is staff's opinion that this is not an issue, since the issue of performance under positive or negative pressures is a concern for an overall air barrier assembly. The proposed revisions to AC38 are only to establish values for material properties and not an overall assembly and are used widely within industry, as noted in the staff cover letter for AC38-0208-R1.

The other concern is that ASTM E 2178 does not require the use of fasteners with the membranes. Staff's response is similar to the previous comment in that that ASTM E 2178 is a material test only. This is noted in Section 4.1 of ASTM E 2178, which states: "This method does not address the installed air leakage performance of building materials. The installed performance of air retarder materials and air retarder systems in low-rise framed wall

construction is addressed in Specification E 1677.” The effect of fasteners is part of the assessment of the overall assembly which is not in the scope of the proposed revision to AC38. The proposed revision to AC38 does include provisions for installation by requiring the following in Section 2.2: “If the material is to be evaluated as an air barrier material in addition to a water-resistive barrier, installation instructions shall identify specific installation provisions for air barrier material applications.” It must be noted that if this proposed revision is approved, evaluation reports that are issued for use as an air barrier will contain specific language stating that the evaluation is for use as an air barrier material only and that the incorporation of the material as a component of an overall air barrier system is outside the scope of the evaluation report.

With regards to why this proposed revision addresses only the material properties for an air barrier material and not the overall system in which it would be incorporated are two-fold. The design of an overall air barrier assembly is dependent on specific conditions such as site, climate, and construction. Therefore, staff has concerns that it would not be practical to include these in any single acceptance criteria. Allowing the different variations in installation requirements to be addressed by the manufacturer providing installation instructions has been used in other ICC-ES criteria. Furthermore, the inclusion of installed system tests may have the effect of enlarging rather than interpreting code provisions, as the International Energy Conservation Code currently references either an “air barrier material” (Section 402.4.1) or “a moisture vapor-permeable wrapping material” (Section 502.4.3). The code does not yet contain any reference to an overall air barrier assembly.

Thank you for your consideration of the above items.

ST/II