



January 16, 2013

Mr. Bart Berneche, P.E.
ICC-ES
900 Montclair Road, Suite A
Birmingham, AL 35213

Re: Proposed Acceptance Criteria for Vinyl Siding, Subject AC37- 0214-R2

Dear Bart:

I have a concern on the proposed Section 3.2.7.4. The evaluation of foam-plastic-backed vinyl siding over foam plastic sheathing shall be considered outside of the scope of this AC since there are no proposed acceptance criteria and code-compliant installation requirements in the 2012 codes. The proposed wording negates the need for any acceptance criteria since written criteria are not required.

Alternatively, Section 3.2.7.4 could be modified to reference the 2015 IRC, which contains approved installation requirements in RB385-13.

Sincerely,

A handwritten signature in black ink, appearing to read "Borjen Yeh".

Borjen ("B.J.") Yeh, Ph.D., P.E.
Director
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January 14, 2014

Mr. Bart W. Berneche, PE
Senior Staff Engineer
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RE: Proposed revisions to AC37 for February 2014 hearing (Subject AC37-0214-R2).

Dear Mr. Berneche:

Thank you for the opportunity to comment on the above agenda topic. My comment is focused only on proposed new Section 3.2.7.4 repeated immediately below. My comment recommends two options for this section: (1) deletion or (2) replacement. Both of these options offered, as explained below, are consistent with the technical basis for and relevant provisions of the 2009, 2012, and 2015 versions of the IRC.

3.2.7.4 Under the IRC for Foam-plastic-backed Vinyl Siding Installed over Foam Plastic Sheathing:
Recognition under the IRC for foam-plastic-backed vinyl siding installed over foam plastic sheathing can be considered provided justification is submitted to ICC-ES for review and approval.

First, I am pleased that ICC-ES is attempting to address the application of foam-plastic-backed vinyl siding installed over foam plastic sheathing. As you may be aware, I have been involved with research and testing addressing the performance of various claddings applied over foam sheathing, particularly vinyl siding materials and pressure equalization effects. I also was a co-author of the provisions currently in the IRC addressing the application of vinyl siding over foam sheathing. This research and code development work has resulted in a 160% to 270% increase in the performance of vinyl siding when used over foam sheathing because of the adjustment factors now in Section R703.11.2.2 of the 2009 and 2012 editions of the IRC. These adjustment factors are necessary to maintain equivalent or better performance in comparison to vinyl siding installed over solid sheathing separately capable of resisting the wind load, mainly because of differences in the amount of pressure equalization and, therefore, wind load experienced by the vinyl siding and foam sheathing exterior wall covering assembly.

The above performance improvement was achieved by modifying two parameters related to how vinyl siding wind pressure ratings are derived in ASTM D3679 and AC37. These modified values were determined from wind pressure testing of vinyl siding-foam sheathing assemblies and development of consensus among several industries:

1. The pressure equalization factor was increased from 0.36 to 0.7 to account for wind loading on the vinyl siding and foam sheathing exterior wall covering assembly for walls with interior finish of gypsum sheathing (e.g., the wind load on the exterior wall covering assembly is effectively 70% of the total wind load across the entire wall assembly).
2. The pressure equalization factor was increased from 0.36 to 1.0 to account for wind loading on the vinyl siding and foam sheathing exterior wall covering assembly for walls with no interior finish (e.g., the exterior wall covering assembly in this case sees 100% of the wind load acting on the wall assembly because it is the only “layer” on the wall).
3. In addition, the safety factor was increased from 1.5 to 2.0 because the vinyl siding is acting as an integral part of the exterior wall covering assembly, not just as an independent cladding element with the exterior sheathing also independently resisting the wind load.

Thus, the wind pressure rating adjustments in the IRC were developed from the above changes as follows:

Case 1 (Item 1 above): Reduce the standard vinyl siding wind pressure rating by 0.36/0.7 to adjust for higher pressure equalization factor and by 1.5/2.0 to effect an increased safety margin. Thus, $(0.36/0.7) \times (1.5/2.0) = (0.514) \times (0.75) = 0.39$. In other words, only 39% of the vinyl siding’s standard wind pressure rating can be used when it is applied as in Item 1 described above.

Case 2 (Item 2 above): Similarly, for the wall assembly application described in Item 2 above, the reduction factor is: $(0.36/1.0) \times (1.5/2.0) = (0.36) \times (0.75) = 0.27$. Thus, 27% of the vinyl siding’s standard wind pressure rating can be used when it is applied as in Item 2 described above.

Thus, 0.39 and 0.27 are the reduction factors found in the 2009 and 2012 editions of the IRC for applications of vinyl siding over foam plastic sheathing. The standard windload design pressure rating (allowable wind pressure) determined from testing under ASTM D5206 is multiplied by these factors to produce a reduced allowable pressure appropriate for use of vinyl siding with foam sheathing as an exterior wall covering assembly. Since no adjustment was applied prior to the 2009 code, these are effectively a $(1 - 1/0.39) \times 100\% = 156\%$ and $(1 - 1/0.27) \times 100\% = 270\%$ improvement in performance relative to earlier editions of the IRC before this information existed.

The above analysis demonstrates that the IRC adjustment factors are applicable to the allowable wind pressure for any vinyl siding products, regular siding or foam-backed siding, so long as the vinyl siding product’s pressure equalization factor is 0.36 or

greater. Thus, any foam-backed vinyl siding that has a pressure equalization factor of 0.36 or greater should be afforded the ability to use the adjustment factors in the IRC. In fact, this has been the determination in the recently completed development of the 2015 edition of the IRC.

The standard specification for foam-backed vinyl siding, ASTM D7445, specifies that a pressure equalization factor of 0.70 be used for determining design pressure rating. AC308, in current sections 3.2.5.1 and 3.2.5.2 contains this same requirement. AC308 permits determining an alternative pressure equalization factor, which could be less than 0.70, under the procedure in section 3.2.5.3. However, the pressure equalization factor that can be produced by this method is limited, by section 3.2.5.3.4, to not less than 0.36. Thus foam-backed siding will always have a pressure equalization factor that is equal to or greater than 0.36, and the adjustment factors in the IRC are as applicable to foam-backed siding as they are to regular siding. In fact, for any foam-backed siding with a pressure equalization factor greater than 0.36, the IRC adjustment factors are actually conservative; i.e. there is an additional margin of safety built in when they are applied to foam-backed vinyl siding.

There is no other justification needed for the use of foam-backed vinyl siding over foam plastic sheathing. The maximum allowable pressure determined from D5206 testing will be modified by the IRC adjustment factors and the resulting reduced maximum allowable pressure will provide windload resistance performance as good or better than envisioned by the code. **Therefore, the proposed new paragraph 3.2.7.4 creates an unnecessary restriction and should be deleted.**

However, this new paragraph could be used to correct a current imbalance in the code. Currently, any foam-plastic-backed vinyl siding with a pressure equalization factor of greater than 0.36 would be penalized (held to a higher performance standard than regular, non-backed vinyl siding) when used over foam plastic sheathing. This failure to achieve complete equivalency can be readily remedied as follows (also following the exact performance basis upon which the subject IRC provisions are based). **Thus, an alternative, more complete, and more correct version of proposed Section 3.2.7.4 is as follows:**

3.2.7.4 Under the IRC for Foam-plastic-backed Vinyl Siding Installed over Foam Plastic Sheathing: Where the pressure equalization factor is greater than 0.36 for foam-plastic-backed vinyl siding, the adjustment factors in 2012 or 2009 IRC Section R703.11.2.2 shall be permitted to be increased (multiplied) by the following correction factor: PEF/0.36, where PEF is the pressure equalization factor determined for the foam-plastic –backed vinyl siding as applied over solid sheathing separately capable of resisting the wind load.

For example, a foam-plastic-backed vinyl siding product with a pressure equalization factor of 0.6 would correct the IRC Section R703.11.2.2 adjustment factors as follows:

Alternate IRC adjustment factor = (current IRC adjustment factor) x PEF/0.36

For the case with interior gypsum applied to a wall with foam plastic sheathing and foam-plastic-backed vinyl siding on the exterior, the alternate IRC adjustment factor is determined as follows for this example:

$$\text{Alternate IRC adjustment factor} = (0.39) \times 0.6/0.36 = 0.65$$

The above corrections will ensure that foam-plastic-backed vinyl siding products are used over foam plastic sheathing in a manner that is equivalent to and consistently maintains the improved performance levels intended for use of all vinyl siding over foam plastic sheathing.

Please contact me should you have any question regarding this comment. I do not currently plan to attend the February hearing, but hope that these comments will be accepted and implemented as an opportunity to ensure that AC37 accurately represents the technical basis and intent of the IRC.

Sincerely,

A handwritten signature in cursive script that reads "Jay H. Crandell".

Jay H. Crandell, P.E.
Consulting Engineer/Owner



January 17, 2014

Bart Berneche, P.E.
Senior Staff Engineer
ICC Evaluation Service, Inc.

Re: Proposed Revisions to the Acceptance Criteria for Vinyl Siding, Subject
AC37-0214-R2 (BB/DP)

We would like to request staff and committee consideration of the following comments on the proposed revisions to AC37. While the suggestions from the AWC July 2013 letter were not incorporated into this latest revision, the issues raised are repeated here to focus on the two issues of concern. These are: 1) the need to clarify applicable installation requirements for installations of vinyl over foam sheathing and 2) compliance with wind resistance provisions of the IRC.

Installation:

a) Revise section 3.1.3.3 as follows to address consistency between installation requirements of R703.11.2 and manufacturer's installation instructions per R703.11.1:

3.1.3.3 Under the IRC, for Unbacked Vinyl Siding Installed over Foam Plastic Sheathing: Where the basic wind speed (3-second gust) does not exceed 90 mph (40 m/s), Exposure Category B, installation of the vinyl siding ~~and over~~ foam plastic sheathing shall comply with the prescriptive requirements of 2012 or 2009 IRC Section R703.11.2.1, as applicable, and the manufacturer's installation instructions in accordance with R703.11.1. Recognition can be extended to installations under the 2006 IRC.

Where the basic wind speed (3-second gust) exceeds 90 mph (40 m/s), or the Exposure Category is C or D, allowable negative wind pressures for the wall covering assembly conditions noted in 2012 or 2009 IRC Section R703.11.2.2, as applicable, shall be determined by multiplying the allowable wind pressures of the vinyl siding, determined in accordance with Section 3.1.3.1, by the adjustment factors in 2012 or 2009 IRC Section R703.11.2.2, as applicable. Installation of the vinyl siding over foam plastic sheathing shall comply with the manufacturers installation instructions in accordance with R703.11.1. Recognition can be extended to installations under the 2006 IRC.

Reason: Compliance with the manufacturer's installation instructions in accordance with R703.11.1 is added. We believe they are applicable and also necessary to avoid potential non-conservative conflicts with the fastening prescribed R703.11.2.1. For example, the manufacturer's installation instructions may require nail spacing closer than the 16" o.c. spacing prescribed in R703.11.2.1, or nail penetration into framing greater than 1-1/4", or nail diameter greater than 0.120", or head diameter greater than 0.313".

Where the basic wind speed exceeds 90 mph, provisions of R703.11.2.2 are applicable but there are no prescribed installation instructions. In the absence of prescribed installation instructions to address fastener spacing, substrate penetration, diameter, etc., reference to the manufacturer's installation instructions is added so that adjusted design wind pressure ratings in R703.11.2.2 are associated with known installation requirements. The proposed new sentence provides this missing link back to the installation conditions upon which the

recognition is based (i.e., a fastening schedule having the same fastener spacing, substrate penetration, diameter, etc., as that required for installations over solid structural sheathing).

b) Add new Section 5 to clarify that evaluation report recognition of wind resistance of vinyl siding installed over foam sheathing apply to installations that comply with the manufacturer's installation instructions or the evaluation report:

5.0 EVALUATION REPORT RECOGNITION

5.1 When recognition includes vinyl siding installed over foam plastic sheathing in accordance with R703.11.2, the evaluation report shall include a statement that "Installation of vinyl siding over foam plastic sheathing shall be in accordance with the manufacturer's written installation instructions, this report and the IRC. In case of conflict between any of these requirements, the most restrictive governs."

Reason: The proposed addition clarifies the requirement for installation over foam plastic sheathing to comply with the manufacturer's installation instructions, the evaluation report and the IRC. The second sentence coordinates evaluation report recognition with potentially conflicting requirements between these documents. It is the intent of the proposed language to ensure that report recognition for wind resistance is associated with known installation requirements.

Wind Resistance:

a) Revise section 3.1.3.3 as follows to address compliance with wind resistance provisions of the IRC:

3.1.3.3 Under the IRC, for Unbacked Vinyl Siding Installed over Foam Plastic Sheathing: Where the basic wind speed (3-second gust) does not exceed 90 mph (40 m/s), Exposure Category B, installation of the vinyl siding and foam plastic sheathing shall comply with the prescriptive requirements of 2012 or 2009 IRC Section R703.11.2.1, as applicable. **In addition, for recognition under IRC R703.11.2.1, the wind resistance shall comply with IRC Section R703.1.2.** Recognition can be extended to installations under the 2006 IRC.

Reason: The basic wind resistance provisions of R703.1.2 are also applicable to all exterior coverings (including vinyl siding) and should be considered in the product evaluation. Nothing in R703.11.2 exempts such applications from also being evaluated for compliance with the basic wind resistance provisions of IRC R703.1.2, which read as follows: "Wall coverings, backing materials and their attachments shall be capable of resisting wind loads in accordance with Tables R301.2(2) and R301.2(3)....." The applicable negative pressure wind load from Table R301.2(2) for wall zone 5, 10 psf effective wind area, and 90 mph wind speeds is 19.5 psf. The minimum requirement for the average maximum sustained test pressure for vinyl siding in accordance with Annex A1 of ASTM D 3679 is 15.73 psf which is only 80% of the wind load. For installations of vinyl over sheathing capable of resisting the full positive and negative wind pressures, it is expected that a safety factor of 1.5 is maintained. For installations where the vinyl and its fastenings are intended to structurally secure the foam sheathing to the studs for resistance to wind, it is expected that a safety factor of 2.0 is maintained. For these wind performance levels, an evaluation in accordance with R703.1.2 would result in a required average maximum sustained test pressure for vinyl siding of approximately $1.5 \times 19.5 = 29.3$ psf or $2.0 \times 19.5 = 39$ psf. Products at the minimum 15.73 psf requirement levels of ASTM D3679 are at approximately 40% to 53% of the expected performance targets. Inclusion of reference to R703.1.2 enables proper wind resistance evaluations per current code requirements and allows for exclusion of under-performing product from evaluation report recognition.

b) Revise section 3.1.3.3 as follows to address compliance with wind resistance provisions of the IRC:

3.2.7.4 Under the IRC for Foam-plastic-backed Vinyl Siding Installed over Foam Plastic Sheathing:

Recognition under the IRC for foam-plastic-backed vinyl siding installed over foam plastic sheathing can be considered provided justification is submitted to ICC-ES for review and approval. Justification shall include demonstration of compliance with wind resistance provisions of R703.1.2. Installation of the vinyl siding over foam plastic sheathing shall comply with the manufacturer's installation instructions.

Reason: Evaluation of this product is subject to requirements of R703.1.2 for wind resistance. This should be explicitly stated in Section 3.2.7.4. While R703.11.2 prescribes requirements that shall be complied with for installations over foam sheathing, nothing in R703.11.2 waives this basic wind resistance requirement. Also, as noted previously, R703.11.2.2 provides no installation requirements to account for installations over foam sheathing and provisions of R703.11.2.1 provide fastener requirements and minimum foam sheathing thicknesses, but they may conflict with manufacturer's requirements.

c) Change the title of Section 3.2.7.3 to read as follows:

3.2.7.3 Under the IRC for Foam-plastic-backed Vinyl Siding Installed Over Solid Sheathing, with the Sheathing Resisting the Full Positive and Negative Design Wind Pressures:

Reason: For consistency with similar changes to the titles of Sections 3.1.3.1, 3.1.3.2, and 3.2.7.2.

Thank you for the opportunity to comment.

Sincerely,

Philip Line, P.E.

Director, Structural Engineering



David S. Johnston
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16 January 2014

Bart W. Berneche, PE
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Birmingham, AL 35213

Re: Proposed Revisions to the Acceptance Criteria for Vinyl Siding, Subject AC37-0613-R2

Dear Mr. Berneche:

Following are comments submitted by the Vinyl Siding Institute, Inc. on the proposed revisions to AC37.

We appreciate the changes made in response to our comments on the first proposed revision. We agree that these changes will make the Acceptance Criteria clearer and more comprehensive, and more likely to lead to uniform and technically sound treatment of all vinyl siding products. Our comments below pertain to remaining issues that still need refinement, or issues not fully resolved by the proposed changes.

- **3.1.3.1 and 3.1.2.3, Wind loads under the IBC and IRC:** We agree that the restructuring of section topics is more logical and easy to follow. However, the term “solid sheathing” should not be used in the section heading for these two sections. This term is unnecessary, since the remaining words of the heading – “Sheathing Resisting the Full Positive and Negative Design Wind Pressure” fully describe the sheathing to which these sections are applicable. “Solid sheathing” is not defined in this AC nor in any of the ICC codes, and its use in the past has created confusion. Taken literally it would appear to apply to any sheathing that is neither liquid nor gas, which is probably not the intent!

Similarly, since the overall section heading of section 3.1 is “Unbacked Vinyl Siding”, it is unnecessary to repeat those words in the headings for 3.1.3.1 and 3.1.3.2. Therefore, to avoid unnecessary and ambiguous words in the headings, we suggest revising them to read “Under the IBC [IRC] for Installation over Sheathing Resisting the Full Positive and Negative Wind Pressures”.

Finally, all references to “solid” sheathing in all paragraphs under sections 3.1, 3.2 and 3.3 should be deleted. Minor adjustments for syntax may be needed in some cases, but the confusing and unnecessary use of “solid” sheathing must be removed from the AC.

- **3.1.3.1 and 3.1.2.3, reference to manufacturer’s instructions:** Both the IBC (section 1405.14.1) and the IRC (section R703.11.1) state unequivocally that vinyl siding shall be installed in accordance with the siding manufacturer’s instruction. The prescriptive requirements outlined in both codes are applicable “unless otherwise specified in the approved manufacturers’ instructions” (IBC, 1405.14.1); the IRC has similar language

indicating that the prescriptive requirements defer to the manufacturer installation instructions.

Because ASTM D3679 requires vinyl siding to pass a D5206 test at a minimum pressure corresponding to 110 mph, the installation details validated by the test will always be adequate for the default, prescriptive conditions specified by the code. In practice, the standard installation specified in the instructions for most vinyl siding is the same or similar to that specified by the code, so this frequently makes no difference. Nevertheless, AC37 should correctly reflect the provisions of the code by referencing the manufacturers' instructions.

Therefore we recommend the following modification to the pertinent parts of sections 3.1.3.1 and 3.1.3.2:

3.1.3.1: "...installation shall comply with the manufacturer's instructions and the prescriptive requirements of 2012 IBC section 1405.14 , 2009 IBC section 1405.14 or 2006 IBC section 1405.13, as applicable."

3.1.2.3: "...installation shall comply with the manufacturer's instructions and the prescriptive requirements of IRC section R703.11.1 and Table R703.4, as applicable."

- **3.1.3.1, acceptable sheathings (third paragraph):** The second sentence of this paragraph is unnecessary and inappropriate. IBC section 1405.4.1 simply states that vinyl siding must be installed over sheathings recognized by IBC section 2304.6, which sets forth the sheathing types that are acceptable for construction of any building under the IBC. Thus vinyl siding can be used over any sheathing that has been approved by the code official under the IBC; application is not limited to 100 mph/40 ft. Furthermore, there is nothing in the IBC that says that the sheathing must be "solid", and as noted above, this term is superfluous and causes nothing but confusion. Therefore, at minimum the second sentence of this paragraph should be deleted in its entirety.

The second paragraph of Section 3.1.2.3 for the IRC addresses this topic the right way, and the same language should be carried over to the coverage for the IBC. The third paragraph of section 3.1.3.1 should be changed to read:

Positive wind loading is not considered since the siding must be applied over ~~solid~~ sheathing capable of independently resisting design wind pressures. The wind load rating for the siding is applicable where siding is applied over sheathing capable of independently resisting full design wind pressures, both positive and negative.

- **3.1.3.3, use over foam sheathing:** Since this section pertains to application of siding under the IRC, the reference to determination of allowable wind pressure in the second paragraph should be to section 3.1.3.2, rather than 3.1.3.1.
- **3.2.3, Exception:** Since this exception pertains to a provision in ASTM D3679 which addresses the vinyl portion of foam-backed siding, the exception should be located under section 3.2.2.
- **3.2.7.2 and 3.2.7.3, section headings:** These sections have a parallel application to sections 3.1.3.1 and 3.1.3.2 for unbacked vinyl siding. The section headings should therefore be identical: the reference to "solid sheathing" should be removed, and the unnecessary repetition of the type of siding covered by the section should be eliminated, and the heading

for the IRC should be the same. To be specific, the headings should read: “Under the IBC [IRC] for Installation over Sheathing Resisting the Full Positive and Negative Wind Pressures”.

- **3.2.7.2 and 3.2.7.3, reference to manufacturer’s instructions:** The same language recommended for 3.1.3.1 and 3.1.3.2 is applicable here. Note that IRC section R703.11.1 applies to all vinyl siding, including foam-backed vinyl siding.
- **3.2.7.3, second paragraph:** The revised wording you have proposed for the first sentence of the second paragraph of 3.1.3.2 is good, and should also be applied to 3.2.7.3. Further, the “as applicable” is unnecessary in the context.
- **3.2.7.4, use over foam sheathing:** We recognize the gesture made in response to our earlier comments, but the proposed change is still inadequate and inconsistent with the code, as well as with the technical background of the IRC provisions. ICC-ES staff has been provided with technical information demonstrating the viability of the use of foam-backed siding over foam-plastic sheathing under the provisions of IRC section R703.11.2, and has not suggested any technical reason why this should not apply. The proposed section 3.2.7.4 would introduce a new restriction on the use of vinyl siding; one which is not present in the code. In proposing such a significant change, it is incumbent on staff to produce solid justification together with compelling evidence of a problem sufficient to override the code. No such effort has been made.

There is no basis in the IRC for limiting application of section R703.11.2 to unbacked vinyl siding. The code does not differentiate between backed and unbacked vinyl siding; both are considered to be, and treated by the code as, “vinyl siding.” Both are required to be third-party certified under ASTM D3679. AC37 implicitly acknowledges this by including both forms of vinyl siding under the same acceptance criteria, and ICC-ES has issued Evaluation Reports that provide recognition for both within the same report. Indeed, even these proposed revisions to AC37 treat foam backed siding as a form of vinyl siding, subject to the same rules and conditions for determining acceptable wind loads when used over sheathing capable of resisting all wind pressures. It is only when used over foam sheathing that the proposal attempts – without justification – to impose an artificial difference between backed and unbacked siding.

In fact, in the recently-completed revision cycle for the 2015 IRC, new provisions were added for insulated vinyl siding, which is treated by the code as a distinct product category but which is physically the same as foam-backed vinyl siding. An explicit provision was added to section R703.11.2 stating that the provisions of that section are applicable to insulated vinyl siding. Were there any technically justified reason to withhold this coverage from foam-backed siding, this new provision would not have passed.

As for any vinyl siding, wind load testing must be conducted to determine the maximum allowable wind pressure (design pressure rating), and documentation of such testing must be submitted for all vinyl siding. This rating is directly and fully applicable when that siding is used over sheathing capable of resisting all wind pressures. As called for by section R703.11.2 for any vinyl siding, that rating must be reduced by a specified adjustment factor when the siding is used over foam sheathing.

The proposed provision is not consistent with the recognition of foam-backed vinyl siding in ESR 1083. This issue came up during remedial correction of errors made by ICC-ES in preparation of this and several other ESRs. As a courtesy to ICC-ES staff, the siding manufacturer and VSI arranged for Jay Crandell, PE, who did the original engineering that led to the IRC provisions for use of vinyl siding over foam sheathing, to explain the principles behind the provisions and their applicability to all vinyl siding, including foam-backed siding. Mr. Crandell cited examples of how those provisions applied to the products covered by the ESR, but was very clear about the fact that they applied uniformly to all foam-backed siding.

Mr. Crandell also explained that, because the original engineering assumed that the vinyl siding had a pressure equalization factor (PEF) of 0.36, the adjustment factors are actually unnecessarily conservative for a siding that has a PEF greater than 0.36. Foam-backed siding has a default PEF of 0.70. Thus an additional margin of safety, beyond that for unbacked vinyl siding, is provided when foam-backed siding is used over foam sheathing.

ICC-ES staff indicated that they understood and were satisfied by the explanations given, and recognition of foam-backed siding under ESR 1083 proceeded.

Mr. Crandell has reiterated his explanations in separately-submitted comments, so I will not repeat them, but I will be present for the Evaluation Committee hearing and would be happy to provide any clarification needed.

There is thus no basis for requiring some kind of special justification for the use of foam-backed siding over foam sheathing. The information already provided to, and accepted by, ICC-ES is not unique to the siding in ESR 1083, but is applicable to all foam-backed siding that is otherwise eligible for recognition. There is no other explanation beyond that provided by Mr. Crandell that would be different for any particular product.

Therefore, coverage in the revised AC37 for foam-backed vinyl siding used over foam-plastic sheathing, section 3.2.7.4, should be identical to that in proposed section 3.1.3.3, except for substitution of “foam-backed vinyl siding” for “unbacked vinyl siding”.

- **3.3.1, Applicability of alternative PEF:** As discussed above, use of foam-backed siding over foam sheathing differs from its use over sheathing capable of resisting all wind loads only in that adjustment factors are applied to the maximum allowable pressure rating for the siding. The maximum allowable pressure is determined through application of a pressure equalization factor (PEF) to the average maximum test pressure from D5206 testing. For foam backed siding, the default PEF is 0.70, but section 3.3 allows for determination of an alternative PEF.

There is no reason that an alternative PEF is not applicable to foam-backed siding that may end up installed over foam sheathing. The PEF is an indication of the permeability of the siding, which is not affected by the nature of the sheathing under it, and is simply used to determine the percentage of the wind load that is actually applied to the siding. Where the siding is, in fact, used over foam sheathing, the additional load is accounted for by application of the adjustment factors in the IRC. Therefore, section 3.3.1 should be revised to read:

3.3.1 General: This Section (Section 3.3) applies for establishment of an alternate value for PEF (pressure equalization factor), for installations under the IBC and IRC for foam-

plastic-backed vinyl siding installed over solid sheathing, with the sheathing resisting the full positive and negative design wind pressures. Testing shall be conducted as described in this section of the criteria.

The above recommendations are made to ensure that AC37 is as clear as possible and more likely to be uniformly applied to all vinyl siding products, in a manner consistent with the requirements of the codes and the best engineering information available. We hope that you will make further modifications accordingly.

I do plan to be at the Evaluation Committee meeting in February, but I would be happy to answer any questions, or discuss potential revisions, before that time, so please feel free to contact me.

Sincerely,

David S. Johnston
Senior Director, Technical
Vinyl Siding Institute, Inc.