



May 18, 2009

Mr. Mike Beaton, P.E.
ICC-ES
5360 Workman Mill Road
Whittier, CA 90601

Re: Acceptance Criteria for Surface-Applied Fire-Retardant Coatings; Subject AC363-0609-R1

Dear Mike:

I have some comments on this draft AC for your consideration.

In Section 3.3.1, the surface coating is required to have no detrimental effect on the flexural performance of the wood substrate. There are some questions that arise from this requirement:

- a) What if there is a treatment effect? This AC does not provide a solution
- b) Is the flexural performance that demonstrates no detrimental treatment effect sufficient to ensure the expected performance of the treated product? Taking the structural composite lumber (SCL) as an example, most SCL's are used as beams and headers in edgewise applications. Therefore, not only flexural, but shear and connection properties are critical to the successful end uses. SCL's are also used as I-joist flanges. Therefore, the tension property is crucial. Unfortunately, the correlation between SCL tension and bending is very weak. Therefore, it is questionable if the flexural tests alone are sufficient to ensure the expected performance of the treated product. I suggest the properties required for evaluation be expanded to include those properties such as shear, tension, and connections.

In addition, the condition of acceptance (Line 122) states that "*the samples exposed to elevated temperatures shall have design values equal to or better than those of the control samples.*" It is important to realize that some manufacturers might publish their design values very conservatively. Therefore, the comparison of the test values from treated specimens to the published design values for the purpose of evaluating the treatment effect may be meaningless. Depending on how conservative the design values are published, the real treatment effect might not be detected through this comparison. I suggest the following changes to Lines 122 through 126:

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Page 2 of 2
May 18, 2009

Conditions of Acceptance: The samples exposed to elevated temperatures shall have ~~design~~ the mean test values at the upper 95% confidence interval equal to or better than those ~~the mean test values~~ of the control samples. During the testing, (no change to the remaining section).

Thanks for your consideration

Sincerely,



Borjen ("B J.") Yeh, Ph D , P E
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Technical Services Division
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COMMENTS ON AC363-609-R1 18 MAY 2009**Kris Owen; Manager, Cods and Product Applications; Arch Wood Protection**klowen@archchemicals.com, cell: 219-405-8809

- Staff Clarification, item 1, page 2: Why do these products not have to meet flame spread and smoke development criteria?
- Staff Clarification, item 1, page 2: How can a specialty use not covered in either the AC or the ESR be justified to the Building Official or be allowed by said Official?
- Line 17: “new and existing construction”. No restrictions type of project or stage of constructions. Very wide open and needs some definitions or usage parameters.
- Line 18: “exposed interior or unconditioned spaces”. What are they exposed to? Does this include framing stage of construction? What is the impact of rainfall on recently coated surfaces? This needs more definition.
- Lines 18-20: “as not requiring maintenance...” Is there the need for proof of need for maintenance or renewal of the coating?
- Line 117-121: “visually segregated”. This would require a wood technologist, not a lab technician.
- Line 157-161: Are these proposed products to be applied by spray, roller or brush? Are there any environmental or air permit requirements needed to be applying these products on a job site, with other trades present?
- Line 162-164: Since OSHA requires an MSDS sheet be on-site for all products used at a given site, I would like to see that the owner be given both Proof of Application and product details.

Kris Owen

Arch Wood Protection

18 May 2009



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Michael Beaton, P.E.
Senior Vice President
ICC Evaluation Service
5360 Workman Mill Road
Whittier, CA 90601

RE: Proposed Revisions to Acceptance Criteria for Surface-applied Fire-retardant Coatings, Subject AC 363-0609-R1

Dear Mr. Beaton:

Thank you for the opportunity to comment on the proposed revisions to AC 363. Our staff has reviewed the criteria and we have some concerns relative to the proposed methodology.

Section 3.3.1 requires durability testing to: *“determine any detrimental effects of the maximum anticipated exposure to temperature and /or relative humidity exposure conditions within the area of the building or structure where the coated substrate is located”*. Each applicant may interpret this requirement differently. The test exposure requirements should be standardized for each application or a listing of the maximum temperature/humidity levels tested should be included as part of the report.

For panel products, the strength testing criteria closely resembles that proposed for AC405. We have concerns related to the application of ASTM D5516 and D6305 and the alignment of these standards for the purposes of this criteria. Please refer to our comments regarding AC405 (attached).

Lumber and SCL products are required be tested per ASTM D198 and ASTM D5456, respectively. ASTM D198 is a general test standard that does not cover design value development, sample sizes, sampling procedures, etc. ASTM D5456 is a qualification standard for SCL but does not include procedures for elevated temperature testing, additional requirements when testing coated materials, or provide statistical comparisons between sample sets.

We feel the proposed criteria are specifically inadequate for the review of treatment impacts on SCL products. SCL performance will potentially vary not only by type, but also by manufacturing process, manufacturer, species, grade, post treatment (i.e. presence of overlays and sealers), etc. In addition, depending upon the product, properties other than bending strength may be impacted and should be reviewed.

We suggest the following wording:

1. Structural composite lumber shall be evaluated for a representative grade for each material type, species, and manufacturer.

2. Matched treated and untreated specimens will be tested to evaluate each of the following properties: bending stiffness, bending strength, tension, compression parallel-to-grain, compression perpendicular-to-grain, horizontal shear, and internal bond. The test methods outlined and referenced by ASTM D5456 shall be used with the exception that at least 30 untreated and treated specimens will be tested for each property. An analysis will be used to verify that there is no statistically significant difference between the matched treated and untreated materials.

Thank you for consideration of these comments. If you have any questions regarding these comments please don't hesitate to contact me at 208-429-3715 or at Daniel.Cheney2@Weyerhaeuser.com

Sincerely,

Daniel W. Cheney (sent via e-mail)

Daniel W. Cheney, P.E.
Director of Codes and Product Acceptance