

**Arch Chemicals, Inc.**

5660 New Northside Dr., Suite 1100
Atlanta, GA 30328

January 20, 2010

Michael O'Reardon
ICC Evaluation Service, Inc.
900 Montclair Road, Suite A
Birmingham, AL 35213

Subject: AC66 Comments

Dear Mike:

I have several comments regarding AC66 for which I would appreciate consideration at the upcoming hearing. While I do not plan to be there, Kris Owen is, and can speak to them if needed.

Our primary concern is the reference to the ASTM D3201 test for hygroscopicity of FRT wood. The test has a loophole, which we are bringing to the attention of the ASTM committee, but with appropriate wording could be addressed without delay in AC66.

ASTM D3201 has a 7 day exposure period and no limit on the sample size. Unless wood samples are very small, they will take longer than 7 days to reach the equilibrium moisture content. Without appropriate wording in AC66 there is no assurance that FRT treated wood will not exceed the specified 28% moisture content (fiber saturation point) when exposed in actual applications for longer periods at elevated humidity. The test has a minimum sample size, but does not prevent using a piece of 2x6 two feet or longer in length which may not be treated through the cross section and would take several weeks or longer to equilibrate. The 28% criteria for FRTW in AC66 and the codes was established to make sure that FRT wood does not become saturated and cause corrosion or related problems; unfortunately, as written it fails to ensure that the test in a manner that will ensure this.

I am proposing a simple fix based on the similar AWWA standard E6. The sample size of choice for E6 is $\frac{3}{4}$ " x $\frac{3}{8}$ " x 6", the size of the moisture content sample from the fire tube test that was widely used at the time E6 was developed. Using this sample assured two things (1) that the sample would likely be treated to the full cross section (if there is untreated wood a falsely low moisture content will be obtained) and (2) that the sample reached equilibrium in less than the 10 days specified.

The suggested wording will also require that the test specimens have fire retardant retention and penetration required of the product. This is important since hygroscopicity is directly related to the amount of chemical in the wood. Additionally, since southern pine is the most difficult species to fire retardant treat and requires the highest retention, if a test were run on sapwood which is easy to fully penetrate, performance of other species with respect to the hygroscopicity requirement would be assured.

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Suggested changes:

3.1.2 Hygroscopic Properties: ASTM D 3201 conducted for ten days on 3/8" x 3/4" x 6" specimens, treated to the required fire retardant penetration and retention and ~~IBC~~ Section 2303.2.4 of the 2006 IBC, 2303.2.7 of the 2009 IBC. Required for recognition of use in interior applications. The hygroscopic properties of either southern pine sapwood or of each species of lumber for which recognition is sought shall be determined. The FRT lumber shall be classified in accordance with ~~IBC~~ Section 2303.2.4 of the 2006 IBC, 2303.2.7 of the 2009 IBC.

3.2.2 Hygroscopic Properties: ASTM D 3201 conducted for ten days on 3/8" x 3/4" x 6" specimens, treated to the required fire retardant retention and IBC Section 2303.2.4. Required for recognition of use in interior applications. The hygroscopic properties of either southern pine plywood or of each species of plywood for which recognition is sought shall be determined. The FRT plywood shall be classified in accordance with ~~IBC~~ Section 2303.2.4 of the 2006 IBC, 2303.2.7 of the 2009 IBC.

I also think the following change would clarify that to qualify fire retardant treated wood you do not have to qualify proprietary fasteners, unless you are recommending them:

3.3.1 If recommendations are made for use of ~~Corrosion testing of proprietary fasteners in contact with fire-retardant-treated wood,~~ corrosion testing of such fasteners shall be in accordance with AC257.

And lastly, while you are cleaning this up you may want to add a heading:

5.3 Quality Assurance Program:

Very truly yours,



Steve Shields
Director, Product Development