ALUMINUM EXTRUDERS COUNCIL

October 4, 2013

Aluminum Extruders Council
Keep Aluminum Windows Update

To: KAW Team and Advisory Group
Re: ASHRAE 189.1

I just wanted to give you an update on what's happening at ASHRAE 189.1.

1. Proposal to reduce window area
Following the submission of 72 comments opposed to the proposal to reduce the window-to-wall ratio (WWR), the ASHRAE 189.1 energy workgroup formed a task group, including both committee members and all interested parties to discuss the comments and issues with the proposal. This task group had its first call on September 23 with about 31 participants, following publication of a study by the U.S. Department of Energy's Pacific Northwest National Laboratory (PNNL) on WWR. This study only applied to ASHRAE 90.1-2010, so confirmed our comments that they have no analysis to support their proposal that would comply with the more stringent ASHRAE 189.1 requirements, nor even ASRHAE 90.1-2013. Nonetheless, the proponents of this proposal (both PNNL and Jon McHugh, an energy consultant in California) used the call to vigorously defend their proposal, arguing that the trends in the study still justify their proposal.

To be honest, the call was frustrating. It is clear they have the conclusion preordained, and it came across as very condescending … 'if we just explain this to you slow enough, you will finally understand and agree with us.' We made our arguments about the technical flaws: that they are arguing about small energy changes while ignoring much larger impacts on indoor environmental quality (IEQ) and that having high performance façades is more important.

The other side tried two things of interest, neither good:
First, they tried to jump on the high performance window argument and ask about developing a path where you would be allowed back to 40% WWR if you met certain criteria. I tried to squash that concept, arguing that as long as the proposal includes any aspect that affects window area, the discussion will never get off-center. Taking something away then giving it back in only certain circumstances is not a step forward. We can have a good discussion of the next step for high performance windows and facades, but the proposal affecting window area must be withdrawn first.

Second, Jon McHugh announced his plan to have three calls: this first call on energy performance where they defended their analysis, a second call on energy performance where they want those opposed to present their data, and a third call on indoor environmental quality. This is very concerning for a number of reasons. It is now clear that Jon is trying to pen us in on process – have calls to claim we had opportunity to discuss the issues, but then just vote us down. Also, they are attempting to reverse the burden-of-proof, trying to force us to provide data why the WWR should be retained, instead of having them prove their case. This is entirely inappropriate under ASHRAE and ANSI procedures. Finally, the two calls on energy and one call on IEQ once again shows their unequal emphasis towards energy over IEQ, let alone all the other issues raised in our comments (e.g. only 1 out of the 9 comments I submitted for AEC/GANA/GICC dealt with the flawed energy analysis.)

To head this off, I sent an email following the call to Jon McHugh and ASHRAE staff pointing out these process concerns, and to basically send the message that we are not going to play this game. This also helps establish the written record in case we ever get to an ANSI appeal on process. I have not heard a response from them yet.

Despite all this, I feel we are still in a strong position to prevail … it just won't be as quick as I hoped. We have strong arguments, and broad support. If they insist on continuing down this road, we will force them to address every point in every comment, which I don't think they can.

I'll let you know when I hear anything, and if you were a commenter, you should already be getting any emails that Jon McHugh sends out to the task group.

2. Life Cycle Assessments / Product Category Rules / Environmental Product Declarations (LCA/PCR/EPD)

Also, ASHRAE 189.1 has a new proposed addendum (attached) that would require compliance with 2 out of 4 material selection options: recycled content, regional materials, bio-based materials, and a new section on product LCA / EPDs. The new section would give credit for having 10 different products with either EPDs or full life cycle product analyses. This is similar to the new version of LEED, although on the positive side, it doesn't require the EPDs come from a certain number of different manufacturers. This was something we objected to since it penalized companies who may supply many parts of the building envelope (glazing, sunshades, cladding, etc), but LEED went ahead with anyway.

I don't see any major red flags, but let me know if you have any comments.

Tom

Thomas D. Culp, Ph.D.
Birch Point Consulting LLC
W6025 Rim of the City Rd.
La Crosse, WI 54601
608-788-8415
culp@birchpointconsulting.com

Public Review Draft

Proposed Addendum aw to Standard 189.1-2011

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review (October 2013)
(Draft Show s Proposed Changes to Current Standard)

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at www.ashrae.org/standards-research--technology/public-review-drafts and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at www.ashrae.org/bookstore or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

The appearance of any technical data or editorial material in this public review document does not constitute endorsement, warranty, or guaranty by ASHRAE of any product, service, process, procedure, or design, and ASHARE expressly disclaims such.

ASHRAE, 1791 Tullie Circle, NE, Atlanta GA 30329-2305

(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

This addendum has two major intents:

1. *To increase the range of products and materials that are considered under Section 9.4.1, Reduced Impact Materials. Traditionally, a single attribute approach (such as recycled content, regional, or bio-based) has been taken in addressing the environmental requirements for materials in codes and sustainable rating systems. Frequently, these requirements can be met simply by the structural elements of a high performance building. This is due to the inherent nature of construction projects, the cost of the materials, and the work that has been done by the wood, concrete and steel industries to reduce their environmental impacts. While these are important goals to continue to strive for, the non-structural (interior finishes, fixtures and fit out) materials of a building have been in the calculations for meeting the existing requirements, but due to their lower cost have never really been the focus of compliance with requirements for materials and resources. The committee believes that requiring at least two attribute requirements to be met, including a new option introducing multi-attribute product declaration or verification, will not only bring more sustainable products into high performance buildings, but also encourage material manufacturers to reduce their environmental impacts in a more holistic manner.*
2. *To introduce more holistic considerations of supply chain impacts of products via life-cycle assessment (LCA) based approaches in Section 9.4.1.4, Multiple Attribute Product Declaration or Verification. Environmental product declarations (EPD) are gaining ground in industry and green design standards as an accepted methodology for a manufacturer to communicate the impact that products and their manufacturing have on the environment. The goal of EPD is to provide designers and purchasers with data that will inform decision-making – much the way nutritional labels on food packaging does today. However, as these are simply transparency tools and not all industries have developed EPD, the inclusion of other tools such as multi-attribute standards and certifications or completion of an individual LCA are included along with the traditional single attribute approach. The committee feels that the inclusion of these newer tools as options for compliance along with the traditional single attribute approach is a good transitional methodology towards the long-term goal of true multi-attribute product transparency and performance.*

Note: In this addendum, changes to the current standard are indicated in the text by <u>underlining</u> (for additions) and ~~strikethrough~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes. Only these changes are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed substantive changes.

Addendum aw to 189.1-2011

Revise Section 9.4.1 as follows:

9.4.1 Reduced Impact Materials. The *building project* shall ~~contain materials that~~ comply with any two of the following sections: 9.4.1.1, 9.4.1.2, ~~or~~ 9.4.1.3, and 9.4.1.4. Components of mechanical, electrical, plumbing, fire safety systems, and transportation devices shall not be included in the calculations except for piping, plumbing fixtures, ductwork, conduit, wiring, cabling, and elevator and escalator framing. Calculations shall only include materials *permanently installed* in the project. A value of 45% of the total construction cost is allowed to be used in lieu of the actual total cost of materials.

9.4.1.1 Recycled Content and Salvaged Material Content. The sum of the *recycled content* and the salvaged material content shall constitute a minimum of 10%, based on cost, of the total materials in the *building project*.

9.4.1.1.1 Recycled Content. The *recycled content* of a material shall be the post-consumer recycled content plus one-half of the pre-consumer recycled content, determined by weight. The recycled fraction of the material in a product or an assembly shall then be multiplied by the cost of assembly to determine its contribution to the 10% requirement.

The annual average industry values, by country of production, for the *recycled content* of steel products manufactured in basic oxygen furnaces and electric arc furnaces are allowed to be used as the *recycled content* of the steel. For the purpose of calculating the *recycled content* contribution of concrete, the constituent materials in concrete (e.g., the cementitious materials, aggregates, and water) are allowed to be treated as separate components and calculated separately.

9.4.1.1.2 Salvaged Material Content. For purposes of this standard, a salvaged material is a material that has been removed in a whole form from a structure and reused in the *building project*. The salvaged material content shall be determined based on the cost of a comparable alternative component material.

9.4.1.2 Regional Materials. A minimum of 15% of building materials or products used, based on cost, shall be regionally extracted/harvested/recovered or manufactured within a radius of 500 mi (800 km) of the project *site*. If only a fraction of a product or material is extracted/harvested/recovered or manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

Exception: For building materials or products shipped in part by rail or water, the total distance to the project shall be determined by weighted average, whereby that portion of the distance shipped by rail or water shall be multiplied by 0.25 and added to that portion not shipped by rail or water, provided that the total does not exceed 500 mi (800 km)

9.4.1.3 Biobased Products. A minimum of 5% of building materials used, based on cost, shall be *biobased products*. *Biobased products* shall comply with the minimum biobased contents of the USDA's Designation of Biobased Items for Federal Procurement, contain the "USDA Certified

Biobased Product" label, or be composed of solid wood, engineered wood, bamboo, wool, cotton, cork, agricultural fibers, or other biobased materials with at least 50% biobased content.

9.4.1.3.1 Wood Building Components. Wood building components including, but not limited to, structural framing, sheathing, flooring, sub-flooring, wood window sash and frames, doors, and architectural millwork used to comply with this requirement shall contain not less than 60% certified wood content tracked through a chain of custody process either by physical separation or percentage-based approaches. Acceptable certified wood content documentation shall be provided by sources certified through a forest certification system with principles, criteria, and standards developed using ISO/IEC Guide 59, or the WTO Technical Barriers to Trade. Wood building components from a *vendor* are allowed to comply when the annual average amount of certified wood products purchased by the *vendor*, for which they have chain of custody *verification* not older than two years, is 60% or greater of their total annual wood products purchased.

9.4.1.4 Multiple Attribute Product Declaration or Certification. A minimum of 10 different products installed in the *building project* shall be documented to have one of the following:

9.4.1.4.1 Industry-wide Declaration. A third-party certified Type III industry-wide (generic) environmental product declaration (EPD), including external verification where the manufacturer is explicitly recognized as a participant by the EPD program operator. All EPD shall be consistent with ISO Standards 14025, 14040, 14044 and 21930 with at least a cradle-to-gate scope.

9.4.1.4.2 Product Specific Declaration. A publicly available product specific third-party certified Type III EPD, including external verification. The product specific declaration shall be manufacturer specific for a product family. All EPD shall be consistent with ISO Standards 14025, 14040, 14044 and 21930 with at least a cradle-to-gate scope. Each product complying with this section shall be counted as two of the minimum 10 required under 9.4.1.4.

9.4.1.4.3 Third-Party Multi-attribute Certification. A certification meeting the minimum criteria of a multiple attribute standard developed using a consensus based process by an ANSI-accredited standard development organization. Each product complying with this section shall be counted as two of the minimum 10 required under 9.4.1.4.

9.4.1.4.4 Product Life Cycle. A third-party certified life cycle product assessment based on ISO Standards 14040 and 14044 that minimally covers cradle-to-gate scope. Each product complying with this section shall be counted as two of the minimum 10 required under 9.4.1.4.

Add the following references to Section 11:

International Organization for Standardization (ISO)
ISO Central Secretariat, 1 rue de Varembee, Case postale 56
CH-1211 Geneva 20, Switzerland
+41-22-749-01-11; www.iso.org

ISO 14025 - 2006	Environmental labels and declarations – Type III environmental declarations – Principles and procedures	9.4.1.4
ISO 14040 – 2006	Environmental management – Life cycle assessment – Principles and framework	9.4.1.4
ISO 14044 – 2006	Environmental management — Life cycle assessment — Requirements and guidelines	9.4.1.4, 9.5.1, 9.5.1.2
ISO 21930 – 2007	Sustainability in building construction – Environmental declaration of building products	9.4.1.4