KAW
2005 - The Year in Review

2005 – Building on Success

As the Keep Aluminum Windows (KAW) campaign concludes its fourth year of advocacy for the aluminum fenestration industry we can look back at a year fraught with success. The mix of activities in which KAW was involved remained relatively constant, however, the priorities given to the various elements within the mix certainly changed. For the first several years of KAW the focus of the campaign revolved primarily around Energy Star and proposals affecting residential fenestration products. In 2005, while still waging the campaign to allow equivalent performance paths for Energy Star certification, KAW turned its focus to the code arena. A compilation of the year's events within both areas follows. The year 2005 also brought Tom Culp, Ph.D., Birch Point Consulting into the role of KAW's representative. Tom is well known throughout the industry and has brought to the campaign the technical tools to aggressively enter into the codes arena, an area which we feel is of the utmost importance.

Most importantly, 2005 has seen our activities, particularly relative to codes, branch into areas affecting the commercial markets, as well as residential. The cooperative relationships with other industry groups which were developed originally in the context of our Energy Star efforts, and which continue to be nourished, have paid dividends as our efforts expanded to working within the codes areas. In addition, KAW, via volunteers and through Tom Culp, continued to take a lead role on various advisory committees.

What follows are highlights of a very active year. We hope that you agree 2005 was a banner year for the KAW program!

Energy Star – Long Road to a Major Victory

On May 17th the U.S. Department of Energy announced the establishment of an Equivalent Energy Performance Amendment to the ENERGY STAR eligibility criteria for residential windows and doors. The amendment allows products with energy performance equivalent to the current prescriptive criteria to qualify in the Southern and South/Central climate zones, excluding California.

The effective date was September 19, 2005, so as to provide adequate lead-time to partners. On this date manufacturers and retailers were allowed to begin to label and promote products qualifying under the amendment.

The establishment of an Equivalent Energy Performance pathway for receiving the Energy Star certification is a major victory for the Keep Aluminum Windows campaign and for our allies who have worked with us over the last three years in pursuit of this goal. The performance path provides some relief for aluminum residential products. Even more importantly it sets an important precedent for future changes and possible commercial Energy Star programs. Ultimately it is also a victory for energy conscious consumers who will now have greater choice in Energy Star rated products.

Some pertinent details of the alternative pathway:

- Alternative combinations of U and SHGC with equivalent energy performance as current prescriptive criteria.
- For technical reasons, currently limited to Southern and South Central zones excluding California. Southern zone was originally going to be left out, but included as a result of our efforts.
- Allows higher U if compensate with lower SHGC. Provides more flexibility for non-thermally broken aluminum products in Southern zone. Although still difficult, provides more flexibility for thermally broken aluminum frames in South Central zone.
- Effective as of September 19, 2005.

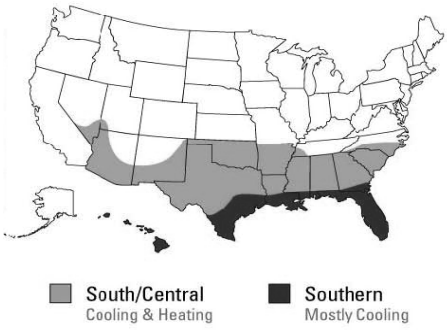
South/Central Zone* (Excluding California)

	U-Factor	SHGC
Prescriptive	≤ 0.40	≤ 0.40
Equivalent Performance	≤ 0.41	≤ 0.36
	≤ 0.42	≤ 0.31
	≤ 0.43	≤ 0.24

** Products meeting these criteria also qualify in the Southern zone.*

Southern Zone

	U-Factor	SHGC
Prescriptive	≤ 0.65	≤ 0.40
Equivalent Performance	≤ 0.66	≤ 0.39
	≤ 0.67	
	≤ 0.68	≤ 0.38
	≤ 0.69	≤ 0.37
	≤ 0.70	
	≤ 0.71	≤ 0.36
	≤ 0.72	≤ 0.35
	≤ 0.73	
	≤ 0.74	≤ 0.34
	≤ 0.75	≤ 0.33



ICC Code Work
As stated earlier the vast majority of KAW activities this year revolved around codes issues. This included visits to Washington conferring with Department of Energy (DOE) officials and participation in the Preliminary ICC (International Code Council) Code Hearings in March, as well as the Final Hearings in September. Once again this was where the alliances we have formed proved crucial.

The final action hearings for the ICC energy codes occurred in Detroit on September 29, 2005. This meeting was the grand finale' of our code efforts for the last several years, and the results of these hearings will become the final 2006 International Energy Conservation Code (IECC), International Residential Code (IRC), and International Building Code (IBC) codes which will be widely adopted by the states over the next several years.

Overall, we made significant progress from the last version of the code (2004 Supplement) which had many provisions harmful to aluminum. We were successful on all our most critical defensive issues, but we did not win every item, and failed on our one offensive item. In the coming months, we will consider what proposals we should submit for the next code cycle to continue to promote our energy efficiency positions. A synopsis follows as to critical code issues and the importance relative to aluminum products.

1. Commercial Building Requirements
EC63 approved

Status in 2004: IECC contained unrealistic U-factors which would not allow aluminum windows and entrance doors in commercial buildings in the northern half of the U.S.

2006 code result: The compromise proposal passed by the IECC committee in March was confirmed in the final hearings. This proposal separates requirements for metal and nonmetal fenestration, and includes corrected U-factors which are stringent but realistic for aluminum curtainwall / storefront, entrance doors, and windows. A proposed modification to group fiberglass products with metal products failed.

Impact on aluminum: This was a key victory toward which we have been working for the last 18 months. Aluminum products will not be restricted in commercial buildings by the 2006 IECC, and we have helped educate the code audience about structural vs. energy requirements. However, please note that the stringent requirements will increase use of thermal barrier aluminum products in most of the U.S., which will be a change for some aluminum fenestration manufacturers.

2. Definition of Residential Buildings
EC8, EC41 disapproved

Status in 2004: Residential buildings are defined as single family homes, apartments, dormitories, assisted care facilities, and other similar buildings which are three stories or lower.

2006 code result: Two proposals sought to redefine residential buildings – one to expand it to five stories, and one to include hotels and high-rise residential buildings with no limit. Windows in these buildings would then have to meet the residential energy code requirements which essentially require nonmetal windows regardless of structural requirements. Both proposals were defeated in the preliminary hearings and were confirmed as disapproved in the final hearings.

Impact on aluminum: This was an important victory as these proposals attempted to require nonmetal windows in hotels and high-rise apartments, which are currently dominated by aluminum fenestration. These proposals made little sense because they ignored structural requirements and were easy to defeat but important.

3. Residential Window Trade-Off Limits
Note that there are different results in the energy provisions of the IECC and the IRC, as shown below.
IECC: EC 36 disapproved, EC37 approved as modified
IRC: EC37 and RB213 disapproved

Status in 2004: Both the IECC and IRC included limits on residential window properties even when using trade-off procedures.
IECC – included a limit of U < 0.40 which would not allow aluminum products in the northern areas (zones 4-8) even if the builder used a trade-off to achieve equivalent energy performance. This restricted aluminum impact products in the northern hurricane zone from Virginia to Massachusetts. It also restricted aluminum products in dormitories, assisted care facilities, and apartments up to three stories in the northern half of the U.S., even if they are needed for high abuse and high durability applications.

IRC – included the modest limits proposed by DOE which is U < 0.55 in zones 6-8. These did not restrict aluminum products.

2006 code result:
IECC – Proposal to raise the limit to the DOE-proposed value of 0.55 failed. It actually won a majority (119-77) but fell 11 votes short of the required 2/3 to overturn the committee. "Compromise" proposal passed which raised the limit in zones 4-5 to 0.48, but retained the 0.40 limit in zones 6-8.

IRC – Two identical proposals to lower the limit in the IRC (0.55) to match the IECC (0.48 / 0.40) were defeated.

Impact on aluminum:
IECC – Although we did not achieve our highest desired limit in the IECC, we made significant progress over the 2004 version by raising the limit from 0.40 to 0.48 in zones 4-5. This will allow residential aluminum impact products to be used in the northern hurricane zone from Virginia to Massachusetts, although it will be more difficult for operable windows. The same is true of aluminum windows in dormitories, assisted care facilities, and apartments up to three stories in zones 4-5. However, aluminum products will still be limited in the far north (zones 6-8).

IRC – We successfully defended the higher limits in the IRC, which will not restrict aluminum in any residential

applications. Because the IRC is more widely adopted than the IECC, this is an important victory.

4. Performance Trade-Off for Residential Windows in the North
EC31 disapproved

Status in 2004: Neither the IECC nor the IRC contained a performance trade-off which would allow the builder to demonstrate equivalent energy performance by trading off different window properties (U, SHGC, and air leakage). This would allow more flexibility for window manufacturers, and be consistent with our "performance message" that there is more than one way to achieve energy efficiency than just U-value.

2006 code result: In the preliminary hearings, a proposal to adopt the Canadian ER performance trade-off in zones 5-8 failed in the IECC, but passed in the IRC. However, in the final code hearings, the code officials voted to disapprove this proposal in both the IECC and IRC based on technical arguments from our opposition as well as the desire to be consistent in the two codes.

Impact on aluminum: Although this will not adversely affect aluminum in the short term, this was a disappointing failure. We must continue to stress performance-based trade-offs to counter to desire to simply continue decreasing U-factor in both the codes and programs like Energy Star, which ultimately restricts aluminum products. Again, this does not harm aluminum, but it is disappointing that we could not establish this precedence for performance-based criteria.

5. Envelope Trade-Off Procedures
RB211 disapproved

Status in 2004: The IRC includes a method for trading off various envelope components as long as the total energy performance is kept the same. For example, aluminum windows with higher U-factors can be used if more insulation is added to the walls or roof. The IECC also contains a similar trade-off.

2006 code result: A proposal sought to completely remove the envelope trade-off procedure from the IRC. Although this trade-off would remain in the IECC, this would limit flexibility to builders and window manufacturers in locations which use only the IRC and not the IECC. Furthermore, the limit on window properties when using this trade-off is higher in the IRC than in the IECC, which gives more leeway for aluminum products (see item 3 above). This proposal was defeated.

Impact on aluminum: We successfully defended the ability for builders to use trade-off procedures to use aluminum windows in jurisdictions that only have the IRC. This would include residential homes, apartment buildings, dormitories, and similar buildings three stories or lower.

6. Above-Code Programs
EC4 disapproved

Status in 2004: The IECC included a provision which allowed code officials to deem above-code programs as compliant with the code, in order to encourage the use of above-code programs and simplify their workload.

2006 code result: A proposal which sought to delete this provision was initially passed in the preliminary hearings, but overturned and defeated in the final hearings.

Impact on aluminum: This is a minor issue, but we fought to preserve this provision because it may allow programs like Energy Star to be used for easier code compliance. This is helpful to aluminum since we won the earlier victory in Energy Star to include performance-based criteria.

Ancillary Activities
Throughout the year KAW representatives participate in, and keep a watchful eye on, the activities of other organizations. Most notably our KAW consultant, Tom Culp, chairs and participates on numerous committees, sub-committees and task groups within the National Fenestration Ratings Council (NFRC). NFRC is extremely important to our efforts because of the role they play relative to testing and certification. Opposing interests are much in control in this venue and the need is always present for constant vigilance.

Similarly, monitoring of activities and participation in other groups such as the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the American Architectural Manufacturers Association (AAMA) is also important.

The Coming Year - 2006
The coming year will hold more challenges. The price of advocacy is constant vigilance on numerous fronts. Once again activities relative to codes, both commercial and residential, will be a key area of focus. Work has already started on proposals for the 2007 supplement. Proposed changes to ASHRAE 90.1 will require constant monitoring and decisive action. Three areas within NFRC will likewise warrant oversight and participation: New Nonresidential Rating Procedure, Annual Energy Rating and Long Term Energy Performance.

Although the Aluminum Extruders Council is generous in their financial and staffing support of the KAW Campaign we do need more help. The additional financial support of window manufacturers, extruders and producers is greatly needed. As our efforts and successes have increased so has the need for funding. We hope that you will recognize the importance of the campaign to your company and will make a generous contribution to what has become a flagship program. With your generous support we look forward to meeting the challenges of the future.

Please see the accompanying KAW Pledge Form.

KEEP ALUMINUM WINDOWS (KAW) PLEDGE FORM

We would like to suggest the following levels of participation (choose one):

- ❑ **Aluminum Sponsor $ 5,000**
- ❑ **Gold Sponsor $ 3,500**
- ❑ **Silver Sponsor $ 2,000**
- ❑ **Other $____**

- ❑ **One Time Pledge**
- ❑ **Invoice Annually For Indicated Amount**
- ❑ **Invoice Quarterly For Indicated Amount**

- ❑ We need more information before committing funds. Please contact me.

Company: _____

Authorized by (print name): _____

Address: _____

City, State or Province: _____

Zip/Postal Code: _____ Phone: _____

E-mail: _____

Signature: _____

Amount: _____ Date: _____

Please fax your completed form to 847/526-3993, attn: Greg Patzer.
You will receive a pledge confirmation and a written summary of the program.
Thank you!

Payments should be submitted by check to the AEC Executive Office. Include a copy of this form. If you need an invoice from AEC to make your payment, please contact Lisse Jurcenko at 847/526-2010 x 19. Pledged funds are due to AEC no later than 30 days from the date of the pledge. Contributors are entitled to a summary report on request of all spending against this project. For any other questions regarding this program contact Greg Patzer at the AEC Executive Office.