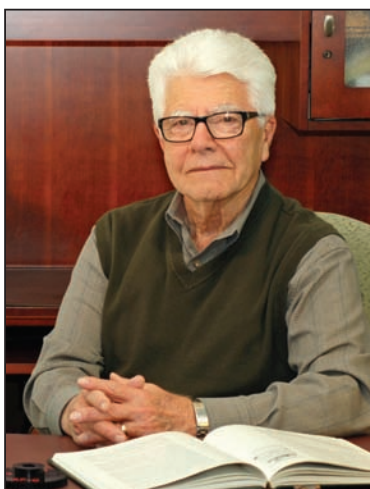




Technology
Chemicals
Machinery

Newsletter

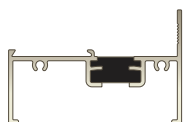
Fall 2016



From the Chairman,
Jim Dunstan

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Azon Saves Energy

Promises, promises!

I have been engaged in writing the Azon Newsletter now for twenty-eight years. Originally they were being written and mailed quarterly: winter, spring, summer and autumn. For the last few years the frequency of their mailing has been on the wane, mostly the result of the limits of my available time and energy to produce them. I made the decision a few weeks ago to turn over my car keys when a driver behind me honked his horn because I didn't put on my turn signal early enough, a reminder that Father Time is catching up to me. I've also been telling myself for quite a while that someone else should take over the task of writing the Azon Newsletter. I was conflicted while writing this, my last letter, without passing the torch to someone else. Our CEO Dave Mills offered to accept the challenge; in his able hands the Azon Newsletter tradition will carry on.

Over the years, composing the Newsletter has been a challenging learning experience for this tenth grade high school dropout. I remember, on one occasion, being corrected by one of my readers who in his day had been a professional sportswriter, he admonished me that at the end of a sentence the closing quotation marks should come after the period and not before. Bygone times found me writing from many different locations such as on an airplane over the Atlantic on my way home from the UK or on the veranda of a resort hotel in Miami Beach. For many years my writing emanated from California and Florida where Ruth and I were wintering. It was always a challenge to write about current happenings that were the topics of the times. I wrote about the national economics of the period according to my own personal point

of view. I most enjoyed writing a series about our national energy resources: oil, natural gas, coal, and hydroelectricity. Occasionally, I would go out on a limb with my own philosophical views which were not always shared by my readers. A memorable instance was when I suggested that graffiti taggers using the walls of buildings to express their pent up creativity were really artists not vandals. My point of view provoked a customer in Texas to invite me to come down to wash his walls. After that I refrained from comments that would offend the sensibilities of my readers, including political commentary. No matter how dire the economics of the times, I always made an effort to spin a positive note. It was my way of dealing with the negatives of the day. I've lived by the old cliché—you've got to accentuate the positive and eliminate the negative. Having been a witness to nearly nine decades of our world's history and reading about the lives of many inventors and entrepreneurs, I have a sense of what the future of our society might be like.

It was a year ago that I wrote my letter, titled "They don't have a clue," it reflected on the rhetoric we were hearing from the candidates running for the office of President of the United States, the outcome of which we will learn on the eight of November. To say that our choice for the next president is promising is a stretch. It is a dilemma for most of the undecided voters who will determine the outcome

continued page 2

Promises, promises! - *continued*

of the race. It is easy to promise more employment with higher paying jobs. For one candidate the solution will be to restrict the import of products from low cost labor countries in favor of having those products made in America. Consider this, the prevailing wage of an auto worker in Mexico is four dollars an hour whereas in the United States the union auto worker makes close to sixty dollars an hour. This is why in automobile assembly plants you see robots doing the work, supplanting that of human beings.

The influence of that little cell phone we carry around in our pockets is nothing short of life changing.

I was a proponent of NAFTA (North American Free Trade Agreement) from the beginning. My lobbying for its passage won me an invitation to the White House in September of 1993. I was there to witness the signing of the accord by President Bill Clinton. NAFTA and global trading has been an important facet of our international business. With the tariff barriers reduced Azon has grown with factories in Asia and the UK. During and through the last economic downturn the net export of machinery, chemicals, and insulated glass air spacers from our factory in Kalamazoo provided

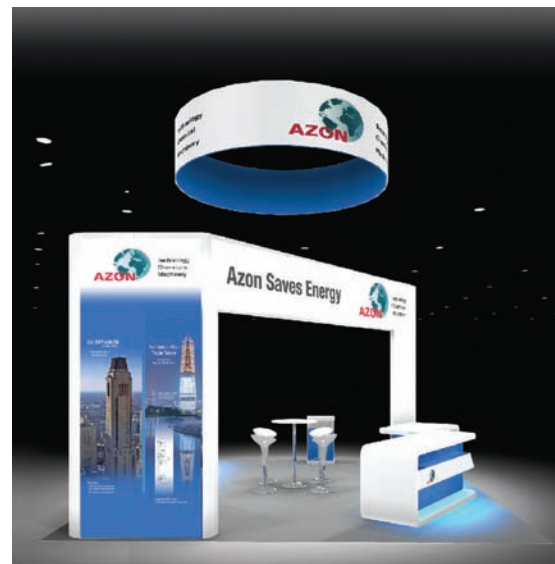
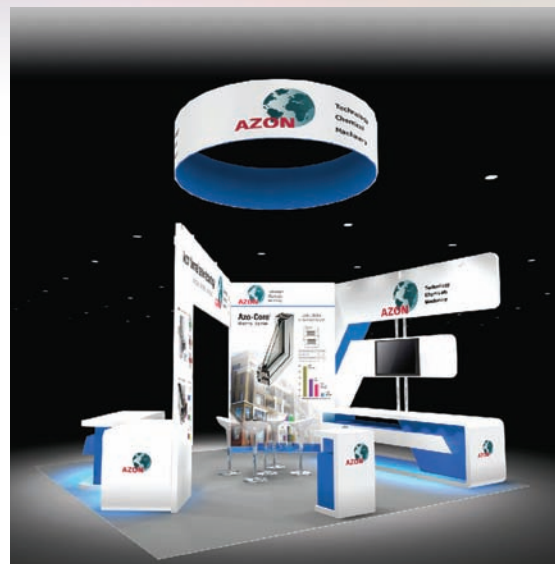
steady jobs for our workforce. The import of low cost goods, especially from China, has been a boon for our economy. The buying power of our wages exceeds that of any developed country in the world. There would be no Walmart—the second largest retailer in the world next to Amazon—without products made in China.

The influence of that little cell phone we carry around in our pockets is nothing short of life changing. Little could the inventor of the wireless radio, Guglielmo Marconi, have imagined that when he sent the first wireless signal: dot, dot, dot, Morse code for the letter s from St. John's, Newfoundland, to Poldhu, Cornwall, a hundred and fifteen years ago that we would be carrying a small wireless radio—our cell phone—that we could communicate with anyone from almost anywhere in the world, not only by voice but also by image in real time. It has been sixteen years since I wrote a newsletter titled "Ones and Zeros," a one for turning on a microscopic switch and a zero for turning it off in a millisecond, mounted on a tiny microchip—the heart of the computer that makes it work. Creativity and imagination are part of the human mind—boundless and unfettered. It's what will take the generations to come into places we cannot comprehend now in the year 2016.

The social issues that are pervasive in communities where the majority of the populace is unemployed and idle, speaks to the problem of humans who have nothing positive with which to occupy themselves. I submit that the work necessary for humankind to satisfy their basic needs for life will be greatly diminished by the influence of those ones and zeros, beyond imagining. Perhaps the greatest challenge in the future will be how to occupy our free time once the need to work is diminished.

Promises, promises will not create jobs, they will spring from the creativity, the imagination and the vision that is innate in all people. ■

The new Azon display booth at Greenbuild Oct. 5–6



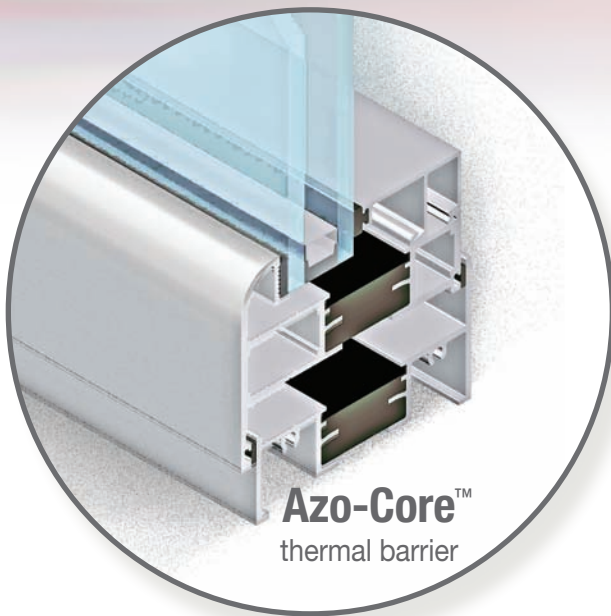
USGlass Magazine ranks the best companies to work for in the glass and metal industry

Azon ties for 2nd place

September 2016 issue

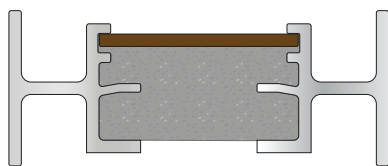


Azo-Core™ début



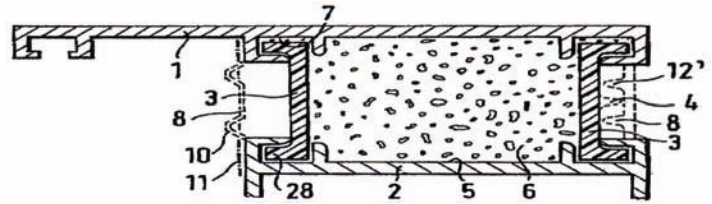
Code breaker for thermal barrier fenestration performance

At the end of World War II there was a huge pent-up demand for housing by G.I.s who returned home to marry the girls that waited for them. They started families and raised children that would later be called “baby boomers.” On June 22, 1944, President Roosevelt signed the G.I. Bill into law to help these G.I.s transition into a productive life upon their return home. It had a very positive effect. The G.I. Bill provided for low interest, no down payment mortgage loans for housing which spurred an unprecedented housing boom.



Because aluminum windows could be produced faster and at a lower cost than wood, although wood was the traditional material for windows, it was soon discovered that aluminum extrusions for window framing would be favored. Aluminum, being the most conductive metal (next to gold and copper), is ideal for pots and pans but is a poor choice for windows. Because of aluminum’s thermal conductivity, aluminum windows were prone to condensation and frost and at times they would even freeze on the inside of the windows. Since the surface of the glazing makes up the majority of a window’s exposure, the first remedy to solve this problem was the use of two panes of glass referred to as “Thermo Pane.” It was a significant improvement at first, but was far from solving the problem. The first demonstration of a practical solution for the condensation problem was in 1963 with the invention of the Arctic Wall window developed by the now defunct Soulé

Steel Company of San Francisco. It was invented by Fridthjov Nilsen, Norwegian born Soulé engineer. The Arctic Wall was the forerunner of the Azon pour and debridge technology. It would be another ten years during the 1970s, after the so-called Arab oil embargo, that the real value of Fridthjov’s energy saving invention was to be realized.



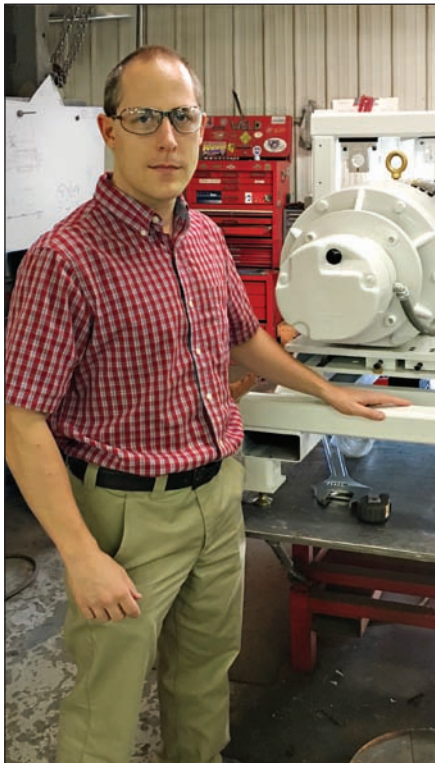
Dr. Nahr's 1983 thermal barrier invention

In 1983, Dr. Helmar Nahr, a German window designer, applied for a patent to combat the troublesome effects of condensation related to aluminum windows. Dr. Nahr’s system was the first to incorporate a polyurethane foam as its thermal break. Much sought after while his patent was in force, Dr. Nahr extracted a high license fee from its users. Slow to produce and prone to a high rate of scrap, nevertheless its effect as a thermal barrier exceeded all other systems at the time including the Azon pour and debridge technology. In the early 1980s I went to Norway to pay a visit to Electrolux (Electrolux is the parent company of Sapa in the UK and North America), to introduce our system that Sapa and it’s affiliates were all using in the UK. I was advised that the Nahr system, having better insulating properties than our technology, was better suited to compete with wood windows, popular in Norway at that time. It was a different story in the UK, where, because of better productivity and lower cost we became the leader with pour and debridge in the UK aluminium window market with all the major players, a distinction we maintained until German UPVC plastic windows began to dominate the home improvement market.

In Europe, the sale of aluminum fenestration is dominated by a few large window systems suppliers who sell window profiles to local fabricators. Many windows sold in Europe contain iterations of the Technoform and Ensinger polyamide strip systems, several incorporate foam in the core for improved performance. Our customer, Senior Architectural Systems Ltd., in Doncaster, UK (the largest window company in Britain), headed by Lennart Jonsson, approached us in 2012 for assistance in the

continued ►

Meet Nathan Schafer



The robust nature of Azon equipment designs has been a staple of the thermal barrier market for nearly forty years, witnessed by the fact that almost every thermal barrier processor in North America produces their extrusions with Azon equipment. The main reason for this success is that Azon is continually improving its equipment and chemicals to meet the demands of our customers so they can achieve high levels of productivity. We have a superb engineering group, however, it was necessary to bring in outside talent to support our new thermal barrier products and make continuous improvements

to our current offerings. We have hired a new chief engineer to fill that role in Nathan Schafer. Nathan began work in April of this year. He is a mechanical engineer with extensive experience as a designer of material handling machinery and fluid control processing. Nathan is already impacting our designs and processing capabilities for our new product offerings. This will help improve our customer base and continue to keep Azon a world leader in the manufacture of machinery for the ever-changing requirements in making aluminum windows energy efficient. ■

continued from page 3

Azo-Core™ début

development of a high performance window system incorporating a polyurethane foam thermal barrier. With the aid of our Azon VP of global technical operations, Patrick Muessig; Azon UK Ltd. technical manager, Phil Davies; the late Jeff Ford; the chemistry of Jim Doyle and his staff; and with the support

of Azo-Tec® Azon design services headed by Dave Gillespie, Lennart developed and patented PURE®, an energy efficient aluminum system that meets and exceeds all European passive window prescriptions. Introduced in 2015, after three years of development, PURE has enjoyed the attention of window manufacturers internationally. It has been the impetus for the development of Azo-Core™, a result of the quest by Azon to meet ever challenging standards for thermal barrier aluminum windows in our North

American markets. Azo-Core differs from traditional means of encapsulating foam in a window, it incorporates a mechanical lock element for strength and a plastic cap to contain the expansion of the thermal barrier foam. Azo-Core employs time proven debridging to affect a thermal break. Azo-Core will be made available under the Azon performance warranty and will be introduced officially at the upcoming Greenbuild exhibition in Los Angeles. ■

Azon
643 W. Crosstown Parkway
Kalamazoo, MI 49008-1910
USA
Tel: 269 385 5942
Fax: 269 373 9295

Azon UK Ltd.
Units 14/15, Block C
Duffryn Park
1 Alder Avenue
Dyffryn Business Park
Ystrad Mynach
Hengoed
Caerphilly
CF82 7TW
UK
Tel: +44 (0) 1443 878010

Azon Korea Inc.
E1-Space
19 Samseong 122 St.
Gangnam, Seoul 06085
Korea
Tel: + 82 (0) 2 34492200
Fax: + 82 (0) 2 34492229

Azon Polyurethane (Shanghai) Co., Ltd.
Room 2804-2807, 28th Floor
Hua Yuan World Square
1958 North Zhongshan Road
Shanghai 200063
PR China
Tel: + 86 (0) 21 6212 2213
Fax: + 86 (0) 21 6211 0004