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INTRODUCING DHI'S 2012 PRESIDENT

David L. Neuner

OFFICE BUILDINGS/ MIXED-USE FACILITIES THIS MONTH

D&H explores how security and life safety issues are balanced in mixed-use facilities and office buildings. We also introduce DHI's new President David Neuner and look at his goals for the association in 2012.

See page 14

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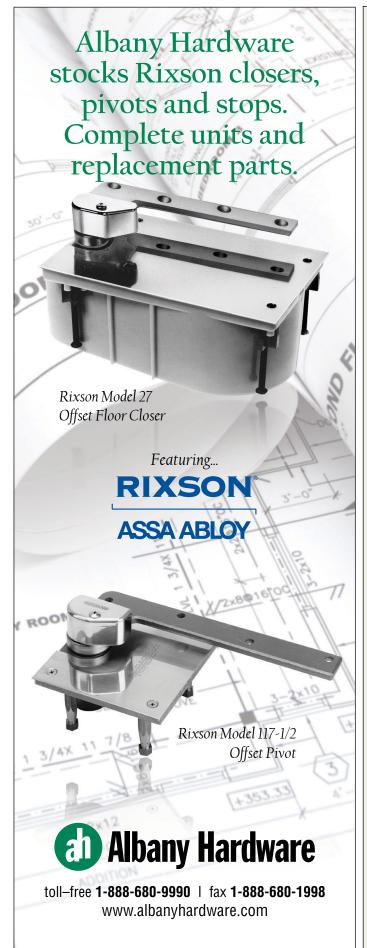


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CONTENTS



FEATURES

- 8 **PSU's Academic & Student Rec Center** DHI's *Jess Madden* looks at a mixed-use facility with offices, classrooms and a basketball court.
- 14 Meet DHI's New President David L. Neuner.
- 22 The View from the Other Side of the Border *D&H* looks at how Canadians have been affected by trade agreements and the recession, as well as what issues they face doing business in the U.S.
- 26 **Troubleshooting Door and Frame Issues from Your Desk** *Steve Adams* of HMF Express offers helpful tips.
- 30 Code Corner: Openings, Part 1 *Ronald L. Geren, AIA, CSI, CCS, CCCA, SCIP* explains the requirements for openings in a fire-resistance-rated assembly.
- 36 Almost Everything Your Employees Know About Profit Is Wrong Dr. Albert Bates of the Profit Planning Group explains why it's vital to train your staff on financial issues.

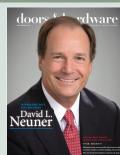


- 40 Life Safety Needs in Behavioral Healthcare Mark Berger of Securitech explores our industry's response to the unique needs of behavioral healthcare facilities.
 - Going Green: What Our Industry Needs to Know Steve Farley, CSI, CDT, LEED GA of Mohawk Doors and Tim Petersen, LEED AP of VT Industries look at how green codes are already impacting our industry.

DEPARTMENTS

- 4 In Touch Jerry Heppes, CAE
- 6 Foundation Bill Johnson
- 35 Faces of DHI: Dong Hyun "Tony" Park
- 50 **DECODED: Roof Access** Lori Greene, AHC/CDC, CCPR
- 52 **Corporate Access: Leadership** Sarah Cook and Steve Macaulay
- 56 Industry Access
- 59 Classifieds
- 60 Ad Index

ON THE COVER



Introducing David L. Neuner, DHI's new President. Many changes are on the horizon. See page 14 for details.

Photo Credit: Josephine Havlak, Photographer

in TOUCH

Recheck Your Service Strategy

W NFORTUNATELY, ALL OF THE ECONOMIC forecasts predict a dismal economy for the near future. Furthermore, when focusing on non-residential construction, the picture is even worse. I believe that we must face this recession for several more years. Are we properly positioned with our services?

Distribution offers a variety of services as part of the package. It is important that we make sure that in these tough times, two things are occurring in our businesses. First, we must confirm that our services are necessary and appreciated. Second, we must confirm our pricing strategy for each service.

Have you ever had a conversation with a customer who not only didn't appreciate a particular service you offered, but didn't even realize that it was being delivered? There are many visible services we offer: specification writing, delivery, installation, and keying meetings, to name a few. However, there are additional services that may not be so visible: job staging, jobsite inspections, documentation preparation, conversations with the code officials, and coordination of several subs—again, to identify just a few.

The first question we should consider is the cost of offering each service. What are the labor costs? What are the transportation costs? What are the direct costs, such as printing? What are the hidden costs, such as overtime?

Once a cost is identified, then the key step is to confirm that the service is recognized and appreciated by your customers. This can be accomplished formally through surveys or informally through ongoing conversations that your staff conducts with customers. Of course, the services you offer that are expensive and not appreciated by your customers By Jerry Heppes, Sr., CAE

need to be revisited. It doesn't mean that they should necessarily be eliminated, but a deliberate strategy must be in place.

Services your company offers that are inexpensive but not appreciated should also be visited. You can see where this is going. Each service should be placed on a matrix based upon cost and value to the customer. It will be obvious which items should immediately be addressed.

The next step is a pricing strategy. Of course, costly services that are not appreciated or necessary should be eliminated or have a price attached to them. Don't automatically assume that attaching a price will eliminate the service—don't pre-judge your customers' expectations. If it is necessary and you can't be paid for it, then at least find a way to receive some value for throwing it into the deal, especially during these competitive times.

Additional revenues may be realized for many services. Again, don't try to guess how your customers will react. You might be amazed at the services for which a customer will pay. Have you ever found yourself saying, "I can't believe they don't offer that service. I would even be willing to pay for it!" Those are missed opportunities. Any expensive services you are offering that are not paid for, or at least not appreciated, are wasted opportunities.

It is going to be a tough couple of years, and differentiating yourself from your competition is pivotal. Your pricing strategy on every service you offer is a key component to your game plan. Take the time to analyze your services and expertise and determine the best way to position them. Remember, your staff is your best first resource, then your customer.

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Things to Be Thankful For

"We often take for granted the very things that most deserve our gratitude." ~Cynthia Ozick

HIS YEAR, THE NUMBER OF NATURAL disasters that have affected the DHI family across the U.S. has been unsusually high. There was record flooding along both the Missouri and Mississippi Rivers, a hurricane and tropical storm along the East Coast, relentless heat in the south, and tornadoes in the southeast—all of which caused billions of dollars in damages.

Adding to the challenges that nature has brought us is the uncertainty of the economy. To say the economy is "rocky" is an understatement. While some things are getting better, many are getting worse. Unemployment continues to hover near 10%. The manufacturing index is down. The stock market is increasingly volatile, and signs are pointing to the possibility of a double-dip recession.

Our industry has taken a hit throughout all of this. Margins are down, and competition is up. Where there used to be six bidders on a job, now there are 15.

In spite of all this news, there is hope. There are things to be thankful for, and my guess is that we don't have to look very far to find them. It just takes a slightly different perspective to view the things that are right in front of us for which we should be grateful:

- We share our lives with loved ones.
- We have good friends.
- The majority of us are in good health.
- We live in a country where we have most of the things we need.
 - We have heat and electricity for our homes.
 - We have food on the table.
 - We have a bed to sleep in.
 - We have a car to drive.
- We have parents/children to care for and who love us.

By Bill Johnson, Executive Vice President Door Security & Safety Foundation

Reach Bill at bjohnson@dhi.org or 703/766-7039 (office direct)

How Rich Are You?

At times, it pays to step back and do a self-appraisal, particularly of all the good things in life. We can all do a better job at taking a look around us and being appreciative of the things that we may take for granted on a daily basis. Certainly, being appreciative of the material things in life can offer a healthy perspective.

Of course there are things that we all want. However, most of our needs are met on a daily basis. We have a roof over our heads, shoes on our feet, and, if we are extremely fortunate, the person we love is lying next to us each night.

To put into perspective the many financial blessings we have in relation to the rest of the world, check out this website: www.globalrichlist.com. However, I urge you to put aside all the things that money can buy and see how rich you really are.

What a great time of year to look back and be reflective on all the good things in your life. What were the challenges you overcame this year? What was not as bad as you thought, now that you look back? And, at the end of the day, what are all the good things that you still have in your life?

As we approach another Thanksgiving season, we truly have much to be thankful for. Spend some quality time with your family, and *enjoy this wonderful time of year*.

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Portland State University



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Portland State University's campus in downtown Portland, Oregon, is the Gold LEED certified Academic and Student Rec Center (ASRC). This beautifully designed, 208,000 square foot mixed-use facility opened in January 2010 and serves as the new home for the School of Social

Work, the Oregon University System Chancellor's Office, the PSU Bike Hub and the City of Portland Archives. It's also the new site of the PSU Student Recreation Center, featuring an amazing variety of fitness equipment and activities—from rock climbing and swimming to basketball and track—all of which can be viewed through the glass walls of the building's north façade.









A unique blend of doors and hardware was used to meet ADA requirements, achieve LEED Gold Certification and provide security for both the students and office workers who use the facility. The glass doors and window walls maximize use of natural light and make the facility feel open and spacious. The hardware was specifically chosen to withstand heavy use and abuse by students.

ACADEMIC & STUDENT MARKED REAL ON CENTER MARKED

In 1987, a PSU task force determined that its current facility (Peter Stott Center) didn't adequately meet students' needs, but it would be 23 years before the new facility was completed. Balancing the diverse needs of so many different users required extensive planning and foresight. The students were surveyed to determine what exactly they wanted their new facility to include, and it was up to the architects to figure out how to make it all work within the confines of a single building. How do you have a basketball court on the third floor that doesn't disturb the students in classrooms on the second floor or the office workers on the fifth floor? The rec center is open until 11 p.m., but the offices close at 6 p.m.—how do you restrict access without potentially impacting life safety or inconveniencing the building's users?

Access Control

Access control is generally one of the biggest challenges in mixed-

use facilities, and according the architectural project manager Miles Woofter, AIA, LEED AP BD+C, of Yost Grube Hall Architecture, the ASRC building was no exception. "Controlled access and egress to the recreation area was the most difficult component, given the quantity of users at the recreation level, which required an additional egress stair, and the two levels of uses above on levels five and six," says Woofter. "Recreation staff is required to track entry and exit



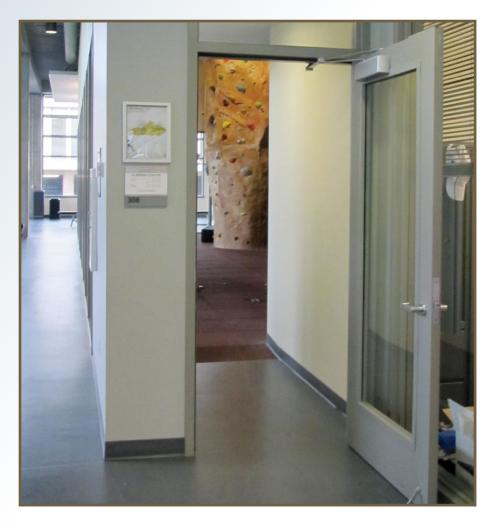
The fifth floor rooftop garden area overlooks a campus courtyard and streetcar stop.

from the facility for safety issues, but having multiple levels above the recreation center created additional challenges, as two vertical, firerated exit stairways pass through the recreation levels. So access to the stairs from the recreation levels is limited to emergency use only. This enables staff to manage both entry and exit from the facility."

Unfortunately, the students who use the rec center have had trouble paying attention to the signs noting that stairway access is for emergency use only. "We've had quite a few alarms triggered by students who want to use the stairs," says Campus Rec Coordinator Clara Fisher. "We're going to have to add additional signage to the doors to make it more obvious to the students. We're also going to add signage in Braille to the crash bars on the doors."

In order to manage access to the other areas of the building, proximity card readers were installed outside of office areas and the swimming pool, as well as inside the elevators that service the offices and archives on the top two floors. Miles Woofter recalls, "The most significant access control issues were integrating the Portland State University access control standards into this complex arrangement of uses, and separating and controlling vertical access and egress at the stairs and service elevator that penetrate and service each level of the building."

The rec center is available for use by any of PSU's 30,000 students, who are required to show their student ID card to the front desk attendants to gain admission. When the facility first opened, there was an issue with non-members attempting to use IDs from students to sneak into the rec center. Front desk attendants are trained to check the photo carefully and ask security questions based on information linked to the card if they are doubtful of the person's identity. If it's determined that the person presenting the card is not the authorized user, the card is confiscated to protect students from someone else trying to access funds linked to their student account or trying to use the ID card to gain access to a residence



hall or other facility on campus with secure entry tied to the card.

Campus Rec Director Alex Accetta estimates that at one point near the opening of the rec center, they were confiscating up to three or four IDs each day. "When we first opened, we had some thefts, and some uncomfortable situations going on in the rec center, and we believe it's our job to control the risk of that," Accetta said. "You want to believe everybody who comes in, but there are 200 people a day using the rec center, and not everybody is going to be who they say they are. Since cracking down, theft has dropped dramatically, and there've been fewer incidents in the building."

Noise Control

Having a basketball court located above your office sounds like an acoustical nightmare, but thanks to some careful planning, design and product selection, there haven't been many complaints about the noise level. "Noise suppression was addressed for spaces below and above the facility with different architectural and acoustic treatments," says Woofter. "Both had to be accomplished in a cost-effective manner without compromising the recreation center. The floor/ceiling system separating spaces below the recreation level incorporated construction assemblies to help dampen the noise transmission. Ceiling systems below the recreation level were constructed with added acoustic isolation board and acoustic batt sound insulation. For spaces above the recreation levels, wall systems were isolated from the floor system to mitigate transmission of sound through vibration."

When the facility opened, the building managers were surprised to discover that the few complaints about noise actually came from the offices located above the rec center, rather than below it. The source of the noise was eventually determined to be the basketball hoops themselves. "Additional shock absorbers and rubber gaskets were added to isolate the basketball hoop supports from the ceiling/floor structure above," says Woofter.

Life Safety/ADA

The ASRC is classified as a highrise building and therefore requires more stringent life safety measures to ensure egress from upper levels. The central stairway had to be designed to accommodate the exit load for the high number of users in the rec center portion of the building on levels three and four. "The stair required for exiting is a twohour-rated enclosure, but it is used primarily to provide centralized daily vertical circulation within the recreation center," Woofter explains. "To make the stairs more inviting, the doors are larger than required at 4'-0" wide, and the doors are held open with magnetic hold-opens at the recreation levels. The stair width is also 1'-0" greater than required by code for exiting so that circulation to and from recreation levels during non-emergencies feels more open."

The architects designed beyond code requirements for ADA as well,

ensuring that the entire facility is accessible beyond code minimums. "There are additional clearances at entry areas and restrooms," says Woofter. "Automatic door operators are installed at all exterior entry doors, as well as at all interior restroom doors. Fully accessible universal changing rooms are offered on all recreation levels, and singleoccupant restrooms are provided on each academic floor—all with greater than code required clearances."

Doors and Hardware

Students are notoriously hard on doors and hardware, an issue that

Did you know...



Boston, MA • Pompano Beach, FL • Las Vegas, NV • Chicago, IL www.seclock.com Woofter says was definitely factored into the specifications. "All exit and heavy-use doors are hollow metal and integrate PSU standard hardware, which has been tested and proven over decades of use," he says. The doors also contributed necessary points toward the building's LEED Gold certification. "The hollow metal doors were manufactured locally with high recycled steel content," says Woofter. "Wood doors were also locally sourced and integrated local veneer."

Some of the most interesting doors and hardware are those used to meet local health department requirements for control of the pool area. Oregon Department of Human Services, Public Health Division, Oregon Administration Rule (OAR) Chapter 333, Division 60 – Public Swimming Pool Section 333-060-0105(2)(f) requires that "Gates and doors on new pools must swing 'out' of the pool enclosure." This is meant to discourage access to the pool by unsupervised children. "Our design incorporated doors that swing out of the lockers to provide the required second exit from the locker rooms through the adjoining pool," Woofter explains. "This means of exit requires the doors to swing in the direction of travel to comply with the Oregon Structural Specialty Code and was approved by the City of Portland. Additional monitoring, alarms and access control hardware and locking mechanisms from the pool side were added to ensure child safety while allowing free passage from the locker area in case of an emergency."

Sustainability

All new Oregon University buildings are required to meet at least

the LEED Silver standards. Built at a cost of \$72.8 million, the ASRC has a number of green features that allowed it to become PSU's third LEED Gold facility, and the seventh LEED certified building on PSU's campus. Located in a city known for its rainy season, the building's fifth-floor multi-use terrace was designed to collect rainwater, which is used for plumbing and fire sprinkler systems, making the building's water distribution system 85% more efficient. Cold water is drawn from the underground aquifer to cool the building in a closed loop system that returns the water back to the aquifer. The elliptical machines in the fitness center are equipped with ReRev technology that uses the kinetic motion of the user to generate some of the electricity used to power the building. Daylighting techniques were utilized in the offices, classrooms, pool and other areas to significantly reduce the need for artificial lighting. The largest windows in the facility face north, and many windows throughout the building are fully operable, minimizing the amount of cooling necessary. As a result, the building uses 29% less electricity than a comparable code-compliant building.

As parking space is limited, the planners also wisely located the building next to Portland's mass transit and bus lines. The MAX line runs along the building's east and west sides, while the streetcar line passes directly in front of the facility. Ample bike parking was also provided near the many entrances.

The goal of the rec center is to "promote the link between recreation and sustainability," and a stroll through its gymnasium, fitness center, rock climbing gym, indoor track, pool, exercise studios and locker rooms—each of which has state-of-the-art green elements—makes it clear that this is one university that doesn't just talk the talk. This amazing facility serves as proof that it is possible to have a safe, sustainable and beautiful building that serves the diverse needs of its occupants and the surrounding community.

About the Author: Jess Madden is the editor of D&H. She can be reached at jmadden@dhi.org or 703/766-7033.

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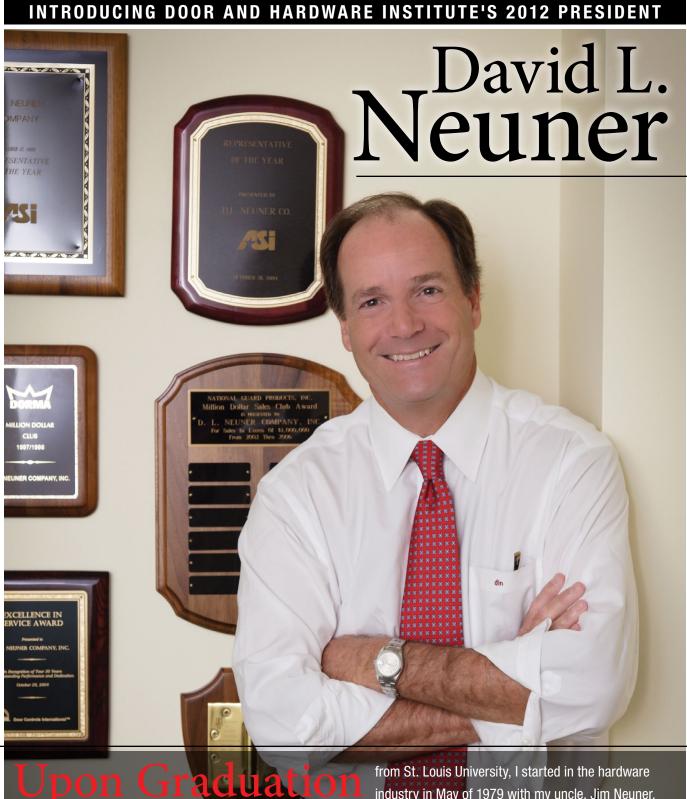
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industry in May of 1979 with my uncle, Jim Neuner,

who owned the very successful manufacturers' rep firm J. F. Neuner, Inc. During my first week, I traveled to lowa to call on and introduce myself to our customers. Jim thought it was important for me to go alone, knowing that if he was with me, the customers would want to talk to him and not me. This was one of many valuable lessons I would learn from my uncle!

I have had the good fortune over the years to have several mentors help guide me through the challenges that life presents.

In December of 1988, I bought the St. Louis half of the business from Jim (Patterson Sales bought the Kansas City/Western half of the territory) and changed the name of the company to D. L. Neuner Company, Inc. I am very proud to say that we represent many of the same factories today that we did when I first started with my uncle 32 years ago in 1979: American Specialties, Inc. (ASI); Architectural Control Systems, Inc.; Door Controls International; National Guard Products, Inc.; and American Device Manufacturing Company, which was purchased by DORMA Architectural Hardware Company. We have been with DORMA since the early 1990s. There are many other factories that we have represented for 15+ years. We have made a conscious effort to align ourselves with independent manufacturers that produce quality products at a competitive price and have a tremendous amount of loyalty, not only to their reps across the country,



but also to the distributors they sell their products to.

I have had the good fortune over the years to have several mentors help guide me through the challenges that life presents. The first would be my father, Louis Neuner, who was a rep in the hardware business on the retail side representing National Manufacturing Company. I can remember accompanying my father on some of his sales calls during the summer months when I was on vacation from school. We would walk into a hardware store, and the owner would look up at my father with a big smile on his face, hand my father an order pad, and say, "Louie, fill it out with what we need, and I'll sign the PO on your way out." I'm not sure I realized then, at a young age, what this meant, but I certainly realized later that my father had earned the trust of the store owner. He would only order what was truly needed by the customer. My father had integrity and, as a result, earned

the customer's loyalty and respect. My uncle certainly had those same qualities, and I benefited from the relationships that he had developed over the years. Bob Spargo, AHC also had a big influence on me early on. My uncle had represented Rixson since the sixties. When I started, Bob took me under his wing and exposed me to many of the pioneers of our industry on the rep side. In my early twenties, Bob would include me on golf trips with the likes of George Mackenzie, Zeke Wolfskehl, Rich Berry, Tom Patton, Jerry Simms and of course my uncle. Wow, what an education!

Other mentors include Don Bixby, who was President of American Device Manufacturing Company, sold his company to DORMA and was President of DORMA when I was hired; Chuck Smith, FDHI, President of National Guard Products, Inc.; Jim Russenberger, DAHC, former owner of ASCO Hardware Company; Don Guenther, former President of H & G Sales, Inc.; and Ron Hasbrouck,



the epitome of a manufacturers' representative—all had a major influence on my career. I can assure you there are many others as well; however, the magazine isn't big enough to accommodate all of the names. And of course, my wife Teresa must be included in this list. We have been married for 31 years, and when we started on our own in 1989, we had three boys, ages seven, four and two, and one on the way! My travel schedule was intense, quite often on the road four to five days a week, but Teresa kept everything running smoothly and was always very supportive and encouraging. Today that seven-year-old (David, Jr.) is 28 years old, recently married, and has been with our company since 2005 as

It has been very rewarding serving on the BOG—both a great learning experience and very humbling. an outside salesman. Three generations and still growing!

DHI has certainly played a role in my career as well. Early on, I attended the St. Louis Chapter meetings with my uncle, as well as the Iowa and Illinois Chapters. In addition, I believe I've attended every convention since 1979, working the shows with our customers and manufacturers. Several years ago, Jim Tartre, CDC asked me if I would like to get involved by running for the Board of Governors. I figured if Jim was nice enough to ask, I could certainly carve out some extra time and get involved. It has been very rewarding serving on the BOGboth a great learning experience and very humbling.

...we must look at every DHI program to see if we are helping.

One of the things I enjoy the most about my position in the distribution channel (as an independent agent) is that I have the opportunity to hear the opinions of distributors and manufacturers, as well as architects and owners. Often, thoughts are shared in confidence—a trust I will never violate.

As the conduit in the marketplace, the trends, opportunities and threats often become apparent early on to a rep agency. Quite simply, we are having daily conversations with each key stakeholder, and the puzzle becomes clear. In my leadership position as President of DHI, this perspective provides a unique opportunity to try and help our association, staff and leadership truly understand what our members are experiencing and perhaps how we can position DHI to help.

Unfortunately, over the last several years, it has been discouraging to hear the immense concern about the future of commercial construction and the impact on our industry. Is this the new normal? Will we prosper in the future? Can my company survive? Witnessing the continual downsizing that many in our industry have had to undertake—the challenges in landing a project, the pressure to perform 24/7—has made me realize that we must look at every DHI program to see if we are helping. I am determined to undertake that effort as President.

Like a lot of distributors, manufacturers and reps, DHI has also gone through some very difficult times the past couple of years. With the shrinking economy, I honestly think we still have a difficult road ahead of us. DHI has responded by getting as lean as we can without affecting services. We continue to monitor our financial position very closely, and I can assure you that the BOG and staff are working diligently to keep the expense side of the ledger in line. However, while preserving our association's finances is important for us to be effective, it is not enough. We have to make sure our programs are properly aligned with what our channel has become or is becoming.

At our most recent BOG meeting in August, under the leadership of then-President Ken Metzler, AHC, the board decided to invest in producing a new Strategic Plan. We'd held off the past few years to save the expense, but now we believe it is critical that we move forward immediately, despite the cost. The industry is changing, and we have to change as well.

We will have a strategic planning session for several days early in the

second quarter of 2012 at headquarters, and this will give us a solid road map for moving forward in the industry in sync with our members' new challenges. We will address the following issues:

Education

Without question, the changes that were made to the education programs for DHI have been an improvement over the old system. However, we are still closely monitoring our successes and failures so that we may continue to improve the programs and find the best way of delivering these programs to the membership. Knowledge is still the most critical component in our industry, and DHI is responsible for delivering it effectively. Are we satisfied with our goals? While we have had a decrease in the number of credentialed members over the last couple of years, we certainly are providing more opportunities with online classes, self-study courses and our ongoing DHI National Schools. But is that good enough to grow the number of consultants going forward?

Annual Conference

Fortunately, we have been focused on the tradeshow for several years. The 2011 Conference & Exposition

The industry is changing, and we have to change as well. Knowledge is still the most critical component in our industry, and DHI is responsible for delivering it effectively. Council engaged an event expert, Tradeshow Logic, to identify our future direction. The Council thought it was important to bring in an outside facilitator who would have an objective view on the changing needs of our industry and the show. Tradeshow Logic reviewed all of the research we have carried out over the years and then conducted extensive telephone interviews with the three main constituents: distributors, manufacturers and manufacturers' representatives. A lot of topics were covered beyond the show, such as channel pressures and educations needs. What came out of this process was a list of recommendations for the BOG to consider, and we approved moving forward in consideration of two strategies:

- Having two or three lowercost Regional Conference & Expositions each year along with a National Executive Summit
- Continuing to enhance the current Annual Conference & Exposition and considering a National Executive Summit in conjunction with the convention or at a separate location and time

DHI Staff has been charged with validating these business models with the industry and developing transitional plans so that we can make an educated decision as to how our Annual Conference & Expo will look moving forward. We anticipate these plans being finalized by our March Strategic Planning



meeting so that the changes that are instituted can be accomplished by 2014 or earlier, if possible.

Membership

In our fiscal year that just ended (June 30, 2011), we had a retention rate of 87%. Total dues revenue across all categories was \$1,225,713 versus \$1,282,445 the previous fiscal year. The BOG once again did not authorize a dues increase for any category of membership for fiscal year 2011/12. While our membership revenue is off slightly, the vast majority of people we contacted who did not renew their membership were unemployed or out of the industry. We are confident that DHI still provides tremendous services for the annual membership fee, and our enrollment will grow as we emerge from the down economy. At our strategic planning session, we will ask the obvious questions: Is our approach to being a member of DHI effective? Should we consider a different model of membership? These are tough questions, but we are facing tough times.

Credential Demand

We presently have more than 1,800 members who have one or more of the following credentials: AHC, CDC, EHC, AOC, and FDAI[®]. Our goal is simply to increase that number in the coming years. It is imperative that we continue to develop new marketing efforts to actively promote DHI's credentialing program. In addition, we will continue to look for new approaches to encourage our members to have the desire to pursue these credentials, as they are a true benefit in the openings industry. Once again, at our strategic session, we will consider the industry demand for our consultants with our current programs, the processes required to become a consultant, and the key role consultants should play in our industry in the future.

Fire Door Inspections/FDAI®

This is a program with great promise that has occupied a lot of DHI's time and focus, but the economy has slowed down the potential development of the program. Accordingly,

we need to step back and determine how we focus moving forward. Do we need to adjust for the current lack of demand?

The aforementioned are key topics for our upcoming Strategic Planning Session. It is extremely important that we understand what the majority of our membership is looking for from DHI and that we properly position DHI to deliver. In addition to the above, we most certainly will also address local DHI chapters on how to increase their effectiveness. One key element will be how local DHI chapters can deliver education to their membership. We will also focus on the Door Security & Safety Foundation, fire door inspections, the FDAI[®] and how we leverage the work that the Foundation is doing to benefit all members of DHI. We clearly have a lot of work ahead with fewer resources, but again, who isn't facing a similar challenge?

In closing, I'd like to thank DHI Past-President Ken Metzler, AHC for his dedication to our industry



and DHI membership. He has served the membership extremely well, always looking for ways to increase services in a very difficult economic climate. I hope to be able to draw from his leadership and patience in the upcoming year. I'd also like to thank the entire Board of Governors for their dedication. I can assure you that they have the best interests of DHI's membership in mind as they ponder decisions and strategies to position DHI for future growth and relevance in the openings industry. I would also like to thank my associates at D. L. Neuner Co., Inc. Without their support and encouragement, I would not be able to take on this responsibility.

The Board of Governors is comprised of your peers, and I would encourage you to reach out to us with your thoughts and ideas so that together we can make a difference in providing life safety and security in the built environment. Thanks in advance for your support!

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A FEW MONTHS AGO, DOORS & HARDWARE MAGAZINE PUBLISHED AN ARTICLE ON THE

Buy America/Buy American Acts that looked at what issues American companies need to be aware of when dealing with these regulations. One of the issues the article overlooked was the fact that, in spite of the name "Buy American," there are many different countries whose products also qualify to be used in these projects. Many of our Canadian members contacted us to point out this oversight, so we sat down with Jack Shinder, Chair of the Canadian Steel Door and Frame Manufacturers Association, to get the Canadian perspective on these requirements and see how they've been affected by them, as well as other issues like the ongoing U.S. recession, NAFTA, the strengthening Canadian dollar, and what Jack sees as the greatest challenge of all: understanding both the code variations and the cultural differences that exist within every state in the U.S.

It should be noted that throughout this interview, we discuss the impact of the Buy American Act. This should not be confused with the Buy *America* provisions that apply only to transit-related procurements.

D&H: What are some of the biggest challenges of doing business stateside? Jack Shinder: We don't face unique challenges as a Canadian company. We face challenges that any domestic company would face doing business on an international basis. Our challenges are figuring out what's required in the state of Texas versus the requirements in the state of New York, just like any American company. The currency is also currently a challenge, and we've had to be

more competitive as a result, but the understanding of codes, etc. is the same as any domestic company. And I would say the reverse is true as well. I think the challenge actually is greater for U.S. companies because Canada has 10% of the population and 10% of the economic activity compared to the U.S. We're a relatively small market, and most companies don't take the time to understand the Canadian marketplace. Just like I think it's difficult for a NY City-based firm to do business in Texas without understanding the perspective of Texas, I think it's difficult for U.S. firms to do business in Canada. I think they

have to plan to do business a different way. They need people on the ground who understand the local marketplace. You have to put in the extra effort. The challenges are, if anything, easier for Americans to sell their products across the border. There is no federal statute in Canada that is the equivalent of the Buy American Act.

D&H: You mentioned the currency being a challenge. Canada's currency has strengthened considerably against the dollar over the past few years. Has this affected Canadian companies' competitiveness?

JS: Unquestionably. In the 1990s, the Canadian dollar was only worth about \$.75 on the U.S. dollar, and that was quite an advantage, and it made it harder for American businesses to compete with Canada. For the last two years, though, it's been at par or better, and that has definitely made it more difficult for Canadian businesses to operate.

There's very little certainty with respect to currency fluctuations, especially when the typical payment cycle in our industry—from quotation to payment—is 12 months or longer. Companies active across international borders have to anticipate the risk of these fluctuations in a variety of ways, and these strategies are not for the faint-of-heart.

The real difficulty is when governments take new positions and raise new barriers in the marketplace. They're often very difficult to understand because they deal with an entire relationship. Canada is in a somewhat unique position because both countries are each other's largest trading partners and have unique access to each other's markets. A lot of companies are doing business on both sides and also have offices on both sides of the border. It's a very open economy.

Our concern is that there is a widely held perception that jobs in the U.S. are being threatened by companies that are foreign. Unemployment is high. Manufacturing jobs are being lost. But in our industry, and certainly on the hollow metal side, that is not the case. Certainly there are companies that import hardware from the Far East, and there has been a loss of jobs to foreign firms, but I think it's more a matter of the economy in the U.S. going through a difficult period. They're not suffering from foreign competition. In fact, as a result of the weakening U.S. dollar, those same firms have better access to the Canadian marketplace. There's no such thing as a Buy Canadian Act. Canada is very open in terms of trade. We don't have any advantages in terms of buying that aren't available to any other country.

D&H: So what would you say has been the impact of Buy American and American Recovery and Reinvestment Act (ARRA) programs on Canadian companies in our industry? JS: I think it's more psychological. It makes American companies somewhat hesitant to deal with Canadian companies. They see the Buy American Act and wonder if they're putting their bid at risk because they're dealing with a foreign supplier. There are certain instances where it's a problem, but 95% of the time, it's not. If a U.S. company would rather deal with a Canadian company, there is hesitation because they're concerned with the idea of bringing the product across the border and worried there will be

a problem. Certain companies are unwilling to expose themselves to what they perceive as a risk.

D&H: You said 95% of the time, there's no problem. What causes the 5% of problems?

JS: There's a very narrow scope of federal work that can exclude foreign material, and the Buy American Act, when it's invoked, can have an effect on contract values under \$7 million. If it's under \$7 million and the foreign supplier doesn't have a net benefit to the owner, it can be cause for that product to not be acceptable. The amount of times that has been a problem for my company, Ambico, over the last five years could be counted on one hand with fingers left over. It isn't really a problem, but it is much discussed.

D&H: How has the U.S. recession affected Canadian companies in our industry?

JS: The effect has been similar to the American industry. To the extent Canadian companies export to the U.S., it's been an impact. The major impact has been that American industries themselves have become more competitive. That's had more of an effect on our penetration into the market than the diminished economic activity. There have been a very small number of bankruptcies in the U.S. in our industry. I would have thought there would have been quite a number, but thankfully, that hasn't been the case. You hate to hear of someone going through bankruptcy, even a competitor. But companies have downsized significantly and rethought their offerings and created a more competitive marketplace. Currency and economic activity have

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made U.S. companies more active in Canada than they've ever been.

D&H: So would it be fair to say the U.S. recession has had a greater impact than the Buy American Act? JS: Yes, absolutely.

D&H: How did Buy American's impact compare to NAFTA?

JS: They really covered two different things. I think there's a lot of confusion over the impact of NAFTA on Buy American. The Buy American Act has been on the books since 1933. NAFTA narrows the number of issues, but Buy American was not superseded by NAFTA. NAFTA didn't repeal Buy American, which was a Depression-era act that was largely done to allow American buyers to know where their products came from. We had to put "Made in Canada" stickers on all of our products. Each individual item that crossed the border had to have a sticker that was visible to the customs agent as it crossed the border. We ship thousands of crates over the border annually, and we have had very, very few problems over the years.

D&H: So what advice would you give to other companies doing business outside their country with the U.S.?

JS: I think the U.S. is an extremely diverse market, and doing business there is very complex. You have to be sensitive to the different regional market environments, state by state. You'll even have two very different markets in one state. You have to understand the economic issues. You're doing business with people and often dealing with family-based businesses, and you have to know what's motivating their buying positions. They're quite different from one state to another. The fundamentals are the same-they're looking for quality products and competitive pricing. But they want to have confidence in their supplier and the people they're doing business with. Ultimately, you're doing business with people. A Canadian firm that's 2000 miles away from Houston, Texas, is at a disadvantage, but no more so than one in New York or L.A. They need a personal connection, and the nature of that personal connection is different because there are so many cultural differences around the country. You have to instill a level of confidence. Luckily for Canadian firms, by and large, the reputation is excellent.

Conclusion

Many of the Canadian members who felt our last article on trade issues failed to address the Canadian perspective voiced their concerns to then-President of DHI Canada Milt Allred, AHC. In an attempt to make sure those concerns were addressed, we spoke with Milt after interviewing Jack Shinder. He agreed with the points made by Jack but added a reminder that, "Competition on any project in a down economy is so intense that each bidder must be aware of all possible sources of supply, or else he may lose the bid to a competitor with a non-traditional supplier. Free trade opens many doors (no pun intended) not previously explored."

More information on both Buy America and Buy American can be found online at www.dhi.org. Click on the link for Distributor Best Practices, and you'll find the links under "Trade Agreements/Regulations."

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Troubleshooting Door and Frame Issues *from* Your Desk



By Steve Adams

good distributor should respond to contractor concerns. Contractors rightly expect their door and hardware supplier to be their door, frame and hardware expert. But when a contractor calls with a field installation issue, what is the best way for a good distributor to respond?

The stark reality of business is that there is very little time to drop what you are doing and visit a jobsite every time your contractor calls with a door or frame fitting issue. Likewise, the contractor can't wait. He needs the problem solved right now. If you wait, when you do finally get to the jobsite, everyone is more stressed, and solving the problem gets harder.

The contractor calls you because he needs help. He needs service. He is depending on you. With your thoughtful and professional guidance, he often is able to find the solution, especially when the door and frame problem actually turns out to be an installation problem! And how many times does the real issue turn out to be very different than the situation described originally?

But before you grab your keys and head out the door, maybe the problem can be

figured out over the phone or by text. If so, the solution is faster, less costly, and is often in place before you could have driven to the jobsite. If you can address the problem right away, everyone wins. Doing so requires that you bring all of your experience and expertise to the initial conversation.

The Initial Call

To be prepared when the initial call comes in, consider these basic guidelines for that crucial first conversation:

- Listen first.
- Take notes.
- Ask systematic diagnostic questions.
- Be committed to solving the issue.
- Do not assign blame or accept responsibility until you know all of the facts.

There are countless things that can go wrong with even the simplest opening, and what appears to be the issue may only be a symptom. Getting beyond the symptom requires a series of diagnostic questions that will help identify the real issue while eliminating other possibilities.

Drawings Courtesy of HMF Express, LLC

By thinking through these questions in advance, you will save valuable time when that emergency call comes in and you need to quickly get at the real problem and find a helpful solution. Start by getting this basic information:

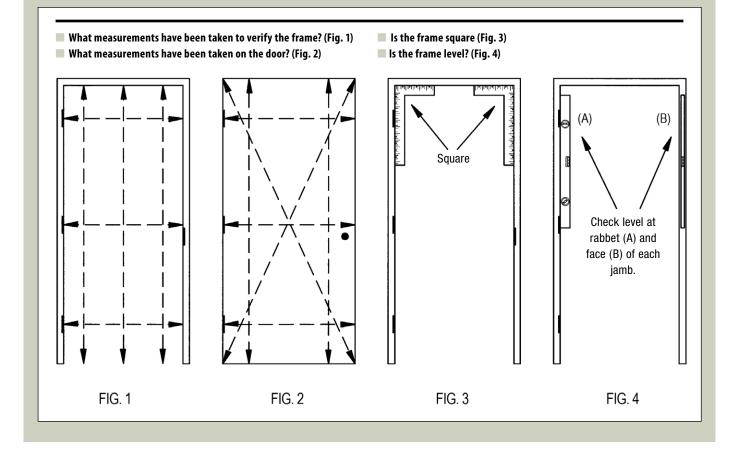
- What *seems* to be the issue?
- Has the person you are talking to actually seen this issue, or is he just relaying information?
- Can you talk to the person who has seen the issue?
- Is the door or frame in the correct opening?
- Has the tag/mark number been verified?
- Is the correct hardware being used?
- Can the contractor send a digital picture that shows the issue?
- Are there any visible signs of damage?
- Does the door, frame or hardware seem to be the issue, and why?

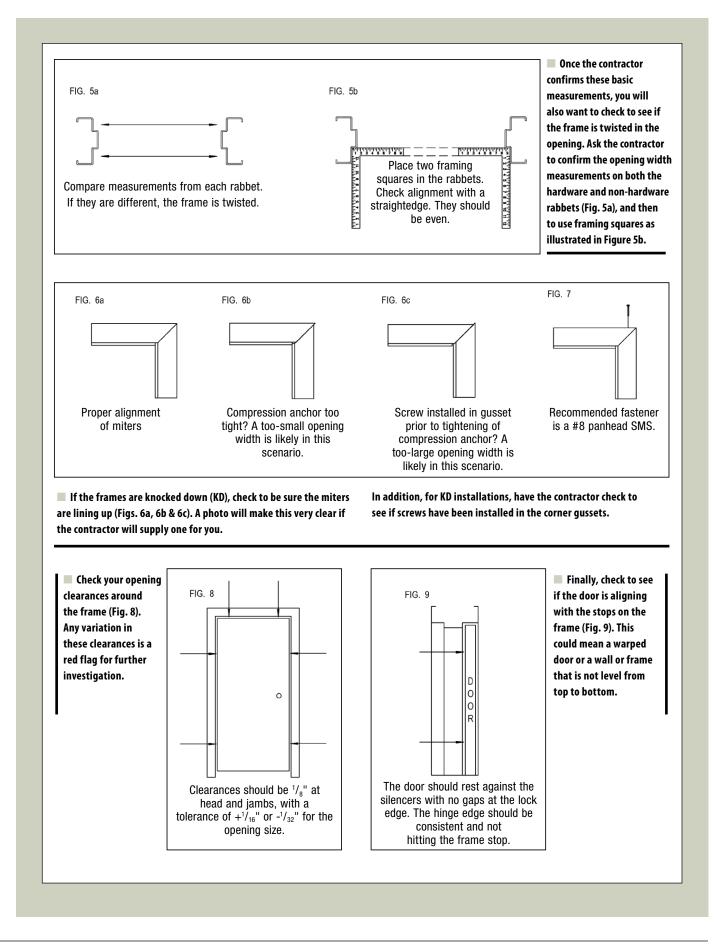
When you get the initial call, or before you reply, take the time to gather all of the relevant documents so you can compare the answers given with what the answers should be for the opening in question. This will immediately identify those cases in which the wrong door or frame is being used, the rough opening is made a different size than what is needed, or even when the material is supplied by someone else!

As a case in point, just last week I spoke with a contractor (on behalf of our distributor) who rejected a frame delivered to his jobsite. "I need a 3-0 frame and this is 3-6 wide!" he emphatically explained to me. After a few questions, which included him checking his plans, he discovered that he had cut the wrong-sized opening in the wall. The correct opening needed a 3-6-wide frame, and that is what the project manager had ordered for the job.

Tougher Problems

As you know, not all issues get resolved that easily. Often more specific information is needed. It is good to review a list of deeper questions for when the problem is tougher. The list of questions that follows is a great start toward understanding the opening and determining if the installation has been done properly. I have included an illustration with each sample question to more fully explain the information you need the installer or contractor to carefully check or verify.





Hardware Locations

If locations for hardware preps were identified as an issue, then top-to-top measurements are best for checking most hardware preps in the field. Locks and strikes are often measured to centerlines by manufacturers, but in the field, the centerline is hard to measure directly. Also note that some cutouts on doors and frames include clearances of up to +/-1/64". These clearances can be verified by measuring the overall dimension of each cutout. For example, a cutout for a $4\frac{1}{2}$ " hinge will measure up to $4\frac{17}{32}$ ".

A quick trip to the opening by the contractor with his trusty tape measure will quickly clarify most hardware location issues. When locations for doors and frames are mismatched, get measurements for each and compare them to the plans, purchase orders, and order acknowledgements to find where the discrepancy came from.

This may seem like a lot of work, but it actually goes pretty quickly, and a photo from a phone or digital camera can paint the picture even faster. These steps are going to be needed at some point, so take the time to work through them up front. That is the fastest path to the solution.

Remember that your customer is paying you because you know these steps and you are able to help him solve his problems quickly. By working the problem right from the initial call, you are delivering the best possible customer service and adding the most possible value. Frequently, this is better than visiting the jobsite after some delay. Or, if you do end up visiting the jobsite, you are bringing the solution, not just starting the process of problem solving.

If you do identify a potential manufacturing defect or just need help with symptoms you don't understand, involve your suppliers in the problem solving. Speaking as a manufacturer, we have seen, heard and solved many issues over the years. This experience and expertise is part of the service that a good manufacturer delivers to a good distributor, just as contractors call on good distributors for the same.

About the Author: Steve Adams is the VP of Sales with HMF Express, LLC, a custom and quick-ship hollow metal manufacturer with production facilities in Wilmington, NC, and Atlanta, GA. Prior to HMF Express, Steve worked for a major regional distributor in a variety of project management and sales roles. To learn more about field troubleshooting, installation, and product application, view Steve's material at www. hmfexpress.com, call 866/452-1845, or email sadams@hmfexpress.com. To share your tips and product knowledge with the community, tweet to @HMFExpress or go on Facebook to HMF-Express.

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Openings PART 1

By Ronald L. Geren, AIA, CSI, CCS, CCCA, SCIP

Opening: "The act or an instance of becoming open or being made to open." "An open space serving as a passage or gap." "An unfilled job or position; a vacancy." "A breach or aperture."¹

HE WORD OPENING HAS MANY MEANINGS,

as indicated above. However, it is surprising that the International Building Code (IBC),² with its many, specific, code-related definitions, does not provide its own definition of the word. So in the absence of a code-specific definition, the latter definition from the above list is apt when referring to doors, windows and other "breaches" in fireresistance-rated assemblies.

<text>

Fire-resistance-rated assemblies (i.e., fire walls, fire barriers, fire partitions, smoke barriers and horizontal assemblies) have been tested to restrict the spread of fire, but openings such as doors and windows located in these assemblies introduce points of weakness. Therefore, openings in a fire-resistance-rated assembly must afford some protection to maintain a minimum level of fire resistance throughout the extent of the assembly. The IBC establishes requirements for openings in Chapter 7 in three locations. The first location is Section 705.8 for openings in exterior walls, the second is Section 712.8 for floor doors in horizontal assemblies, and the third is Section 715, which is titled "Opening Protectives"—the primary location for opening requirements.

Standards for Openings

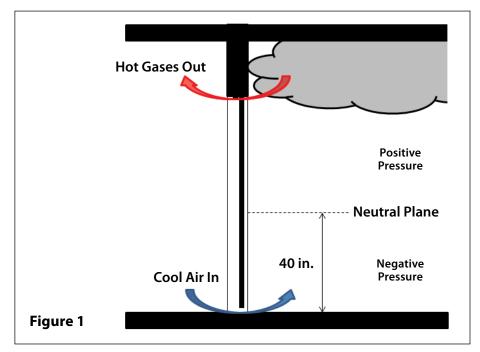
In order for an opening to be used in a fire-resistance-rated assembly, the opening must be tested in accordance with the standards indicated in the IBC based on type of opening. The IBC defines three types of openings: the fire door assembly, the fire window assembly, and the floor fire door assembly, which is used only in the horizontal position. The use of the word assembly with each of these terms indicates that it includes all components necessary for a complete opening, such as frames, hardware, glazing and other accessories.

For side-hinged and pivoted swinging doors, the applicable test standards are the National Fire Protection Agency's (NFPA) 252, *Standard Methods of Fire Tests* of Door Assemblies, or Underwriters Laboratories' (UL) 10C, Positive Pressure Fire Tests of Door Assemblies. Other doors are required to be tested in accordance with either NFPA 252 or UL 10B, Fire Tests of Door Assemblies.

The positive pressure requirement for fire door assemblies was introduced in the 1997 Uniform Building Code after much debate and has remained a requirement in the IBC. It was expected that the hose stream requirement for fire doors would be eliminated from test standards if positive pressure was incorporated, but the hose stream test (discussed in the next paragraph) has remained in U.S. fire door test standards. UL 10C integrates the positive pressure requirements into the test standard; however, NFPA 252 does not, so the IBC requires that the neutral pressure plane be moved to 40 inches or less above the sill after five minutes into the test. The positive pressure requirement provides a more realistic condition experienced by fire door assemblies during an actual fire event (see Figure 1).

The hose stream portions of the UL 10C and NFPA 252 tests are not indicative of an assembly's ability to withstand firefighting operations, but to test the structural durability of the assembly through thermal shock from the cool water and the impact and scouring effect of the water blast against the assembly. Fire door assemblies in walls of corridors and smoke barriers are not required to pass the hose stream test of either standard.

An exception to the tests above are those doors that have been tested in accordance with UL 10A, UL 14B and UL 14C. The doors applicable to these standards



are tin-clad fire doors, usually constructed of a wood core with sheet metal applied to faces and edges. Historically, tin-clad doors were often associated with old warehouses and may be of the swinging, horizontally sliding or vertically sliding types. Even so, some manufacturers continue today to fabricate doors of this type.

Another exception to the door testing requirements is for floor fire door assemblies. Doors of this type are required to be tested in accordance with NFPA 288, Standard Methods of Fire Tests of Floor Fire Door Assemblies Installed Horizontally in Fire-Resistance-Rated Floor Systems. Where openings are needed in a fire-resistance-rated horizontal assembly, the floor fire door can be a solution. Floor doors are subject to fire exposure that is different from that experienced by standard vertical fire doors, such as the lack of differential pressure along the plane of the door surface and exposure to higher temperatures from the rising heat.

For fire window assemblies, the required tests are either NFPA 257,

Standard on Fire Tests for Window and Glass Block Assemblies, or UL 9, Fire *Tests of Window Assemblies.* The only exceptions to these standards are wired glass and glazing complying with the requirements of ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials, or UL 263, Fire Tests of Building Construction and Materials. The latter exception will be addressed in detail in Part 2 of this article. Like fire door assemblies, fire window assemblies are required to be tested under positive pressure, but only within 10 minutes of test start and at a height that leaves ²/₃ of the window above the neutral plane.

Fire Door Assemblies

The required fire protection rating of a fire door assembly is based upon both the rating and the type of fire-resistive assembly in which the fire door assembly is located. Like fire-resistive assemblies, the fire protection ratings for fire door assemblies are given in hours. Fire protection ratings are provided in Table 715.4 of the IBC.

Fire door assemblies, at a minimum, must be provided with a label complying with the requirements of NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, and must bear the name of the manufacturer or the manufacturer's traceable identification number, the name or trademark of the third-party inspection agency, and the fire protection rating (see Figure 2). Frames for fire door assemblies are also required to have a label, but it is not required that the fire protection rating be included.

In addition to controlling the spread of fire, fire door assemblies must also control drafts and the passage of smoke. To measure a fire door assembly's performance in these areas, the assembly must be tested in accordance with UL 1784, *Air Leakage Tests of Door Assemblies*. New in the 2009 edition of the IBC is the basic acceptable performance level with which fire door assemblies must comply. Doors complying with the smoke and draft control requirements must be identified with an "S" on the required label.

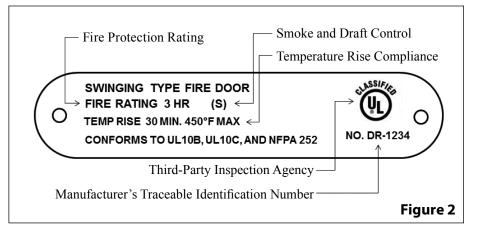
If a door that requires a fire protection rating is larger than the fire door assembly that was tested, then the required label mentioned earlier will need to indicate that the door is oversized. Another option is to have an approved testing agency provide a certificate of inspection attesting to the fact that the door is constructed in the same manner as the tested fire door assembly.

Fire door assemblies located in exit enclosures and exit passageways are required to minimize the transmission of heat from the exposed side through the door to the unexposed side, thus reducing the amount of radiant heat occupants may experience while egressing through the exits. The IBC requires that the temperature rise on the unexposed surface of the fire door assembly cannot exceed 450 degrees Fahrenheit above the ambient temperature at the end of a 30-minute period. Fire door assemblies that must comply with this requirement must display that on the required labels (see Figure 2). Further, if glazing in the fire door assembly exceeds 100 square inches, then the glazing must also pass the temperature rise criteria. Buildings that are equipped throughout with an automatic sprinkler system in accordance with either NFPA 13 or NFPA 13R are not required to comply with either temperature rise provision.

For obvious reasons, the IBC precludes the use of louvers in fire doors. However, UL provides listfrom the building official before incorporating a UL-listed louver into a fire door assembly.

In fire walls, the area of fire door assembly openings is limited to 156 square feet unless the buildings on each side of the fire wall are sprinklered throughout in accordance with NFPA 13; NFPA 13R systems are not allowed that exception. Additionally, the aggregate width of openings on any floor level cannot exceed 25% of the overall length of the fire wall.

Glazing in fire door assemblies is permitted, but some restrictions do apply. According to NFPA 80, glazing is permitted when tested as part of the fire door assembly. The IBC indicates that glazing shall have a fire protection rating equal to the rating required for the fire door assembly. The size of glazing in a fire door assembly is limited by NFPA 80 and the IBC. NFPA 80 limits the area of glazing to that tested as part of the



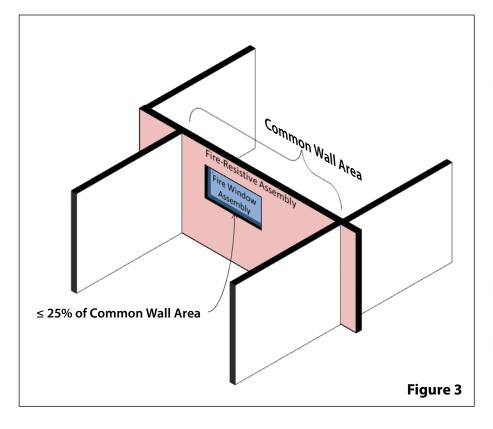
ings for fire door louvers used in fire doors with fire protection ratings up to 1½ hours. UL requires that such louvers be tested in accordance with UL 10B or UL 10C—the same tests to which fire door assemblies are subjected. With regard to the specific prohibition in the IBC, designers should obtain approval fire door assembly. However, ¾-hour doors are limited to a maximum area of 1296 square inches, with a maximum dimension not exceeding 54 inches. Additionally, in 3-hour doors, NFPA 80 limits the glazed area to a maximum of 100 square inches. The IBC further restricts glazing to 100 square inches in 1½-hour fire door assemblies that are installed in fire barriers.

Glazing used in fire door assemblies must be permanently labeled with a four-part identification code. The first part of the identification code is the letter "D," which indicates that the glazing is suitable for a fire door application and has been tested in accordance with NFPA 252. The second part is either an "H" or an "NH," which indicates that the glazing has passed or not passed, respectively, the hose stream requirements of NFPA 252. The third part is either a "T" or an "NT," which indicates that the glazing complies or does not comply, respectively, with the temperature rise requirements of the IBC. And finally, the fourth part is the fire protection rating in minutes. Thus, an identification code such as "D-H-NT-120" translates into glazing suitable for a 2-hour fire door that has passed the hose stream test but has

not passed, or was not tested for, the temperature rise requirement.

Glazing utilized in fire door assemblies must also comply with the safety glazing requirements of the IBC. Chapter 24 of the IBC requires that glazing in doors comply with the requirements for Category I glazing, as established by test in accordance with the Consumer Product Safety Commission (CPSC) 16 CFR 1201, Safety Standard for Architectural Glazing Material. Category I safety glazing will withstand a 100-pound weight swung from a pendulum at a distance of 18 inches from the glass surface. If the area of glazing exceeds 9 square feet, then the glazing must comply with Category II requirements, which increase the distance of the weight in the test to 48 inches from the glass surface.

A discussion on fire door assemblies would not be complete without addressing door hardware. A fire



door assembly is required to have a latch that will secure the door when closed, preventing passage of smoke and fire into the unexposed side. But a latch is useless if the fire door assembly is allowed to remain open; therefore, IBC Section 715.4.8 requires that fire door assemblies be provided with closers that are either automatic- or self-closing, unless they are installed in walls separating sleeping units in Group R-1 occupancies.

Generally, self-closing requires the use of standard door closers that will close and latch the door when released. Automatic-closing usually includes devices such as magnetic door holders that release doors when triggered by an alarm situation. However, Section 715.4.8.2 states that automatic-closing fire door assemblies "shall be self-closing in accordance with NFPA 80." Therefore, the language of the IBC seems to limit all fire door assemblies to the selfclosing type, even though NFPA 80 permits the use of automatic-closing fire door assemblies.

But Section 715.4.8.3 identifies where smoke-activated, automaticclosing fire door assemblies may be installed. These locations include doors across corridors and doors in smoke barriers, fire walls, fire partitions, and shaft enclosures, as well as in other locations. The actuation of the closer is limited to a 10-second delay after being triggered by a smoke detector or loss of power to the smoke detector or hold-open device. Overhead sliding or rolling fire door assemblies are permitted to be actuated by either heat-sensitive devices, such as a heat detector or fusible link, or smoke detectors connected to the building alarm system.

Transoms and sidelights that are a part of the frame for a fire door assembly are permitted, provided the fire protection rating of the assembly is ³/₄ hour or less. For fire door assemblies exceeding a ³/₄-hour rating, transoms and sidelights must comply with either ASTM E 119 or UL 263. Glazed units that are not part of a fire door assembly must comply with requirements for fire window assemblies.

Fire Window Assemblies

The required fire protection ratings of fire window assemblies are provided in IBC Table 715.5 and are based on the type and rating of fire-resistive assembly in which the windows are installed. For interior construction, fire windows are limited to fire-resistive assemblies that have ratings of one hour or less. Therefore, all fire walls and fire barriers with ratings of two hours or more are not permitted to have fire window assemblies. In all cases where fire window assemblies are permitted, the area of a fire window assembly cannot exceed 25% of the common wall area in any room (see Figure 3). The size of a single pane of glazing in a fire window assembly is limited to 1296 square inches, with no dimension exceeding 54 inches unless tested to a larger size, dimension, or both.

Wired glass assemblies are one of the exceptions to the testing requirements for fire window assemblies. Wired glass that is ¹/₄-inch thick set in steel frames having a metal thickness not less than 0.125 inches are considered meeting the requirements for a ³/₄-hour fire window assembly. The maximum area of wired glass permitted under this exception is an absolute 1296 square inches, with no dimension exceeding 54 inches. Wired glass assemblies that have been tested in accordance with the standards for fire window assemblies are permitted to have larger glazed areas and dimensions if tested at those larger sizes.

Like glazing in fire door assemblies, glazing in fire window assemblies is required to be of safety glazing if located in areas identified in Chapter 24. The only exception is that glazing in fire window assemblies may be tested in accordance with the recently updated ANSI Z97.1, Safety Glazing Materials Used in Buildings—Safety Performance Specifications and Methods of Test, in lieu of the CPSC 16 CFR 1201 standard.

Fire-protection-rated glazing used in fire window assemblies must also be permanently marked with a label or other identification that provides the name of the manufacturer, the test standard, and a two-part identification code. The first part of the identification code is "OH," which indicates that the glazing is suitable for an opening and has passed the hose stream test. The second part of the identification code is the fire protection rating in minutes. Therefore, fire-protection-rated glazing with the identification code "OH-45" indicates that the 3/4-hour glazing is suitable for openings and has passed the hose stream test.

Installation

Fire door and fire window assemblies are required to be installed in accordance with NFPA 80. Doors required for smoke and draft control must be installed in accordance with NFPA 105, Standard for the Installation of Smoke Door Assemblies. NFPA 80 limits the clearance at the bottom of a fire door to a maximum of $\frac{3}{4}$ inches above the floor, and the clearance between the top and vertical edges of the door and door frame is $\frac{1}{8}$ inch ($\pm \frac{1}{16}$ inch) for steel doors and a maximum $\frac{1}{8}$ inch for wood doors.

Openings, Part 2

Part 2 of this article will address openings in exterior walls, including calculating allowable area of protected and unprotected openings based on fire separation distance. Also included will be information on alternate methods used to determine fire protection ratings of openings. Part 2 will wrap up with a brief discussion on when a window is not considered an opening.

To comment on this article, suggest other topics, or submit a question regarding codes, contact the author at ron@ specsandcodes.com.

About the Author: Ronald L. Geren, AIA, CSI, CCS, CCCA, SCIP, is an ICC Certified Building Plans Examiner and is the principal of RLGA Technical Services, located in Scottsdale, Arizona, which provides specifications and code consulting services to architects, engineers, owners and product manufacturers. A 1984 graduate of the University of Arizona, Ron has more than 26 years of experience with military, public and private agencies.

Footnotes

- 1. The American Heritage Dictionary of the English Language, 4th ed., 2000, Houghton Mifflin.
- 2. References to the IBC in this article are for the 2009 edition.

dhi Faces of DHI

Dong Hyun "Tony" Park

Ingersoll Rand Security Technologies



Many people spend their lives working

toward a position that will reward them with fame and/or fortune. But Dong Hyun Park, better known simply as "Tony," isn't like most people. "I wanted to be a part of something that most people don't even know about but affects their lives every day," says Tony. He ended up choosing "something so small, like a hinge or a gasket that can be overlooked, but at the same time can have a devastating effect on an opening or a building in an emergency." His appreciation for details has served

him well during his 10 years in the industry,

but he's quick to give credit to his mentor for making him aware of their importance. "My boss at my first job working at a German hardware company taught me that everything had significance and that nothing was too small, too unimportant to take notice of. That philosophy is what I base a lot of my work on, how I perceive the 'little things'—everything from a fastener to a smile on a customer's face. Nothing is unimportant."

Working as a consultant and spec writer for Ingersoll Rand Security Technologies gives Tony plenty of opportunities to hone his awareness of details, but his favorite aspect of the job is "helping architects and developers directly realize their safety, security and sustainability goals while indirectly providing end users with a safe and comfortable working/living space." He also enjoys those rare opportunities to work behind the scenes on landmark projects that will be talked about by future generations.

In an effort to increase his competitive edge, Tony joined DHI four years ago. "I think if you're a part of this ever-changing industry, you have to become a member of DHI to keep up with the new standards/codes, trends, as well as what's going on at the competition," he says. "There is a wealth of information to be tapped into at DHI that you can't afford to miss, whether you're a veteran or just someone starting out in the business.... The access to the wealth of industry information available through the website, publications and via direct contact with fellow members helps me to keep a wider perspective of the industry and not to stay so isolated from what's going on in other parts of the world."

So, having followed the details of the industry so closely for the last decade, where does Tony see us heading over the next 10 years? "I think with the growing need for both higher security and greener solutions, we will see more sophisticated access control solutions coming forth," he says. "But at the same time, [they will be] smarter, more environmentally friendly solutions from every aspect imaginable that will help lessen the carbon footprint of a building [system] while keeping [people] safe and comfortable."

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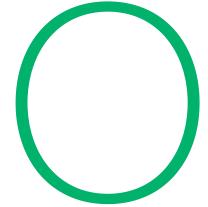
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By Dr. Albert D. Bates

VER THE LAST 10 YEARS, I've taught a number of teleconferences and webinars for various associations. Participating firms were encouraged to have as many employees around the computer screen as possible during those sessions. However, polling almost always indicated that the typical number of participants in the room was one—the CEO.

Similarly, the Profit Planning Group has developed a series of video training programs in conjunction with the PROFIT Report it prepares for DHI. The intent is to help salespeople and managers understand the key financial issues in the firm. The programs are free, yet usage has been minimal.

Discussions with top management suggest that these two items are indicative of a larger issue: namely, the CEO is reluctant to train anybody outside of the senior management team on financial issues. A small part of the issue is cost. A much more important component is the feeling that nobody really needs to understand financial information except for the CEO and the CFO.

This report suggests that such an approach is dysfunctional. It will do so by examining two specific issues:

- Where Lack of Understanding Hurts: A review of the common misconceptions about profit and what that means to the firm
- Pricing Economics: A detailed examination of how employee misunderstandings about pricing policies decimate profit

Where Lack of Understanding Hurts

There are three major areas in which a lack of financial understanding among employees creates problems for the firm. These involve: (1) perception versus reality regarding the firm's actual profit, (2) the profit erosion equation, and (3) what constitutes fair and equitable pricing policies.

Profit Perception versus Profit

Reality: Every employee overestimates the amount of profit the firm generates. The further removed the employee is from having access to actual income statement information, the greater the distortion. Salespeople, for example, typically think that profits are twice as high as they really are. Operating employees overestimate profits by a factor of anywhere from five to 10 times.

The natural result is that employees do not maintain a sense of urgency about profit improvements. In particular, they become less concerned with controlling expenses or eliminating waste and efficiency. They simply don't understand the benefit of such actions in relation to actual profit.

Profit Erosion: Because of a lack of understanding about the firm's profitability equation, lots of employees spend their time focusing on the wrong issues. As an illustration, few employees are aware that a 5% reduction in expenses actually has a larger impact on profit than a 5% increase in sales.

They are also not aware that one dollar of additional revenue generated via a price increase produces five times the profit of one dollar of revenue generated through selling more products. Worrying about the wrong things slowly but systematically reduces profit without any awareness that it is happening. **Pricing Equity:** The key to pricing is to be incredibly competitive on commodity items and produce offsetting gross margin enhancements on slow-moving specialty items. This simple concept is almost completely foreign to employees outside of top management.

For a typical DHI member with an overall gross margin of 30.0%, commodity items may sell for a gross margin that is less than one-half of the company average. Conversely, slow-selling items may have a gross margin percentage that is three times the overall average.

Frequently, when employees compare the gross margin percentages on commodity items and slow-selling items, they conclude that the firm is overcharging customers on the slower-selling ones. This seeming incongruity reduces the level of support for the firm's pricing actions.

Only accountants should be accountants. However, all key managers and salespeople should fully understand the profit implications of their actions. At the operating employee level, there should be at least a minimal awareness of what hurts and what helps the firm. This can be a relatively easy process through some of the programs already available through DHI.

Pricing Economics

By far, the largest profit drain associated with poor employee understanding is in pricing. Specifically, there continues to be a long-held conviction that a modest price reduction that drives substantial additional volume will lead to higher levels

Unlinking Inbound and Outbound Prices

One area of continued pricing confusion, even among senior management, is the extent to which opportunistic buying should be converted to price reductions. The intuitive response is that if merchandise can be bought for 1.0% less than previously, then the selling price can be reduced by the same 1.0% with no negative profit impact.

Exhibit 1 on the next page demonstrates what actually happens to profits when a 5.0% price reduction accompanies a 5.0% reduction in cost of goods sold. The results are disastrous, as profit declines by 41.7%. Buying things more effectively should not necessarily lead to charging lower prices.

of profitability. For the typical DHI member, that is simply not so.

Exhibit 1 contains a pricing analysis that has been seen by members of top management so many times they will scream if they see it again. However, the problem is that top management has almost certainly not shared it with the sales force and other employees who make frontline pricing decisions on a day-to-day basis.

The first column of numbers in the exhibit reviews the performance of the typical DHI member based upon the latest PROFIT report. As can be seen, the typical firm has sales of \$10,000,000 at a gross margin of 30.0%. This produces a pre-tax profit of \$300,000, or 3.0% of sales.

The last two columns reflect the results of a 5.0% price cut. In Scenario 1, no increase in physical sales volume is realized. The middle column shows that there is no

Exhibit 1 The Impact of Price Cutting Under Two Scenarios for the Typical DHI Member					
Income Statement – \$ Current Results Scenario One Scenario Two					
Net Sales	\$10,000,000	\$9,500,000	\$11,728,395		
Cost of Goods Sold	7,000,000	7,000,000	8,641,975		
Gross Margin	3,000,000	2,500,000	3,086,420		
Variable Expenses	500,000	475,000	586,420		
Fixed Expenses	2,200,000	2,200,000	2,200,000		
Total Expenses	2,700,000	2,675,000	2,786,420		
Profit Before Taxes	\$300,000	-\$175,000	\$300,000		
Change in Sales – %		-5.0%	17.3%		
Change in Profit – %		-158.3%	0.0%		
Income Statement – %					
Net Sales 100.0	100.0	100.0	100.0		
Cost of Goods Sold	70.0	73.7	73.7		
Gross Margin	30.0	26.3	26.3		
Variable Expenses	5.0	5.0	5.0		
Fixed Expenses	22.0	23.2	18.8		
Total Expenses	27.0	28.2	23.8		
Profit Before Taxes	3.0	-1.8	2.6		

resulting increase in sales. The firm simply sells the same quantity of merchandise at reduced prices. As a result, profit plummets by 158.3%, producing a loss of \$175,000.

Scenario 2 presents the increase in sales that would be required to maintain profits at their current dollar level. The answer is that sales must rise to \$11,728,395, an increase of 17.3%. Most employees are shocked to find that such a large increase is required.

It is important to note that in Scenario 2, the fixed expenses did not rise, in spite of the substantial increase in sales. Every effort was made to make the effects of a price reduction as positive as possible. In reality, fixed expenses would increase, and the sales challenge would be even greater.

If employees with pricing responsibility do not understand the mechanics of Exhibit 1, there is very little chance that they will change their behavior. Simply hounding employees to do better on pricing is not good enough. It is essential to make sure that pricing economics are ingrained in every employee.

Moving Forward

Virtually every employee wants to contribute to making the company more successful. However, if they don't know what helps profit and what hurts profit, there is no way that they can act in the best interest of the firm. Too often they think they are helping when they are not. Firms need to spend more time and effort on driving profit understanding throughout the firm. There is no need to share every financial figure, but there is a need to share the basic concepts.

About the Author: *Dr. Albert D. Bates is founder and president of Profit Planning Group. His latest book,* Triple Your Profit!, *is available at: www.tripleyourprofitbook.com.*

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Interior view of a typical patient room door with ligature-resistant items, including lockset, hinge, light switch, and door notification alarm activating bar across the door

'VE BEEN DESIGNING SECURITY AND LIFE SAFETY PRODUCTS for over 20 years. In doing so, I try to stay keenly aware of other developments in our industry. Watching and admiring those who have advanced the art in our field is a never-ending process.

As an example, the wide variety of electric locking offerings in the 21st century represents a quantum leap over what was available at the dawn of the 20th century. From electric strikes to electric locksets, electromagnetic locks and electrically released trim, our industry has responded to the ever-growing needs of the marketplace. The tremendous assortment of products developed over a few decades attests to the different requirements and preferences of users.

A New Need Discovered

A much narrower window of technological growth can be seen in the field of ligature-resistant locking. These products are used in secured wards of hospitals, where patients are at high risk of harming themselves and are dealing with the most difficult psychiatric issues. The accepted industry term for this segment is "behavioral healthcare."

The term "anti-ligature" comes from our friends across the pond who still use wonderful terms like "ironmongers." In fact, it is clear that the United Kingdom was quicker than the U.S. to recognize the need for patient safety. Firms producing hardware and other building products on the other side of the Atlantic Ocean took the early lead in producing these specialized products. Anti-ligature products can be found in the UK in many different categories of builder's hardware; they have produced the first anti-ligature standard as a benchmark for product usage.

These ligature requirements apply to areas beyond door hardware. Every exposed surface provides a risk. Furniture, light fixtures and plumbing are just a few of the industries that are facing challenges equal to or greater than our own in developing new products in a short period of time.

As is true with most locksets produced for markets other than those in North America, very few of these solutions are appropriate for our doors. While we may share some of the principles, our standards generally prohibit the use or application of their solutions. As a result, domestic manufacturers have responded to the call and in a very short period of time created a diverse body of products.

Just as the three letters "ADA" transformed the hardware landscape, ligature-resistance requirements are



Exterior view, including lockset, key reset switch, and strobe for alarm (strobe is above nurse call light).

altering this small segment of healthcare. For years, specifiers were limited to including detention hardware in their specifications. These products might have been acceptable in years past, but the design movement in behavioral healthcare and advanced life safety requirements necessitated a new approach.

Watching the development of products, there are several different types of solutions being offered. Independent specifiers and facility staff need to choose among a number of different criteria in determining which products to use, as they would for any hardware opening. The difference here is that the margin for error may not only result in an inconvenienced user; here, we are in a real-life battle with individuals who might be inclined to exploit any weakness in an opening to hurt themselves.

The primary focus in selecting product is life safety, not only for patients, but for staff as well. However, product specifiers must also learn about both the common and the unique facility needs for each opening regarding security, liability, and sometimes privacy. In addition, the quality and performance of each product must be of the highest grade, as product deterioration could result in failure in the field or, in extreme cases, a product coming off the door and being used as a weapon.

Similarly, we must be aware of means of egress requirements or ease of operation for both patients and staff in different situations, including entering a room quickly or exiting an individual patient room or ward in the event of an emergency evacuation. These and



Privacy function lockset with ligature-resistant lever and turnpiece. Light switch with ligature-resistant elements is also shown.



Interior view of a female patient room with multiple ligature-resistant elements and devices:

1.	Emergency light	4. Light switch
2.	Motion sensor	5. Turnpiece

- 3. Door notification alarm activating bar
- 5. Turnpiece 6. Lever handle



Nurse's station for door notification alarm with illuminated LEDs showing fully-monitored position of each activating bar. Individual red LED illuminates in emergency condition. Local momentary silence switch is on the left.

other criteria come in to play in the proper selection of ligature-resistant hardware and the design of the operating hardware on the face of the door.

The role of behavioral healthcare professionals is critical in product selection. Those working in the wards on a daily basis and those who specialize in their design must collaborate to ensure that each product used is acceptable for its environment. They must also understand the overriding requirements of the Joint Commission, make sure they respond to their standards, and react promptly and carefully to field audits.

Emerging Needs within Behavioral Healthcare Locking

Originally, hardware was developed with limited locking functions. For instance, the first hardware introduced into this arena did not include interior locking functions like turnpieces. Now, the need to provide patients with the ability to secure themselves in certain rooms (think bathroom privacy), coupled with quick entry by staff, has created another design requirement. Our industry has responded with several different solutions.

The Builders Hardware Manufacturers Association (BHMA) has formed a committee to study and develop a standard for ligature resistance. Use of this term is preferred, as it will more accurately reflect the goal of the products in this category. Just as we have turned from phrases like "pick-proof" to "pick-resistant," "ligature-resistant" states a definable goal. The standard under development will include testing to determine the level of resistance offered by builders hardware.

Specifiers can expect to be presented with many different solutions over the next few years. It is a very difficult task selecting among the newer products and features being offered. Absent a testing standard, specifiers will need to evaluate each product, its different designs, and its features individually. As an industry, we must be very careful to try to prevent confusing users with designs or features that might be attractive or innovative but do not respond to concerns identified as real or important. Evaluators must also take into concern their own unique facility design. A ward with only a few doors, all of which are observable from a fully-manned nurse station, has different requirements and needs than a larger ward with doors located in alcoves or even bathrooms within patient rooms.

Door locks need to be easy to operate without special knowledge. Anything which might become a source of

frustration for a patient must be evaluated for its appropriateness. There are three concerns for any door hardware in the behavioral healthcare industry: patients might try to wrap something around it and hurt themselves by dropping downward (suicide attempts from below waist height are a very real concern; an article of clothing or bed sheet ripped into strips is an example of something that could be used); patients might be able to use the hardware to go upward over the door and attempt to harm themselves from a higher point; or through "transverse" locking, in which patients either take anything projecting off more than one plane of the door and attempt to use that to create a ligature point or they use the door itself for multiple adherence points.

There are now several options of door lock designs, and the first two concerns are addressed. Products should be evaluated individually on how effective they are and how they respond to operational needs. The "transverse" method by which patients may harm themselves, which has been identified as far less popular or common than the others, will always be a threat and has resulted in the creation of ancillary products which address the situation.

There Can Never Be a Complete Solution

Our goal as product designers is to support the dedicated professionals who work with patients in the behavioral healthcare environment. One of the modern environmental philosophies is to have behavioral healthcare wards look as ordinary as possible. Patients respond much better when they feel they are in a warm, helpful environment. Compare today's ward designs with the sterile institutional look seen in the 1970s in a film like *One Flew over the Cuckoo's Nest*, and you'll see how much has changed.

Similarly, we recognize the reality that the need for patient privacy requires the use of doors. A door, in and of itself, always presents an opportunity for harm, regardless of the type of door hardware in use. Certainly the application of ligature-resistant hardware to a door reduces the threat of harm. This may be effective with 95% of the patients who might be inclined to use the lockset or hinge to harm themselves (the statistic is an example, not anything that can be quantified). But the existence of a door top will always present a danger and risk. We actually **KNOW** about the openings industry and your company's unique insurance needs.



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Several solutions have been introduced to the marketplace to provide notification of when patients attempt to harm themselves using a door. These devices are intended to provide a signal when weight is applied in a downward motion at the top section of the door. Alarms are generated, and a nurse's panel illuminates with the exact location of the event. These notification products are another example of how careful evaluation in the field is required by facility staff. A product which might be acceptable in a non-critical environment might have shortcomings which could allow it to become a hazard if it could be removed from the door or easily disabled during an event.

At one location I visited, staff had installed an alarm system after an

incident involving a patient and a door. They have not reported any incidents since, which leads to a common problem with the ligature-resistant locks and alarms: It is very hard to determine their efficacy, other than simply observing the lack of incidents over a long period of time. Yet ask any healthcare professional who has worked on a ward where there has been an event, and they will tell you that in addition to the terrible loss of life, the effects on the staff can be debilitating and result in personnel changes at a very troubling time.

An additional defined need is granting certain patients the ability to lock their doors when they are in a room, but always providing staff with the ability to enter quickly, even if the patient attempts to prevent entry by holding the turnpiece. There are both mechanical and electrical solutions to this. According to a nurse supervisor at one location, there is always a risk on these and other doors of patients inserting debris into keyholes to thwart entry. Vandal- and ligatureresistant cylinder protectors can be useful in these cases. Specifiers need to stay in close contact with facility staff to ensure that needs are met.

Providing safety and personal security for female patients on a mixed ward can also present special obstacles. Most facilities do grant patients the ability to lock their own doors. Yet women patients have different requirements and privacy needs. Solutions include privacy locksets with key override, as well as motion sensors inside the room, focusing on the area in

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front of their doors. This solution, however, can be burdensome, as many facilities require frequent personal checking of patients whenever they are in their rooms. The motion sensor alarms need to be disabled each time the door is opened. The alarm also needs to be disabled in the mornings prior to the patients exiting their rooms.

Different Operating Models

Staff assigned to behavioral health units need to become familiar with different lock functions. Specifiers also need to be cognizant of which functions are appropriate by room. I recently visited a ward where the staff appreciated the installation of ligature-resistant lever locks. Previously, keys were used to pull the doors, as all hardware had been eliminated from the key side.

At another location, the incorrect lock function was specified in staff areas, such as conference rooms. Staff would prefer that these doors always required a key for entry (storeroom function). Instead, they received a classroom function so that each time the door is unlocked, the key must be rotated in the opposite direction to lock the door. Staff does not always perform this function, and as a result, any patient could walk in on the staff or users of the room, which in fact happened while I was there. Learning to lock the door each time is too much of a change from the operating procedure that had been in place for years. In this case, the lock function should be changed to meet specific operating and safety needs.

Working toward a Better Future

It is important to recognize that we are responding to a need, not creating one. This is a case in which we as an industry can shine. We recognize that advancing the art is our way of providing a measure of comfort, safety and "normalcy" for these special patients, as well as assisting, in a very important way, the dedicated staff who work in these very difficult environments and who are truly remarkable people.

About the Author: Mark Berger is the President and Chief Product Officer of Securitech Group, Inc. He welcomes all questions and comments at mberger@securitech.com or 718/392-9000. You can also find him on Linked-In.

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By Steve Farley, CSI, CDT, LEED GA & Tim Petersen, LEED AP

ur goal for this article is to distill the various facts, opinions and studies into a simple overview of what our industry members, particularly distributors, need to know to compete in this new market.

History of the Environmental Movement

The environment movement today is huge and all-encompassing, but it's certainly taken a while to get to this point. Its roots can be traced all the way back to 1897 with the Forest "Organic" Act that set up management practices for the U.S. forest reserves. Next came the Lacey Act, which was established in 1900 but didn't have much traction until 2008, when it was added as a rider to a farm bill and slipped through Congress without much attention. However, as we will see, its current impact is significant.

After the creation of the Lacey Act, it would be 70 years before the movement saw any further progress. Then, in 1970, 20 million Americans across the country demonstrated and organized protests for Earth Day. This coalition of concerned citizens crossed all party lines and socioeconomic levels and led to the creation of the U.S. Environmental Protection Agency (EPA), the passage of the Clean Air, Clean Water, and Endangered Species Acts, and the launching of the environmental movement as we know it today.

However, after the initial surge of legislation, the movement slowed, and while the '80s saw the creation of some voluntary standards, it wasn't until 1998 when a building certification program called Leadership in Energy and Environmental Design (LEED) was introduced by a group called the U.S. Green Building

Council (USGBC) that "green" began to enter into commercial construction in a significant way. To date, over a billion square feet of commercial property has been LEED certified.

Where Is Your Company?

It's clear that green has made a significant impact in the commercial construction market already. So where is your company on the road to being green? In our industry, innovators make up about 2%—these are the people who are driving the program. Early adopters-the ones who recognized years ago that green was more than just a fad—make up about 13% of our industry and are predominately manufacturers. Slightly less than 70% of our industry falls somewhere in the middle of making the transition, but then there are about 15%, predominately distributors, who are lagging in getting involved.

And yet the demand for green products and processes is enormous, and the projections for the green building market are huge. Many estimates put the value of the market by 2015 at *\$173 billion*. Clearly this is not a trend your company can afford to ignore.

How Will This Impact Your Business?

Today there are a number of environmental groups, programs, standards and even codes. We'll break them down into those that are *currently* voluntary and those that are mandatory.

We've already looked at one of the major voluntary programs out there—LEED—but there is also the Collaborative for High Performing Schools (CHPS), the Forest Stewardship Council's Chain of Custody certification (FSC COC), recycled content certification, product volatile organic compound (VOC) off-gas testing, and acoustical requirements. While the word "voluntary" might imply that you get to decide in which program, if any, you participate, the reality is that the market is going to decide for you. If you are a manufacturer or distributor of wood doors, how *plants* contained within their products. Violators face forfeiture of the goods and the vessels used to transport them, fines and even jail time. If your manufacturer can't get a type of wood easily and legally, this can obviously impact your ability to

The green movement represents a major market shift that will ultimately become a very significant part of your business.

many jobs are you going to miss out on because you lack FSC certification before you decide to participate in this "voluntary" program? As these voluntary standards grow, they become a major part of the market you are missing out on. In addition, many of the voluntary standards are being adopted into building codes and becoming law. Many are also being adopted into local, state and federal government contracts. What was once voluntary is fast becoming mandatory.

The two mandatory requirements that are currently directly impacting our industry are the Lacey Act and CARB, which is the California Environmental Protection Agency's Air Resource Board.

The Lacey Act, as mentioned previously, was first passed in 1900 to protect game and wild birds by prohibiting the transport of illegally captured or prohibited animals across state lines. However, it was amended in May of 2008 to ban commerce in illegally sourced plants and their byproducts, including timber and wood products. The goal of the bill was to help control illegal logging and illegal plant trade. It requires importers to declare the country of origin of harvest and the species name of *all* successfully bid and supply a job.

And if you don't think the government is really going to enforce this bill, you haven't heard of the troubles currently faced by Gibson Guitar[®].

In September 2009, U.S. Customs and Border Protection reported the import of a shipment of Madagascar ebony wood from a German company called Nagel GMBH to Gibson Guitar[®]. The import declaration package and invoices were for 5,200 pieces of sawn ebony and 2,133 pieces of sawn Madagascar black ebony-a total value of \$76,437. Nagel had been Gibson's exclusive supplier of Madagascar ebony since 2006, even though Madagascar banned export of its ebony in 2000. When the wood entered the United States en route • to Gibson, it was missing the plant products declaration page required by the Lacey Act. When the declaration arrived a day later, it listed the ebony as having been harvested from



Madagascar. So in November of 2009, federal agents from the U.S. Fish and Wildlife Service raided Gibson Guitar[®] and seized wood, guitars, computers and boxes of files from its manufacturing facility in Nashville, Tenn. Gibson filed a motion to overturn the charges, but the court ruled in favor of the U.S. Fish and Wildlife Service, and the agency continues to hold the seized property while the case is being investigated. The raid was particularly embarrassing for Gibson CEO Henry Juszkiewicz, who was a board member of the Rainforest Alliance. He has subsequently resigned, and in July of 2010, Gibson announced it is now committed to sourcing 100% of its wood from FSC-certified suppliers.

Better Late than Never

The second mandatory requirement is CARB. Named after its developer, the California Air Resources Board, it is responsible for the phased reduction in the allowable limits for composite wood formaldehyde VOCs. CARB regulates all composite wood products, hardwood plywood, particleboard and medium density fiberboard (MDF) installed or manufactured for sale within California. Other states and jurisdictions also considered the regulation of formaldehyde emissions, including restrictions on the use of urea formaldehyde resins. This promised to be quite confusing. It would be extremely difficult for manufacturers and distributors of composite wood products to comply with multiple and varying regulations for formaldehyde emission levels. Confusion already exists around the formaldehyde issue, as you may now see wood door specifications that call for "no formaldehyde." This typically reflects a misunderstanding of the formaldehyde issue and does not take into account ultra low-emitting formaldehyde-based resins that are generally considered acceptable.

Although the requirement originated in California, it didn't take long for it to be picked up on a national level, and in July of 2010, President Obama signed the Toxic Substances Control Act. This regulation will severely restrict the use of formaldehyde-based resins in composite wood products and will likely mirror CARB requirements. As of July 1, 2013, the allowable formaldehyde emissions level for composite wood products, plywood and MDF will be enforced nationally. In California, this new law requires inventory management for compliance as distributors, fabricators and retailers must sell their pre-CARB inventory by December 31, 2011. Those doing business in California and trading in composite wood products should consult www.arb.ca.gov for specific guidelines. On a national level, while it is a major change for our industry, most agree that a single national regulation is preferable to multiple regional attempts to regulate formaldehyde emissions.

New and Developing Codes

Federal, state and local governments are adopting green business codes at an incredibly rapid pace. As various building codes are updated, what was once voluntary is now becoming law. In recent years, an act was passed in Connecticut requiring any new building that costs over \$5 million to construct to meet the LEED silver standard. The requirement also applies to any existing building whose renovations exceed \$2 million.

According to the USGBC, the federal government currently has 241 certified projects and is pursuing another 3,420. The state governments have 416 certified projects and are pursuing another 2008, and the local governments have 611 certified projects and are pursuing another 3,164.

Not surprisingly, California is leading the way in green building codes with the passage of CALGREEN 2010—the nation's first mandatory statewide standards code to enforce green construction and fight climate change. This new code:

- Requires diversion of a minimum of 50% of construction waste from the site to be salvaged or recycled
- Requires low VOC interior finish materials such as paints, carpet, vinyl flooring and particle board
- Requires composite wood products to meet formaldehyde emission standards

All of these requirements became mandatory in California on January 1, 2011. How long do you suppose it will be before we see them in other states?

Is It Worth It?

The biggest reason to educate yourself and your employees about what's happening in the sustainability movement is that you can't afford not to. The risks to the health of your business are simply too high to sustain long term. If you or an employee overlooks a green product requirement in a specification, you could bid or order the wrong product. You could include too many green products in your bid, making it too costly. You risk not being in compliance with FSC Chain of Custody requirements or CARB or the Lacey Act. What's more, if your company is seen as lacking knowledge that is fast becoming a vital part of the construction industry, you risk losing work and facing financial and even legal problems.

However, if you become proactive and make the effort to educate yourself and your employees, your business will reap the rewards in the long run. Market your company's green initiatives. Promote the fact that your products are in compliance. Your knowledge of product requirements will only add value to your business.

Why Green Just Keeps Growing

While many would like to think that our society has finally grasped the enormity of our impact on the planet and that going green is simply "the right thing to do," the real reason for its explosive growth is that companies are realizing the potential profit to be made from it. In the United States, the next generation of consumers entering the market today are the children of the 20 million Americans who came out to support Earth Day in 1970. They care passionately about issues like global warming, pollution, and deforestation. They care about saving rain forests, whales and polar bears. There is an expectation that the companies they patronize for products or services not only care about these issues as well, but are actively taking steps to reduce their environmental footprint. In this age of social networking and 24-hour news cycles, companies whose products do not meet their buyers' environmental expectations will find themselves quickly losing market share. How green is your company? Are your products sustainably sourced and produced? What steps have you taken to make your business more energy efficient? What is your company doing to offset its carbon footprint? These are the types of questions customers are starting to ask. Do you have answers? 📶

About the Authors: Steve Farley, CSI, CDT, LEED GA is a Regional Sales Manager with Mohawk Flush Doors. He is a 23-year veteran of the door and hardware industry and is a recognized industry expert on environmental compliance. He is a LEED Green Associate, a CSI-certified Construction Documents Technologist, and serves on DHI's Sustainability Committee. Steve also holds an MBA from the University of New Haven.

Tim Petersen, LEED AP is the Vice President of Sales for VT Industries' Door Division. He has over 32 years in the openings industry, having worked for installation firms, distributors and manufacturers. He has assisted two major firms in developing their environmental policies. Tim presents door and environmental seminars across the nation to distributors, industry organizations and architectural firms, as well as presenting at national conventions such as the DHI Forum for the Future. Tim is also actively involved with DHI as a member of the Board of Governors and serves on a number of committees.

DECODED:

Roof Access and Egress



From the well-known blog idighardware.com,

Lori Greene brings some much-needed clarity to codes.

BY LORI GREENE, AHC/CDC, CCPF

CONTINUOUSLY RECEIVE

questions regarding roof doors specifically, whether free access is required from the stairwell to the roof, and whether free egress is required from the roof to the stairwell. The codes don't address roof doors in detail, so some interpretation is necessary, and in some jurisdictions, the code officials have preferences that are beyond what the codes require. I have spoken to quite a few code officials about their requirements for roof doors, but it's important to be aware of any special requirements for your project's location.

First, let's address the question of free access to the roof. By "free access," I mean that any building occupant can move freely from the stairwell to the roof without a key, tool, or special knowledge or effort. Hollywood has taught us that in a fire, we can just head out to the roof and wait for the helicopter to arrive, but this isn't based on reality. Neither the International Building Code (IBC) nor the Life Safety Code (NFPA 101) typically requires free access to the roof, and the false belief that building occupants can find safety by reaching the roof has led to death and injury. There is evidence that during the events of 9/11, several hundred occupants of the World Trade Center headed for the roof and perished in the

stairwells. In a recent fire in Boston, a resident was found on the stairwell side of the locked roof door, unable to reach fresh air and relative safety. Fortunately, she was resuscitated and survived.

In the case of the Boston fire, the media focused on the fact that the roof "fire door" was locked. I spoke to several code officials in Boston and other cities around the country and confirmed that free access to the roof is not required by code, and there are compelling reasons that free access to the roof is not desired. If building occupants are allowed free access to the roof, the number of accidental falls, attempted suicides, and vandalism will increase. Some code officials indicated a preference for fail-safe locks on the roof doors that unlock upon fire alarm to allow access to the roof, but this is not currently a requirement of the IBC or NFPA 101.

Whether or not a roof door is required to provide free egress from the roof depends on what the roof is used for. We can separate roofs into two general types: occupied roofs including roof gardens and rooftop assembly spaces, and unoccupied roofs that contain mechanical equipment and are occupied at limited times for equipment maintenance and repair. The majority of roofs fall into the second category. Although the preference from a life-safety standpoint would be to always allow free egress from the roof, security concerns can sometimes drive the need to lock the door from the roof to the stairwell to prevent unauthorized access to the building. Both the IBC and NFPA 101 seem to support the option of locking these doors on the roof side.

NFPA 101 – 2006, 2009:

7.2.1.5.8 If a stair enclosure allows access to the roof of the building, the door to the roof either shall be kept locked or shall allow re-entry from the roof.

IBC - 2003, 2006: 1018.1; IBC - 2009: 1021.1

... For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories. The required number of exits from any story, basement or individual space shall be maintained until arrival at grade or the public way.

Paragraph 7.2.1.5.8 from NFPA 101 says that roof doors have to either allow free egress from the roof or be kept locked. I interpret this to mean that if the door is locked on the stair side, preventing free access to the roof, it does not need to provide free egress from the roof. The IBC addresses occupied roofs, requiring the doors to meet the same requirements as other egress doors, but does not address unoccupied roofs. This is typically interpreted to mean that the door to an unoccupied roof can be locked on both sides. If acceptable to the code official, I recommend a double-cylinder deadbolt for this application so the door doesn't automatically lock behind technicians as they gain access to the roof.

As stated, the IBC requires occupied roofs to be "provided with exits as required for stories." For example, if a roof deck is classified as an assembly use group, the same quantity of exits and the same hardware must be provided as if the space was not located on the roof but elsewhere in the building. This would obviously require free egress from the occupied roof, including panic hardware if the occupant load was more than 50 or 100, depending on which code was in use. Last year I visited a rooftop garden in a hospital that had two egress doors providing free egress from the roof into the building. If greater security is needed for occupied roof doors, it would have to be provided by the use of alarms, or delayed egress locks if allowed by code. (Note: The IBC does not allow delayed egress on assembly occupancies.)

In summary, free access to the roof from the stairwell is not required by the IBC or NFPA 101 but may be required or preferred by the local code official. Free egress from the roof to the stairwell is required for occupied roofs but is not mandated by the IBC or NFPA 101 for unoccupied roofs. There may, however, be a local requirement for free egress from unoccupied roofs, so it's best to check with the local code official. For locking an unoccupied roof door when acceptable to the code official, a double cylinder deadbolt can avoid accidental lockouts. If the door to the unoccupied roof is fire rated, a passage latch is required in addition to the deadbolt and can be combined into one mortise lockset. This is a good compromise between life safety and security that is also code-compliant, unless prohibited by the local code official. If the code official requires fail-safe locking to allow egress and/or access during an emergency, a fail-safe electrified lockset with remote release can be used. dh

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Effective Recession Strategies

IVEN THE CURRENT economic climate, how do you retain a viable strategy in the face of what many feel has become an upside-down business world? A fundamental starting point is to view your organization's strategy as a process that helps you manage a changing business. As such, it is ongoing, a regular conversation with key stakeholders, rather than a fixed plan that is set in stone or one that is reviewed rarely—say once a year at budget time. Viewed in that light, it provides a basis for making better decisions in response to what is happening in the outside world and against the resources at your disposal. A strategy can help to give a frame of reference; it can be a compass.

Intelligent Cost Reduction

Realistically, most firms in a recession engage in some forms of cost cutting. Those that think for the long term do this intelligently: rather than undertaking acrossthe-board cost cutting, they look at options such as reduction in temporary positions, not replacing those who leave, and selective redundancy, i.e., reducing hours or making pay cuts across the board.

It is difficult to carry out this form

of cost reduction, but if you are going to come out of the recession in good shape, then it is vital to avoid cutting into those parts of the business that you need for the recovery. Examples of where the effect is not immediate but will damage the long term include R&D, people development, business development activity and market research. Before going into across-the-board reductions, ask yourself how those decisions will affect your organization in the future.

Reformulating Your Strategic Plan

A process of questioning in a structured way will help you come to a better conclusion on whether or not your business plan needs an overhaul. In particular, you need to have some high-quality conversations involving stakeholderscustomers, suppliers, marketers and finance people, for example. A strategy takes a view of the future based on what is known now. In today's circumstances, a plan should have been devised in more certain times, but unforeseen events can blow a strategy off course. The answer may be to involve key people in quality discussions and dialogue.

At one extreme, you could find flaws in your current strategy because it is based on outdated assumptions. This then requires you to revisit your

By Sarah Cook & Steve Macaulay

strategy. However, be wary of being panicked into numerous and rapid radical changes of direction; you will spend a lot of time and effort in the process. At the other extreme, you could find that the plan is still sound, and the strategy still makes sense in the new climate, but adjustments need to be made—for example, to the timing of investments.

Typically, a strategy review dialogue can focus on your strategic position in relation to:

- Competitors
- Customers
- Cost base
- Capabilities

At present, it is timely to revisit the assumptions behind your strategy. It is easy to become unchallenging and therefore complacent in this process. Perhaps some of the most telling questions come from seeking an external perspective. For example, what do your customers think? Do new hires have this view? Does data support this?

With this challenging mindset, ask external questions such as: **Competitors**

- Who are our competitors?
- How substantial are they?
- Have they got deeper or shallower pockets than we have to take advantage of the recession?

- Do we understand what customers think of our competitors' services or products?
- Do we know our competitors' costs bases, particularly in relation to ourselves?
- Which competitors therefore are the biggest threats and why?

Customers

- Do we have up-to-date information on our key customers in particular?
- Does our view of how much we add value line up with our customers' views?
- Does this vary by type of customer?
- Do we know enough about the current processes and influences of customers' buying patterns?
- Do we understand sufficiently the future prospects for our clients: how much competitive pressure they are under and how much their costs are rising?

Ask internal questions such as: **Capabilities**

- What are our distinctive core capabilities?
- How have we made use of these capabilities? By line of business?
- How can we better capitalize on these?
- How can we enhance and develop our use of resources and capabilities?

Costs

- What are the main variables of our costs, and how we can better control and manage them?
- How are our cash flow trends?
- What are the short-, medium- and long-term prospects for our costs? What actions can we take for the longer term which will help put us on a stronger footing?

The Best of Times, The Worst of Times?

Overall, having formed a view of what your core capabilities are and how to improve service to your customers in an effective way, it is valuable to step back and take stock of the big picture. One of the most striking aspects of this recession is the way in which major business decisions have been based on unchallenged assumptions.

Scenario planning can be a valuable means to consider strategic options based around what might happen in the future. You should aim to come up with at least two scenarios: optimistic case and pessimistic case. These are not forecasts, but more a story of what could happen. Don't just look at easily measurable data; look at all of the data. This will help open your eyes to new possibilities and understand the critical forces at work. In the end, this can transform the translation process into a workable strategy.

Build in Adaptability and Experimentation

When times are tough, it is tempting to go back to basics and take no risks. But there is a place for taking some planned risks; otherwise, there will be stagnation or decline. Such experimentation might not involve high cost expenditure—for example by extending your core product range by developing a "light" version, forming new alliances for a wider complementary product offering, or streamlining operations for greater efficiency. This requires

continues on page 59



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PRODUCTS

UL Environment Releases Industry-Wide Sustainability Requirements for Doors

UL Environment, Inc., a business unit of UL (Underwriters Laboratories), has announced that it is releasing a new set of standard requirements, UL ISR 102, which will help gauge the environmental and human health impacts of door slabs, including those that are meant to swing, hang or glide. The ASSA ABLOY Trio-E door is the first to be certified to these sustainability requirements.

UL ISR 102 provides detailed requirements with which to evaluate the environmental impacts related to producing a variety of door types. The life cycle impact of doors is measured throughout the materials management, energy use, water use, manufacturing and operations, health and environment, product performance, product stewardship and innovative practices of production. These new guidelines will help architects, designers and LEED-APs select environmentally preferable swinging door slabs.

For more information, visit www. ulenvironment.com.

OMNIA TRADITIONS Line Expansion

OMNIA TRADITIONS is enhanced with the addition of five timeless styles. Four new levers and one new knob bring the TRADITIONS collection to 19. While all of these designs make their own statement, two standouts are the octagonal knob and octagonal lever. Their shape and smooth, rounded edges make them as pleasing to the hand as they are to the eye. Thru-bolted roses, available for doors with 21/8" holes, now include a new round traditional option and a unique octagonal rose that is a striking com-



panion piece to our octagonal knob and lever. Compact surface mounted roses, with 1³/₄" or 2³/₁₆" diameters, also are available.

Locksets are available in tubular deadbolt or mortise lock functions. All OMNIA TRADITIONS are also available as multipoint trim.

Please visit www.omniaindustries. com or call 800/310-7960, for more information.

New Standalone PIN/PROX Keypad from DynaLock

The DynaLock 7500 Series advanced standalone digital keypad incorporates a built-in 125KhZ proximity card reader, large, backlit metal keys, and a heater, which automatically activates at 4°F (-20°C) to prevent key freeze. It features a wide array of functions and auxiliary modes to provide extra flexibility and security, allowing it to operate as a single or two-door access controller.



Up to 500 users can have PIN and/or RFID credentials for access, and a flexible power input allows the 7500 to operate on 12-24VDC or 16-24VAC. Two SPDT relay outputs, rated at 2 amps, as well as REX and auxiliary inputs, are provided, and a weather- and vandal-resistant met-

industry access

release press

al case design makes the 7500 equally suitable for indoor or outdoor use.

Visit www.dynalock.com, for more details.

Eliason Expands Product Line

Eliason Corporation, a manufacturer of commercial double acting traffic doors and energy-saving products, announces the expansion of its product line. Effective immediately, Eliason is offering customers three new corrosion-resistant fiberglass reinforced polyester (FRP) and acrylic modified polyester (AMP) corrosion-resistant doors that are fire rated for up to 90 minutes.

The FRP-21, AMP-22 and AMP-23 fire doors are designed for interior or exterior applications that require a fire-rated door. The unique construction of these doors creates a fire-rated door that is suitable for use in highly corrosive applications.

This line of doors features acrylic modified polyester (AMP) that offers the appearance of wood without the disadvantages of wood. These doors can't warp, split, rot or peel and don't require periodic refinishing. They are durable enough for high-traffic entrances such as retail, restaurant and municipal facilities that call for the classic appearance of a wood door.

For more information, go to www. eliasoncorp.com.

Trimco 1562 Hospital Latch Revised

Trimco is proud to announce that its 1562 hospital latch series has been updated and improved to meet today's difficult hospital challenges and conditions. The part known as the (bronze) finger has been replaced with a revised finger made from 300 series stainless steel. The new series of locks will be identified with the

letter "A" to denote the new A series. This change will improve the reliability and performance of Trimco hospital latches. The new revision is not subject to having earlier models modified to fit the new finger. Some internal machining is different and therefore not compatible. Trimco's standard warranty as listed in its current and future price lists is applicable.

Please visit www.trimcobbw.com or email info@trimcobbw.com for more information.

CORPORATE CORNER

Akron Hardware Purchases Hardware Suppliers of America

The officers of Akron Hardware announced the purchase of Hardware Suppliers of America (HSI), located in Greensboro, N.C. Currently, Akron Hardware has locations in Ohio, Arizona, Tennessee and Pennsylvania carrying Hager, Dorma, ACSI and Kaba products. HSI, in the industry since 1983, is also a prominent wholesale distributor with locations in North Carolina, Georgia, Florida, Texas and California. It is known primarily as a wholesaler of Ingersoll Rand and Stanley products. The combination of the assets and expertise of Akron Hardware and HSI will provide a more complete wholesale solution to the hardware industry. For more information, contact Ken Orihel, President of Akron Hardware, at 800/321-9602 or ken.orihel@akronhardware.com.

Hager Announces Partnership with Green Schoolhouse Series

As a building partner in this meaningful initiative, in which schoolhouses are gifted to disadvantaged public schools by leading partner Brighten a Life, a 501(c)3 nonprofit organization, Hager will provide its products for two LEED®

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industry access

press release

Platinum-designed green schoolhouses slated for construction in Phoenix, Arizona, later this year. The inaugural multipurpose, safari-themed green schoolhouse will be built at Roadrunner Elementary School, and the performing arts-themed studio schoolhouse will be built at Orangewood School. Both will replace uninspired, outdated portable classrooms.

The schoolhouses are the first of many that The Green Schoolhouse Series, in collaboration with CAUSE AND EFFECT Evolutions, school districts, corporations, and volunteers, will build across America.

Hager will provide the schools with hinges, cylindrical locks, deadbolts, narrow stile exit devices, surface door closers, protective trim, flush bolts, door stops, silencers, thresholds and weatherstripping products.

To learn more about The Green Schoolhouse Series, visit www.greenschoolhouse.org. For more information about Hager and its nine lines of commercial door hardware, visit www. hagerco.com.

DHI's In-House Corporate Education



In-House Education ... Saves employers money by alleviating the need for employees to travel out of town, thereby eliminating costs for overnight stays and meals and minimizing time spent away from the office.

DHI's education program is a primary resource for you to help advance your employees' skills and industry knowledge.

BASICS on DHI IN-HOUSE EDUCATION:

- Offers courses for employees on site-at your office or any nearby facility of your choosing.
- Courses are the same industry education offered at DHI National Schools.
- DHI helps companies select a date, order materials and plan the entire event from start to finish.
- Companies purchase instructor and student materials for each course and return leftover materials and exams at the conclusion of the class.
- Students who pass the end-of-class exam receive the same number of credits toward a diplomalevel certificate or becoming a certified consultant as students who attend/pass DHI's National School sessions.

Interested in offering DHI education courses at your office or facility?

For more information on DHI education programs, contact Amee Patel at 703/766-7025 or by email at APatel@dhi.org.



Classifieds Corner

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Corporate Access from page 53

an organizational climate that permits people to experiment, using the results to learn quality feedback. To accompany this process, it is important to monitor the environment well to try and pick up weak signals that might presage the development of potentially significant major trends. This means setting up the methods to listen effectively, to sense the environment, and to channel such knowledge and information into the right ears.

Summary

The recession has exposed weaknesses that were masked during better times. However, with careful management through a healthy strategy, you can build for the future, developing your business from its core strengths. If the experience of past recessions is a guide, some firms will grow stronger by seizing opportunities that the economic downturn presents. They can sap the vitality from competitors and open up new needs. Others will be damaged, some of them fatally. It often comes down to deploying resources strategically, with a keen eye on future trends and understanding the changing needs of the customer.

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Accurate Lock and Hardware	
Akron Hardware20-21	
Albany Hardware, Inc	
Boyle & Chase, Inc5	
Doors & Hardware House Ads	
2011 Postal Statement60	
2012 Save the Date—Las Vegas25	
DHI Canada's November School45	
DHI Classifieds	
DHI In-House Corporate Education58	
DHI Social Network51	
DHI Sponsored Insurance43	

DHI Sponsor Thank You	
Foundation Contributors	54-55
NFPA Webinar	44
Fastrack Hardware, Inc	53
Guardian Fire Test Labs	56
Midwest Wholesale Hardware	Inside Back Cover
Salsbury Industries	58
Securitech Group, Inc	57
Security Lock Distributors	Inside Front Cover, 12, 13, Back Cover
Stanley Security Solutions	1
Top Notch Distributors, Inc	7
Wikk Industries, Inc	24

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