



PRIVATE UNIVERSITY PRODUCTS AND NEWS

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TEACHING FORGIVENESS

AT MEREDITH COLLEGE

**CORNELL'S
GREEN CAMPUS**

**THE KILPATRICK
ATHLETIC CENTER**

**UNE'S NEW
RIPICH COMMONS**

TESTING MATTERS

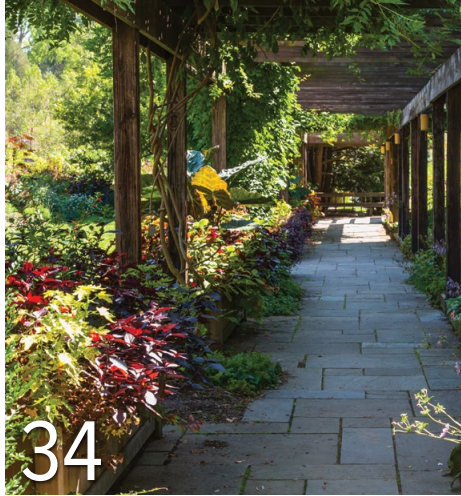
**GREAT IMPRESSIONS
START WITH YOUR
RESTROOMS**



THE KILPATRICK ATHLETIC CENTER & ADULT SWIM

Contributed by Bard College at Simon's Rock

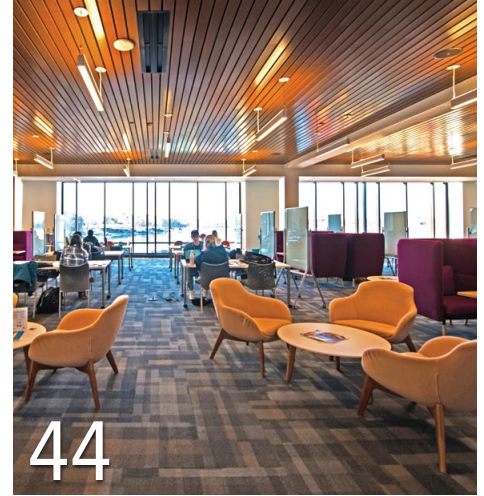
At Bard College at Simon's Rock, the Kilpatrick Athletic Center pool fosters an aquatic community for all ages and levels, including conducting an Adult Learn to Swim program, designed by Coach Bill Meier, every April.



CORNELL UNIVERSITY'S GREEN CAMPUS

by Krista Lazarus Gilliland

Cornell University's goal to be carbon neutral by the year 2035 is quite ambitious, and everyone on campus has been working diligently to lower carbon emissions through various projects, programs, and events.



UNE'S NEW RIPICH COMMONS FEATURES GREEN ELEMENTS

by Jennie Aranovitch

The University of New England recently dedicated a new, state-of-the-art, eco-friendly building to former UNE president Danielle N. Ripich, a testament to her vision for the university and her devotion to students.



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TEACHING FORGIVENESS AT MEREDITH COLLEGE

by Rachel Clevenger

Dr. Carla Ross has been teaching Relational Communication for over thirty years, nearly twenty of those at Meredith College. Several years ago, Ross noticed that most textbooks would end at conflict resolutions skills; recognizing what these texts lacked, Ross added a unit on forgiveness for each of her classes.



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GREAT IMPRESSIONS START WITH YOUR RESTROOMS

by Dan Silver

If your campus restrooms are clean, bright, and well-stocked, your visitors walk away without giving them a second thought. However, a bad experience in a dirty, odor-filled, or poorly-stocked restroom could trigger comments across social media faster than you can say "Facebook."



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TESTING MATTERS

by Ben Dorsey

In the second part of our "Testing Matters" series, we will explore the testing of doors as such testing relates to safety and security of occupants. Let's approach your desire for safe and secure facilities by focusing our attention on two potential threats: Fire and Intrusion.



SAFETY AND SECURITY

by Ben Dorsey

Testing Matters

In earlier pieces for the PUPN audience, we have examined a few of the product-related criteria that you have in mind for your facilities. In particular, we have looked at the role of properly tested products that can lead to your desired outcomes. We are using doors as examples of products that can be rigorously tested. While some of your desired outcomes, such as energy efficiency, are quite meaningful, no outcome seems as relevant today as safety and security.

You can read Part I of the “Testing Matters” series in the Spring Special Issue of PUPN. In Part II of “Testing Matters,” we will explore the testing of doors as such testing relates to safety and security of occupants. Let’s approach your desire for safe and secure facilities by focusing our attention on two potential threats.

THREAT ONE: FIRE

Doors play a role in both protecting from and mitigating the effects of fire. All doors can serve as some barrier to the effects of fire and smoke. However, particular types of doors, known as fire doors (also fire-rated doors and fire protection doors), are required by local and regional building codes in particular applications.

These building codes will typically reference NFPA 80. This is the standard for fire doors and windows as developed by the National Fire Protection Association. This organization, founded in 1896, is devoted to eliminating death, injury, property and

economic loss due to fire, electrical and related hazards. They do so through consensus codes and standards including NFPA 80.

Factors for Testing Fire Doors

There are a number of relevant factors for testing of fire doors. Important characteristics are revealed in the common tests applied to such doors. Relevant test specifications include the following: NFPA 252, Standard Methods of Fire Tests of Door Assemblies; ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials; and UL10C, Standard for Positive Pressure Fire Tests of Door Assemblies.

ASTM E84 determines how the door material itself will respond to fire. Specifically, this test measures smoke development and flame spread. Doors are then rated as Class A, B, or C, depending on the amount of smoke developed and the extent of the flame spread.

NFPA 252 and UL 10C are noteworthy because they determine the capability of a door assembly to remain sealed in the opening for a given duration of time, preventing the spread of fire.

Code-Related Requirements and Fire-Rated Doors

Time is always the relevant factor for fire-rated doors. Common time ratings include 20, 30, 45, 60, and 90 minutes. There is a correspondence here to the code-related requirements for egress-related walls. Such egress pathways may carry, for example, a 2-hour fire rating. Meanwhile the associated fire door may be rated for only 90 minutes.

Fire doors must remain clear of obstruction, whether they are in regular use or used only in emergencies. Meanwhile, corresponding walls may be surrounded by combustibles (furniture, files, fixtures, and more). Thus, they must endure longer fire containment times than the door.

Labeling and Regular Inspections of Fire-Rated Doors

Labeling of fire-rated doors will always state the time for which the door is rated. Such labels are typically on the hinge stile or edge of the door. In addition to such discrete labeling, fire doors are always identified as

such in signage and will typically include instructions such as "Keep Closed." Fire door hardware is also tested and identified as such by small labels.

Once installed, fire doors should be inspected annually for continued compliance to code. While such inspection has been mandated by standards such as NFPA 80, it has been weakly enforced to date. Newer regulations are tightening these requirements, especially in some vertical markets such as healthcare facilities and by some state agencies.

Additionally, inspections should be carried out by credentialed professionals. DHI, an industry association for door and hardware professionals, provides training and a credential known as FDAI (Fire + Egress Door Assembly Inspector) for this purpose.

THREAT TWO: INTRUSION

As the common points of both ingress and egress for buildings, doors also represent the common attack point for intrusion. Educational institutions today are on the front lines of the war against those who would inflict harm.

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Hostile acts against students, faculty, and staff include, but are not limited to, active shooter scenarios. Intrusion can also include theft-motivated break-ins and more conventional threats such as physical violence and harassment.

The important criteria for doors is the capability to resist intrusion. Sometimes this comes down to the stark reality of time, in minutes, that the door can hold off the intruder before first responders arrive. We must consider aspects of the door that contribute to its resistance level.

Glass and Glazing

Traditionally, this aspect of the door has been most vulnerable to intrusion. Today, various types of glazing material create greater resistance to breakage. For example, special laminated glass and polycarbonates have the visual properties of standard, tempered glass but can deter intrusion attempts better. While more costly, these non-standard glazings can withstand considerable attack.

Some test standards apply only to glass or glass-like glazing. Other tests for the door can also be applied to the glass. Two test standards illustrate the extreme security testing for glazing and for entire doors. These are ballistic tests known as UL 752 and NIJ 018.01. (NIJ is the National Institute of Justice.)

Doors and glazing are given a corresponding Level rating based on their resistance to compromise from gunshots. Related tests use projectiles such as bricks. Manufacturers often perform their own tests with such instruments as pry bars, sledge hammers, and baseball bats.

Intrusion-Resistant Lite Kits

A lite kit refers to the framing, glazing material, and hardware required to put glass in a door. The design of the lite kit also contributes to resistance to intrusion. Standard glazing in doors provides for a frame with ¼" "bite" or grip of the glass.

Special intrusion-resistant lite kits provide for ½" bite or larger. The bite is important because the glazing material can flex. In the event that the intruder can't break the glazing sufficiently, he may simply try to push it in, separating the glazing from the frame.

Door Hardware and Assembly

The UL 752 and NIJ 018.01 tests mentioned above for glazing have equal applicability to the door assembly. Here, the doors performing the best under test, are constructed with ballistic rated cores, making them bullet resistant to certain levels. Such doors are heavier and more costly than conventional doors but provide a high level of intrusion resistance, even from blasts.



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Wall Padding

Today, various types of glazing material create greater resistance to breakage. For example, special laminated glass and polycarbonates have the visual properties of standard, tempered glass but can deter intrusion attempts better. While more costly, these non-standard glazings can withstand considerable attack.

Another test standard important for institutional doors is ASTM F476 for security of swinging doors. All components of the door, including hardware, are typically tested. This test is conducted as a series of impacts from a weighted pendulum to various parts of the door and hardware. The heavy pendulum has variable levels of force settings. ASTM F476 specifies a corresponding Grade for the door assembly with Grade 40 representing the highest grade.

“Lock, Don’t Block”

The best of intrusion resistance in doors is of little value if the door is not locked when under threat. Here, we may be tempted to provide even further lock-down measures to the door, but some awareness is in order.

Fire marshals and FDAI consultants will be quick to point out the building codes that require free egress when necessary, such as when fire breaks out. In light of recent school tragedies, some states are considering amending the codes to permit door barricade devices.

The 2018 International Building Code contains sensitive wording for educational institutions including that they can “be provided with locking arrangements designed to keep intruders from entering the room.” Even so, the code requires that the door be capable of being unlocked from the outside with a key or other approved means and that modifications not be made to existing hardware.

Despite that, numerous door barricade devices have emerged in recent months. DHI, the industry association mentioned earlier, has a foundation known as the Door Security + Safety Foundation. Further, the foundation has launched an initiative known as “lock don’t block.”

The key mantra of the initiative is to “secure your classroom without compromising life safety.” They note that people could be locked

in when they need to get out. In fact, recent tragedies have shown us that, in the majority of cases, the threatening intruder is already inside—inside the building and, perhaps, inside a given room.

The intruders who carried out school shootings at Virginia Tech, the West Nickel Mines School, and Platte Canyon High School each fashioned a door barricade from existing material in the space.

Barricade Devices Require Knowledge

Barricade devices also require knowledge. Where is the device stored? How is it installed? How is it released? Such knowledge is likely the domain of a chosen few. If the intruder has this knowledge, unauthorized engagement could occur.

Also, consider that threats such as bullying, harassment, or physical violence are much more common than active shooter scenarios. Someone posing these threats would have even greater power to do so if they are barricaded within a given space. Additionally, because they serve as barricades, these devices can prevent or delay access from emergency and first responders.

Finally, note that doors, door hardware, and door glazing undergo extensive product testing, by manufacturers and by third party testing agencies. Yet, no test standards have been developed to address door barricade devices.

Conclusion

We don’t need to limit our discussion to doors to realize the importance of testing building products. Your service providers or on-campus facility professionals should consider it their responsibility to understand the testing requirements of the building products you choose.

Doing so will help to ensure that you achieve your desired outcomes, from energy efficiency to the safety and security of your campus.



ABOUT THE AUTHOR: Ben Dorsey is a product marketing veteran for commercial and institutional buildings. He has worked with entrance systems, building automation, fenestration products, mechanical systems, and other building products. He earned a bachelor’s degree in Scientific & Technical Communication from Bowling Green State University (Ohio).



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The special glass, which uses technology to break up the reflectivity of glass, thereby alerting birds to its presence, was installed at the request of students who petitioned Ripich for its inclusion.

According to Perlut, students in his fall 2016 Advanced Field Methods in Avian Ecology and Conservation course reacted strongly to a film he showed them on bird conservation and migration, which featured a segment on bird fatalities that result from traditional window glass strikes. As a result, the students lobbied for bird-safe glass to be incorporated into the construction plans for the Commons.

Students Lead the Way in Installing Bird-Safe Glass

Senior Kylie Denny, an Animal Behavior major and Environmental Studies minor, was one of the students who signed the petition for the glass. "The University of New England campus sits on an extremely productive estuary that is home to many avian species, and it's a key stopover point for migratory birds that are fueling up for long-distance, nonstop flights over the ocean to get to their wintering grounds," she explained.

Ripich Commons sits in the middle of this important migratory flyway, which is why, Denny noted, it was so imperative that bird-safe glass be utilized. "The bird-safe glass is a key feature of the new building because the side of the building that faces the water is mostly glass, and traditional glass is deadly to birds because they do not have the ability to see it," she stated.



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