

INTEGRATED LOUVERS in Doors and Openings **FOR** VISION AND DAYLIGHT CONTROL

By Jean-Francois Couturier



Integrated louvers can be used in classroom doors for adjustable visibility and sound attenuation.

No longer the domain of interior designers, shading and privacy are now key architectural design considerations. From commercial to residential to institutional design, architects are increasingly looking beyond traditional shading and privacy solutions—like venetian blinds, curtains and retractable shades—to incorporate vision and daylight control as part of a building's interior and exterior openings.

Integrated louvers (also known as louvered glazing and louvers-between-glass) can deliver measurable benefits for vision, daylight, heat, and sound control when included as an overall design strategy for doors and other openings. They lend themselves well to multi-purpose applications and effectively eliminate the need for curtains, shades or any blinds for swing doors, sliding doors, sidelites, windows and interior partitions.

Every building has very specific requirements for doors and openings depending on its function and purpose. Integrated louvers in doors and openings can deliver real benefits as follows:

Photos courtesy of Unicel Architectural



Integrated louvers in hospital doors adjust for privacy and noise control.

Healthcare Facilities

Research firm Revista reports that there are currently \$97 billion worth of hospital construction projects underway. Healthcare Finance News has reported some 1,340 projects in progress or planning. Healthcare construction has been booming for several years due to an aging U.S. population and an influx of money from the Affordable Care Act.

Privacy and hygiene rank at the top of requirements for healthcare building products. These needs are key to patient well-being and healing. Doors and openings frequently need to permit visibility for medical professionals, while at the same time ensuring privacy for patients. Integrated louvers are a popular choice for interior healthcare glazing applications. Louvered glazing technology typically eliminates strings, ensures alignment, requires no maintenance and provides the ideal privacy solution for sliding

and other doors in ICUs, operating rooms, nurseries and more.

Privacy is optimal as the completely adjustable louvers can be angled to ensure patient privacy while still permitting discreet visibility by staff. As the louvers are hermetically sealed within glass, they do not accumulate dust and dirt and further ensure maximum levels of hygiene and a reduced risk of infection and allergies. Hospitals typically operate on strict budgets, so the reduced need for maintenance, cleaning and replacement further makes integrated louvers in doors and windows a preferred solution for these facilities.

Windows and doors also present an important consideration in psychiatric facilities. Architects and designers must take into account not only a psychiatric patient's privacy but also their safety. The ability to angle the louvers such that vision is permitted by staff into the patient room, but not the other

IN ADDITION TO ALLOWING STAFF SUPERVISION, INTEGRATED LOUVERS ALSO ADDRESS CRITICAL SAFETY ISSUES IN THREE WAYS.

Integrated louvers in office doors allow for adjustable privacy.



way around, is of particular importance as it means that the patient will not feel observed. In cases where conditions of paranoia, anxiety and schizophrenia are an issue, it is critical to preserve a feeling of privacy and security for the patient to effectively mitigate the escalation or exacerbation of these disorders.

In addition to allowing staff supervision, integrated louvers also address critical safety issues in three ways. First, they typically feature cordless operation which means that there are no cords or strings that can pose a strangulation hazard. This is crucial as hanging is the most common method of suicide in psychiatric hospitals. Second, most integrated louver solutions come with anti-ligature knobs. These smooth operating knobs ensure that there are no corners or edges that can pose safety risks. And third, doors with integrated louvers can include high-impact glazing or polycarbonates. This glazing alternative is impact and shatter resistant and eliminates the risk of dangerous glass shards while maintaining the louvers in a sealed and protected hermetically-sealed airspace.

Commercial/Retail Construction

For both office and retail design, daylight is a critical element for occupant comfort. Natural lighting is proven to have positive impacts on moods, productivity and general feelings of well-being. Therefore, commercial design needs to maximize natural lighting in doors and other openings, while mitigating the impacts of heat and glare.

Integrated louvers can be an ideal solution for exterior doors and openings in commercial buildings as they ensure the highest levels of daylight and shading control. Daylight can be maximized to create positive mood-enhancing spaces by filtering natural light deep into interiors. The louvers can further be angled to mitigate glare and optimize thermal efficiencies to reduce heating, cooling and lighting costs. Integrated louvers



Integrated louvers in educational facilities provide vision and sound control.



Correctional facilities can use integrated louvers for privacy control and optimal safety.

in exterior openings are additionally proven to contribute to LEED® certification for green building.

For interior doors and openings, integrated louvers will reduce ambient noise for more tranquil working environments. They can further ensure adjustable privacy for doors in executive offices and boardrooms, eliminating the need for curtains and blinds.

Educational Facilities

In schools, vision control and sound attenuation are important considerations when considering doors and other openings. For interior applications, integrated louvers in doors provide the highest levels of adjustable vision and sound control – ideal for classrooms, music rooms, study halls, libraries, labs and more. Blinds and shades can flap and cause disturbances with constant use. Fixed louvers within glass deliver the required adjustable privacy without any ambient noise. Additionally, the depth of the airspace in an insulating glass unit with integrated louvers also increases the acoustical performance of the unit. Typically, the 2" – 2.5" airspaces, coupled with two glass lites of varying thicknesses, generate sound dampening characteristics far superior to any standard dual-pane unit.

In school building design, exterior doors most frequently lead into corridors and other common areas. In some settings this may result in unwanted glare and heat. By using integrated louvers in exterior doors and openings, designers can ensure a balanced reflective and diffused daylighting environment with sunlight blocking as required.

Correctional Facilities

Safety-centered design is fundamental in correctional facilities where it can make the difference between life and death. Therefore, correctional facilities need to look at how

BY USING INTEGRATED LOUVERS IN EXTERIOR DOORS AND OPENINGS, DESIGNERS CAN ENSURE A BALANCED, REFLECTIVE AND DIFFUSED DAYLIGHTING ENVIRONMENT WITH SUNLIGHT BLOCKING AS REQUIRED.

their door and window design can enhance how they function, ensure safety and privacy, and operate more effectively.

Keeping correctional staff and officers safe is the number one priority for any correctional facility. Interior doors and windows are required to monitor activities into inmate areas, gathering spaces, meetings rooms, clinics and more. Visibility is important, but these openings must include privacy options and have shatter and bullet-resistant glass. Additionally, any privacy solutions must be adjustable – permitting both open views and fully blocked visibility – and strong enough to withstand violent impacts. Louvers encased in high-impact glazing or polycarbonates will withstand impact and shattering, and eliminate the risks associated with glass fragments.

Integrated louvers in doors and openings are preferable for prisons as they permit correctional staff to monitor inmates for safety purposes while ensuring levels of privacy for inmates. As integrated louvers do

not include cords or sharp operational mechanisms, they further ensure safe operation that mitigates the risk of self-harm or harm to others.

Conclusion

Shading and privacy solutions are no longer a design afterthought, but a strategic consideration for the overall control of daylight, vision, heat and sound. With integrated louvers, doors and other openings can contribute to overall comfort, efficiencies and privacy. ■



JEAN-FRANCOIS COUTURIER, MBA, is President and CEO of Unicel Architectural. Under his leadership, Unicel has successfully built a global brand for high-end building envelope solutions that help control sunlight, heat, sound and visibility. Couturier and Unicel have been the recipients of key industry awards for innovation and leadership. His articles have been published in industry magazines such as Healthcare Building Ideas magazine and Architectural Products magazine. He can be reached at jfc@unicelarchitectural.com.

PUZZLED BY SPECIALTY DOOR AND FIXED WINDOW SYSTEMS?

OVERLY PUTS IT ALL TOGETHER

Overly Architectural Acoustic Wood and Plastic Laminate Door Systems include:

- STC ratings from 41 to 49
- Flush or glazed sealing options; single or pair configurations
- Tested to both UL 10B (neutral pressure) and UL 10C (positive pressure)
- Up to 45 minute fire rating in accordance with UL 10C (positive pressure)
- Full range of wood veneers, designer or custom colors, and plastic laminates
- Available with LEED certification

- Acoustic Metal Swinging Doors
- Acoustic Wood and Plastic Laminate Swinging Doors
- Acoustic Metal Fixed Window Systems
- Blast Resistant Doors and Windows
- High Security Vault Doors
- Bullet-Resistant Doors and Windows
- Watertight and Airtight Doors
- Radiation Shielding Doors



Tel: 1-800-979-7300
 Fax: 1-724-830-2871
 Email: overly@overly.com
 Web: www.overly.com