



Integrated Louver Privacy Systems in Psychiatric Healthcare Facilities

White Paper

The future of vision & daylight control

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INTEGRATED LOUVER PRIVACY SYSTEMS IN PSYCHIATRIC HEALTHCARE FACILITIES

Examining the advantages offered by incorporating integrated louver systems for interior vision control and safety in psychiatric healthcare facilities.



INTRODUCTION

Mental health and its accompanying treatments have become a major issue in the U.S. and around the world. With an estimated 45 million people (1 person in every 5) in the U.S. suffering from some form of mental illness¹, hospitals and psychiatric facilities are having to extend their care and look for the best solutions toward creating safe and functional patient environments.

Windows and doors present an important consideration in psychiatric facilities. Architects and designers must take into account not only the patient's privacy, but also their safety and various requirements that need to be met for any healthcare facility.

This paper will show how integrated louver systems will address all the safety, privacy and functional issues to provide an optimal solution for any psychiatric healthcare facility.

¹ Latham, T. (2011, May 18). Mental Illness on the Rise in the U.S. Retrieved June 9, 2015.

PATIENT SAFETY

The largest safety concern in psychiatric facilities is undoubtedly suicide and patients harming themselves. Of the 35,000 or more suicides per year in the United States, about 1800 (6%) are inpatient suicides². It is estimated that a psychiatric nurse will experience a completed suicide every 2½ years on average³. Staff must be able to monitor all patients to ensure that they do not harm themselves or others. Building materials and finishes in patient spaces need to ensure optimal levels of patient safety and provide adjustable visibility for staff monitoring.



PATIENT PRIVACY

Patient privacy is an important consideration in psychiatric facilities, and privacy for mental health patients is specifically covered by HIPAA regulations. Mental health issues come with many stigmas attached, and a lack of privacy can undermine treatment and recovery. Patients have admitted to withholding aspects of their medical history or refusing physical examinations when they have concerns regarding their privacy⁴. Additionally, over 82 percent of US nurses surveyed strongly preferred collecting patient information and performing examinations in private rooms or areas with increased privacy⁵. Psychiatric hospital design must therefore emphasize privacy in patient rooms and examination spaces.



² Jabbarpour YM, Jayaram G. Suicide risk: navigating the failure modes. *Focus*. 2011;9:186-193. <http://www.ap.psychiatryonline.org/article.aspx?articleid=114953>. Accessed May 6, 2015

³ Nijman H, Bowers L, Oud N, Jansen G. Psychiatric nurses' experiences with inpatient aggression. *Aggressive Behav*. 2005; 31:217-227

⁴ Barlas, D., A. E. Sama, M. F. Ward, and M. L. Lesser. 2001. Comparison of the auditory and visual privacy of emergency department treatment areas with curtains versus those with solid walls. *Annals of Emergency Medicine* 38(2):135-39.

⁵ Chaudhury, H., A. Mahmood, and M. Valente. 2006. Nurses' perception of single-occupancy versus multi occupancy rooms in acute care environments: An exploratory comparative assessment. *Applied Nursing Research* 19:118-25

PSYCHIATRIC PATIENTS AND NOISE

A March 2013 study by Chalmers University of Technology and Gothenburg University determined that hospital design and patient aggression appear to be linked. Most significantly, the mitigation or reduction of noise can measurably decrease the chances of violent incidents over the course of a psychiatric patient's stay.

Noise is antithetical to a therapeutic environment. More than a nuisance, noise is a real health hazard.⁶ There are indicators that the effects of noise on physical and mental health are significant. One of the most serious implications for patients in a continuously noisy environment is an increased risk of hypertension and ischemic heart disease⁷. Noise studies have also documented aggressive behavior, exacerbated psychiatric symptoms and increased hospitalization rates.⁸

As a result, psychiatric facilities are increasingly focused on noise reduction and creating more tranquil patient areas.

LIGHT AND HEAT CONTROL

The positive psychological impacts of natural light and heat control on human dispositions are well documented. In psychiatric environments, there is much evidence to support the healing benefits of controlled sunlight and temperatures for patients.

Studies conclude that daylight markedly impacts outcomes in healthcare settings by reducing depression among patients, decreasing length of stay in hospitals, improving sleep, lessening agitation among dementia patients, easing pain, and improving adjustment to night-shift work among staff. While natural light has positive benefits for patients, bright artificial lights can be a deterrent to healing. Patients need to sleep to bolster healing, and bright lights seeping in from corridors, nursing stations and other adjacent rooms can significantly impact a patient's rest.



In addition to light control, temperature must also be considered when designing for psychiatric care facilities. Improper temperatures, or temperature fluctuations, have been shown to increase stress levels in patients and staff in a similar manner to high levels of ambient noise. In a psychiatric setting, maintaining a calm and stress-free environment is crucial for the safety and treatment of patients. In light of this, window treatments, both interior and exterior, must allow staff to easily control the temperature and maintain it at an optimal level.

⁶ World Health Organization. Occupational and community noise. 2001.

⁷ World Health Organization. Occupational and community noise. 2001.

⁸ World Health Organization. Occupational and community noise. 2001.

ADJUSTABLE VISIBILITY REQUIREMENTS

Psychiatric facilities need to balance the need for privacy with the need for discreet observation by healthcare professionals. This requires windows and doors to include privacy solutions that are readily adjustable by staff, but still afford the patient a secure sense of privacy. These solutions must also preclude any fixtures that can be used to self-harm or as weapons in the case of more violent patients.



OPERATIONAL REQUIREMENTS

For ease of maintenance and budget considerations, any building products for privacy, sound and light control should ideally not require external power sources for operation. Additionally, in the event of power outages, psychiatric facilities need to reduce the stress of power requirements on emergency generators. This means that privacy, light and sound control solutions must be able to function without drawing emergency power from more integral equipment.



SOLUTION COMPARISON

In the chart below the requirements of psychiatric healthcare facilities are listed and the various window and door solutions are compared based on these criteria.

PRODUCT	SAFETY	VISUAL CONTROL	ADJUSTABLE VISION	ACOUSTIC CONTROL	LIGHT CONTROL	HEAT CONTROL	ZERO MAINTENANCE	HYGIENIC SEAL	NO POWER REQ'D
<i>CURTAINS</i>		★			★				★
<i>BLINDS</i>		★	★		★				★
<i>BLINDS-BETWEEN-GLASS</i>	★	★	★	★	★	★		★	★
<i>SULL SASHES</i>		★	★	★	★	★			★
<i>FROSTED GLASS</i>	★	★			★		★	★	★
<i>LIQUID CRYSTAL GLASS</i>	★	★			★			★	
<i>SMART GLASS</i>	★	★			★			★	
<i>LOUVERS-BETWEEN-GLASS</i>	★	★	★	★	★	★	★	★	★

★ High performance ★ Low/partial performance

INTEGRATED LOUVER SYSTEMS

As evidenced by the comparison table, integrated louvers-between-glass systems provide a superior privacy control solution for psychiatric facilities. They allow staff to have an adjustable view into any room or patient area. The louvers can be closed to allow privacy at night or during examinations, but easily opened to allow a nearly unobstructed view of the patient. The ability to angle the louvers such that vision is permitted from the nurses' station to the patient room, but not the other 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 safety issues in three ways:

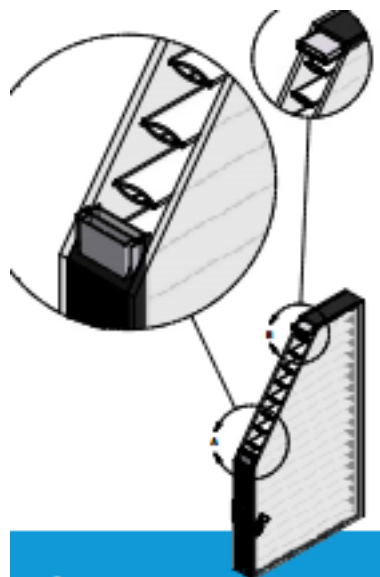
1. Cordless operation: No cords or strings that can pose a strangulation hazard. This is crucial as hanging is the most common method of suicide in psychiatric hospitals.⁹
2. Anti-ligature knobs: Smooth operating knobs that present no corners or edges that pose a hanging risk from a kneeling or sitting position, or from self-mutilation.
3. High-impact glazing or polycarbonates: A glazing alternative that 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.

These features eliminate the dangers seen in many other interior window solutions. As an added safety benefit, the double glazed insulating glass units offer higher fire resistance than other solutions.

Like any hospital, psychiatric facilities need to focus on optimal hygiene. As integrated louvers are hermetically sealed, they offer maximum infection control and a germ-free, dust-free and maintenance-free environment. These elements all add up to improve the patient's safety and provide the best possible conditions for effective healing and treatment.

With integrated louvers, sound is controlled far more efficiently than with any other insulating glass unit in the market as increasing the depth of the airspace within insulated glass also increases the acoustical performance of the unit. Integrated louvers typically feature double glazing with a 2" airspace that has a Sound Transmission Class (STC) rating on par with drywall and concrete block walls for superior attenuation capabilities.

In terms of power consumption, once again the integrated louver system prevails versus other alternatives. Hospitals typically have strict emergency requirements that seek to limit power consumption. In the event of a power outage, patient privacy, heat and sound control solutions must be able to operate without draining precious power that is needed for more essential functions.

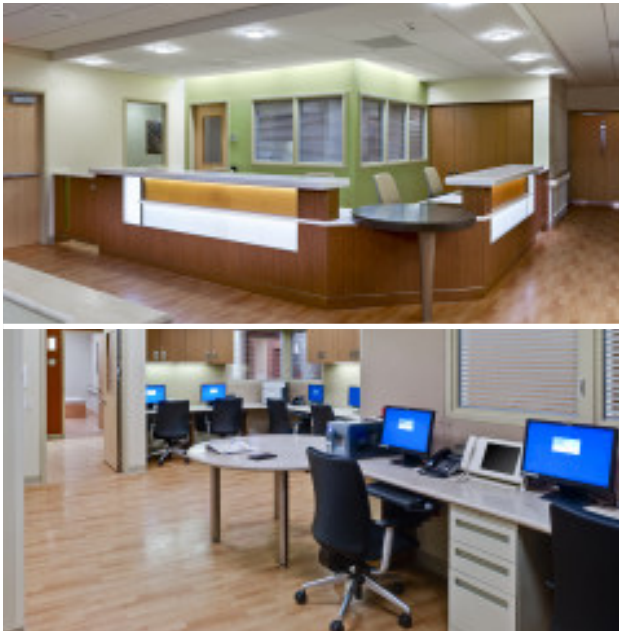


⁹ Suicide Prevention: Toolkit for Implementing National Patient Safety Goal 15A. Oak Brook, IL: Joint Commission Resources; 2007.

CONCLUSION

As shown above, integrated louver systems are unquestionably the most comprehensive solution. Most importantly, they are the only solution that meets all the safety criteria, making it easily the safest interior window treatment solution available.

CASE STUDIES



Long Island Jewish Medical Center:

The Zucker Hillside Hospital installed 42 units of Unicel Architectural's Vision Control® system for interior viewing windows in its psychiatric ward. Units were made with ¼" (6mm) Makrolon® 15 Polycarbonate on the corridor side, and ½" (12.5mm) Makrolon® 15 Polycarbonate on the Patient room side. Makrolon® 15 sheet is a polycarbonate product that offers high impact resistance, weathering life, and optical quality. It provides a clear aesthetic advantage over wire glass and metal screens for security glazing. PVC thumbwheel operators were installed, accessible from the corridor side only (where only nurses can operate them). This system allowed the necessary amount of supervision while providing privacy when needed. The Makrolon polycarbonate increased overall safety through its shatter-proof capabilities.



Kelowna General Hospital:

Since 2010, Kelowna General Hospital has purchased Unicel's Vision Control® more than a dozen times, totalling over 600 panels in various applications (doors, interior viewing windows, exterior curtain walls, etc.). Of that number, 202 panels were installed in the Psychiatric Care Level of the hospital in 2011. The units were made with a variety of glazing types including ½" [6mm / 0.060" PVB / 6 mm] clear tempered laminated glass on both sides for some units going into doors, and others with ½" (12.5mm) Lexan® polycarbonate on both sides for borrowed lites. The integrated louvers were operated by thumbwheels. The system provides privacy for patients and viewing capabilities for staff. It also allows for control of light and temperature in the unit so that appropriate levels can be maintained for optimal patient comfort.

ABOUT UNICEL ARCHITECTURAL

For over 50 years, Unicel Architectural has built a reputation for the most advanced aluminum and glass solutions. These solutions encompass louvered glazing, skylights and more, to enhance major global construction initiatives with utmost quality and reliability. With its proprietary technology, Unicel's Vision Control® delivers unprecedented comfort and control of vision, light, temperature and sound with a patented combination of louvers between glass that are hermetically sealed and cordless. Unicel's solutions are guaranteed for longevity, optimized for energy efficiency, and customizable to any design, environmental or cultural requirements. Unicel combines its market leading know-how with great design to ensure optimal aesthetics and sustainable performance. For more information visit: www.unicelarchitectural.com

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