

Floor and wall solutions for behavioral and mental health facilities

Promote healing, prevent harm and foster safety with Altro

Research from the National Institute of Mental Health shows that mental illness is an increasingly common issue nationwide, affecting tens of millions of people each year. Given the societal stigma surrounding this condition, estimates suggest that only half of these individuals receive proper treatment. This correlates with rising substance abuse figures, suggesting that illicit drugs, particularly opioids, are becoming a means of alleviating symptoms of an existing mental condition.

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adults experience a mental illness or substance abuse disorder each year.

In the USA + Canada

one in eight



Emergency Department (ED) visits in the USA are for treatments of mental health or substance abuse disorders.

One in ten in Canada



is the 10th leading cause of death in the United States.

Ranked 9th in Canada







Fundamentals in behavioral and mental health (BMH) design

Creating a secure environment for patients and staff alike remains the primary objective in designing for behavioral and mental health (BMH). However, new research suggests that balancing safety with familiar aesthetics is equally important.

The environment in which a patient receives treatment should reflect a normal residential environment as closely as possible. It is important to design spaces to be warm and comfortable, while simultaneously adhering to safety guidelines.

When designing these spaces, incorporating three key fundamentals can help facilitate the rehabilitation process for everyone involved – **promoting healing**, **preventing harm** and **fostering safety and security.**



Promote healing

Gone are the days of sterile-looking psychiatric wards. Modern BMH design emphasizes creating a calm, normalized environment to aid patients with social reintegration post-treatment.

Brighter, more optimistic color palettes provide a warm and therapeutic feeling compared to standard neutral options. The use of realistic artwork has proven to reduce patient anxiety and agitation as

Biophilic design suggests bringing outdoor elements indoors or secure, outdoor spaces with wood and other natural finishes can serve as a positive healing distraction that benefits individuals of all ages.

- ✓ Increased light / outdoor views
- ▼ Secured outdoor spaces
- Open floor plans
- Calming colors
- ✓ Scenes and imagery from nature
- ✓ Natural finishes wood, stone, etc.
- Inspirational design in common areas and thresholds to promote interaction outside of bedrooms





Prevent harm

Protecting the physical well-being of patients as well as guests and staff remains the most critical design element for treatment facilities. Individual details, furnishings and finishes used throughout the facility should be carefully specified as to help prevent self-harm or aggressive behavior. The components of each room vary depending on the level of patient supervision, with specific emphasis on the reduction of ligature points and potential for self-harm. Ligature points refer to fixtures and hardware that could be used to attach a cord, rope or other material for the purpose of hanging or strangulation.

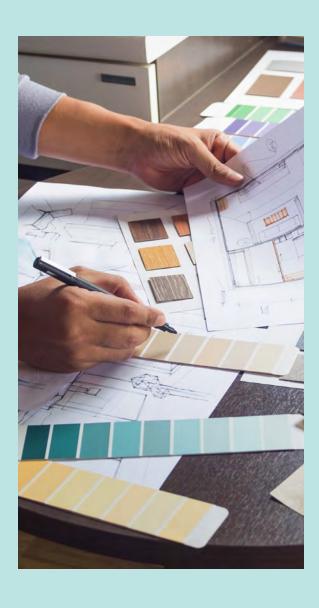


Foster safety and security

When designing psychiatric units, it is extremely important to consider the needs of those living with mental illness. The ideal environment should provide patients with the safety and security they need to complete treatment efficiently.

By avoiding distracting patterns, color combinations and large chips you can help prevent visual misperceptions by patients, particularly those suffering from schizophrenia and dementia.

- Utilize varying light reflectance values (LRV) as a means of identifying differences in height between areas.
- Be sure your flooring has adequate slip resistance to protect patients from slip and fall accidents.
- Choose soft, forgiving surfaces to reduce potential injuries in the event of a fall.
- ✓ Ensure transitions between surfaces are seamless and color-matched.
 This prevents certain patients from becoming fixated on the material and picking at it.



Comfort underfoot

Floors should provide support underfoot to create a comfortable standing surface for long durations.

Stain-resistant

✓ Floors should resist staining from common contaminants and medical-grade cleaning products.

Slip-resistant

✓ Floors should have adequate slip resistance to prevent slip and fall accidents among patients and staff.

Duty of care and FGI Guidelines

BMH facilities present a unique set of challenges found nowhere else in the healthcare industry. As a specifier, there is a great deal of responsibility placed on you to ensure the facilities you design are safe for patients,



staff and visitors as well. Facilities should appear as comfortable, attractive and residential as possible while also preventing patients from potentially harming themselves or their caregivers.

The Facility Guidelines Institute (FGI), Behavioral Health Design

Guide and the New York State Design guide have all established recommendations for designing mental healthcare facilities in North America.

Per the FGI, flooring and wall cladding used in these facilities must be the following:

Ligature-resistant

✓ Room fixtures and hardware should be specifically designed to prevent the attachment of ligatures in order to protect patients from inflicting self-harm.

No flooring cap

For safety reasons, plastic or metal flooring caps shall not be used, even in wet areas.

Tamper-resistant

✓ Patients must not be able to pick or remove transition strips between different finishes where floors and walls meet.

Impact-resistant

✓ Walls should be capable of enduring heavy impact without cracking or splintering to create potential health hazards.

Water-resistant / cleanable

✓ Flooring shall be unaffected by wet cleaning, germicides and other types of cleaning solutions.

Designing based on patient level of care

BMH encompasses many conditions and a multitude of centers for treatment. The level of concern for the safety of patients and staff due to the design of the built environment is not the same in all parts of a behavioral health facility.

When designing a facility, best practice is to use an environmental safety risk assessment (ESRA) matrix. This tool relates an opportunity for a patient to be alone to a level of risk of self-harm.

A combination of these factors help to determine the level of risk involved with each room in the facility.





low-risk zones



Low-risk zones

Treatment facilities consider Level I and Level II areas to be low-risk zones. Essentially, these are either restricted to patients or place them under constant supervision.

When designing low-risk zones, residential looks are appropriate and encouraged in communal spaces. Areas that fall into these categories include corridors, activity rooms, counseling rooms, interview rooms and staff or service areas.

Key considerations

- Selection of more residential-looking finishes and furniture is preferred
- Use murals and printed artwork to calm and inspire; must be securely fastened to avoid tampering
- With flooring avoid patterns and color combinations that could contribute to visual misperception



high-risk zones





High-risk zones

In high-risk Level III and IV zones, safety is the highest priority. These zones are where patients spend time alone with either minimal or no supervision.

Strict design guidelines must be followed in these areas to prevent self-harm by eliminating any potential hazards, particularly fixtures that could serve as ligature points. High-risk areas include patient rooms (semi-private or private), seclusion rooms, patient toilet rooms and showers.

Key considerations

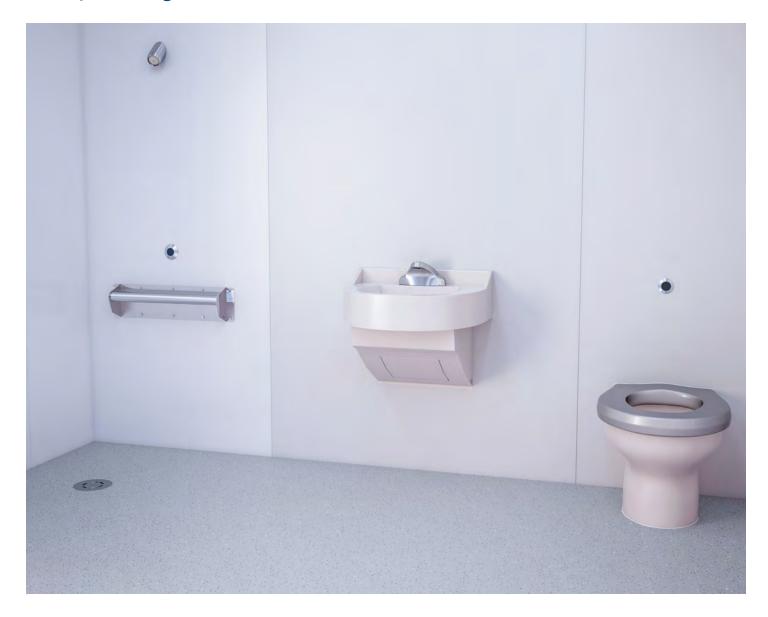
- · Continuous sheet vinyl with heat-welded seams
- Tamper-resistant floor to wall transitions
- Monolithic floor sloped to drains
- Soap dishes recessed into wall to hold toiletry items and eliminate potential ligature points





Altro Aquarius[™]

Safety flooring for wet environments

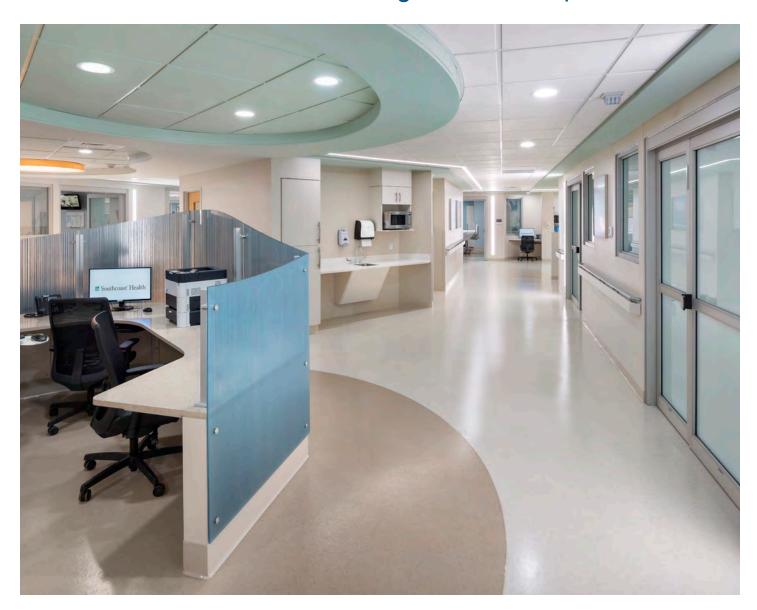


Developed for lasting performance in wet environments, Altro Aquarius provides ample slip resistance in patient bathroom and shower areas. Whether barefoot or shoesoled, patients and staff can confidently walk across its surface with their safety ensured. The heat-welded seams and polyurethane adhesive ensure a floor that is tamperresistant.

- Accommodates both shoe and barefoot pedestrian traffic
- Easily coved for showers and other wet areas
- Excellent slip resistance values whether wet or dry

Altro Symphonia[™]

Durable, smooth commercial flooring with hidden slip resistance



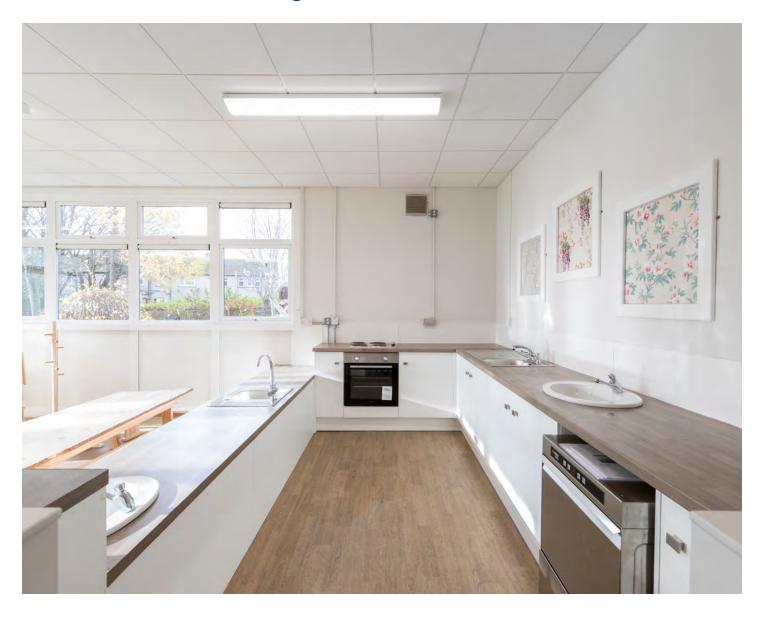
Altro Symphonia was engineered to deliver striking looks and bridge the gap between smooth and slip-resistant flooring. It's a perfect choice when cleaning is essential but some degree of slip resistance is still needed. Because of this, Altro Symphonia is commonly installed in healthcare settings. It is smooth to the touch and easy to clean yet will secretly enhance pedestrian safety.

With unique looks and shades from pale neutrals to bright yellows, greens and blues, you can easily vary your interior's mood and sophistication. It delivers all the durability you would expect from Altro including a 10 year warranty.

- ✓ Bridges the gap between smooth and slip-resistant flooring
- Achieves R10 slip resistance rating and SCoF of .8 dry, .9 wet
- Impressive chemical + stain resistance, ideal for healthcare applications

Altro Wood[™] Comfort

Wood-look smooth flooring with enhanced underfoot comfort



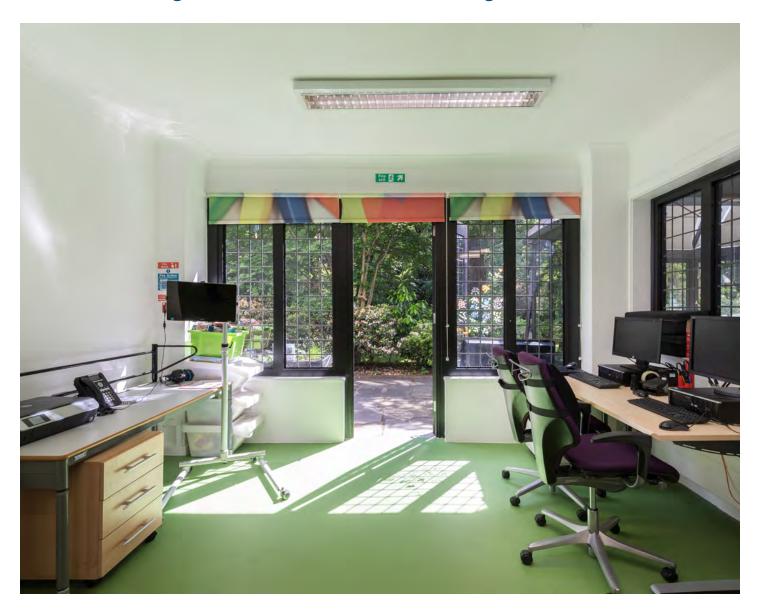
Available in an impressive range of designs with different plank sizes and shades, Altro Wood Comfort offers an attractive and functional flooring solution for recreational areas and common rooms. Its realistic visuals create warm, calming environments that facilitate treatment with a residential feel.

With matching design and color options across this range and two other wood-look ranges, you can achieve a consistent look in different areas and have the ability to choose between ranges for the right technical performance according to the area.

- Authentic wood visual creates warm and inviting setting
- ✓ Indentation resistant up to 1000 psi
- ✓ 15db sound reduction
- Extremely flexible
- Providing in-room sound reduction and added comfort underfoot

Altro Orchestra[™] / Altro Serenade[™]

Smooth flooring with sound reduction and high underfoot comfort



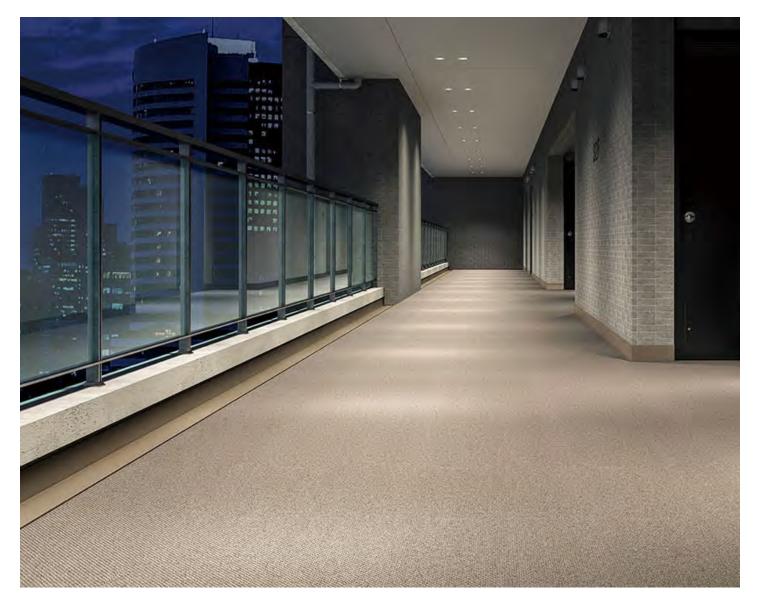
Altro Orchestra and its thicker counterpart, Altro Serenade, provide comfort underfoot in areas where patients and staff spend the majority of their time. The two products each have an impressive variety of calming, neutral tones designed to complement each other between rooms.

At 3.9mm thick with 19dB impact sound insulation and an IIC rating of 54, Altro Serenade reduces noise and provides a high level of comfort and padding underfoot. This makes it especially useful for seclusion rooms.

- ✓ Smooth surface is easy to clean and maintain
- Provides ample comfort underfoot
- Reduces sound transmission and provides in-room sound reduction/transmission

Altro Promenade[™]

Slip-resistant sheet vinyl flooring for outdoor spaces



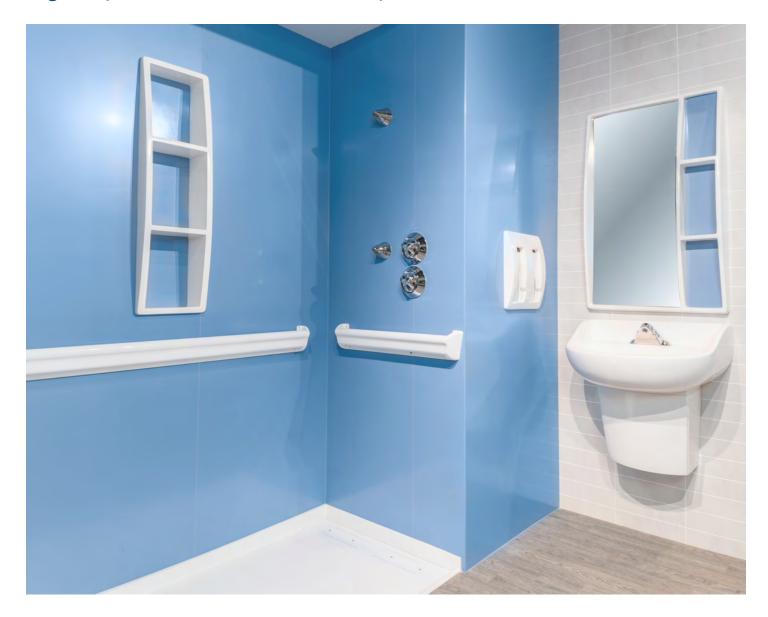
Designed for exterior use, Altro Promenade provides essential slip resistance in areas exposed year-round to changing weather conditions. Its impervious surface prevents rainwater and excess moisture accumulation that can damage subfloors over time. It is capable of enduring harsh sunlight and fluctuating temperatures without cracking or falling apart, making it a practical solution for outdoor areas.

In addition to its impressive durability, Altro Promenade offers a low-depth stepped embossing for smooth underfoot comfort and enhanced cleanability while still providing slip resistance.

- ✓ Withstands outdoor conditions
- ✓ Durable
- ✓ Slip-resistant
- ✓ Enhanced cleanability
- ✓ Low-depth embossing

Altro Whiterock[™]

High-impact, heat-formable wall system



Durable, impact resistant, hygienic and easy to clean, Altro Whiterock wall panels can overlap Altro flooring to create a fully integrated and simultaneously tamperresistant solution for BMH facilities.

The product can be thermoformed on site and bent around corners. This eliminates the need for accessories and sharp edges that could cause harm.

- ✓ Class A fire rated
- ✓ Extremely impact-resistant
- ✓ Heat-formable on site
- Heat welded seams no trims required
- Easy to care for and low maintenance costs
- ✓ Watertight

Altro Whiterock[™] Recessed Shelf

Tamper-resistant shelf for Altro Whiterock showers



The Altro Whiterock recessed shelf meets multiple requirements associated with bathroom fixtures specified for BMH facilities. Unlike traditional recessed units which are metal and fixed with screws, this product is installed flush to PVC wall panels via a hygienic heat weld. This secures the panel directly into the Altro Whiterock PVC wall panel creating an impervious seal that prevents moisture and bacteria from accumulating beneath the surface.

The welded seal makes it tamper-resistant and incapable of being weaponized. The tamper-resistant seal also prevents the creation of potential ligature points that patients can utilize for self-harm. This fixture also possesses durability similar to that of Altro Whiterock, allowing it to endure heavy impact without cracking or splintering.

- ✓ Ligature-resistant
- ▼ Tamper-resistant
- ✓ Heat welded seams
- ✓ Impact-resistant
- ✓ Durable

Altro Whiterock[™] Whiteboard

Dry-erase overlaminate for Altro wall cladding



Altro Whiterock Whiteboard is a premium clear dry-erase coating that allows for any Altro wall panel to be turned into a custom dry erase board.

The chemical and scratch-resistant clear gloss surface safeguards against these ghosting and staining from ink as well as graffiti. When compared to other dry-erase boards, Altro Whiterock Whiteboard is remarkably easier to erase and integrates with other Altro Whiterock panels allowing for designated areas to be dry-erase capable.

Its anti-graffiti properties also allow for easy removal of permanent marker with rubbing alcohol.

- ✓ 2 mil thick
- ✓ Glossy, hard-coat surface
- Available in all Altro Whiterock colors
- ✓ Resists scratches, abrasion, water damage, and corrosion
- Blends the durability and hygiene of Altro Whiterock with versatility of dry-erase

Altro Whiterock[™] wall designs

Designer patterns on durable wall panels



Altro Whiterock wall designs combine the durability, hygiene and resilience of Altro Whiterock wall panels with patterns that simulate elements of nature indoors.

These realistic wood, linen and concrete visuals can help alleviate anxiety in patients and create a calming environment for facilitating treatment.

- ✓ Class A fire rated
- ✓ Capable of heat welding seams
- ▼ Thermoformable on site
- ✓ Fully bonded to substrate
- ▼ Impervious to water ingress
- ✓ Impact-resistant
- Non-porous, hydrophobic

Altro Tegulis[™]

Hygienic tile-look wall panels



Altro Tegulis is an innovative wall solution available in an extensive color and design palette. With a chic look and feel of tile, the custometched grout lines offer a hygienic solution eliminating scrubbing and repair issues. This easy-to-install system is available in interlocking and straight-edge formats with a variety of tile sizes capable of adapting to different designs.

Unlike traditional porous grout used in ceramic tile installations, the grout lines embedded into Altro Tegulis' surface are impervious to moisture. Using our half lap installation method combined with our sanitary sealant, Altro Tegulis prevents water and bacteria from penetrating below the surface, allowing for thorough cleaning and disinfecting. This provides an authentic tiled visual, without any of the unhygienic drawbacks.

- ✓ Class A fire rated
- ▼ Resists bacterial growth
- **✓** Low VOCs
- ✓ Lead-free, phthalate-free
- ✓ Non-porous, hydrophobic

Altro Whiterock Digiclad[™] and Altro Whiterock PopArt[™] Gloss+

Altro Whiterock Digiclad and Altro Whiterock PopArt Gloss+ provide an excellent canvas for artwork in behavioral and mental health facilities.

Altro Whiterock Digiclad is created by reproducing a photographic image or vector art onto Altro Whiterock wall cladding with consistent, photographic quality. Hard-coat technology provides scratch-resistant properties ideal for these areas.

Altro Whiterock PopArt Gloss+ is our damage resistant option in the AW PopArt range - after printing, a high gloss graffiti-resistant dry-erase film is applied over the panel. These printed panels are also now usable as a writable whiteboard surface, excellent for low-risk supervised areas.

Key benefits

- ▼ Reproduces high-quality artwork for endless customization
- ✓ Prints over multiple panels
- ✓ Installs with or without joint strips
- Liquid hard coat resists scratching and staining
- ▼ Easy-to-clean surface
- Extremely hygienic

Use of imagery

Evidence-based design studies support that the use of realistic and natural art can be beneficial in BMH facilities. Access to nature and natural images can provide a positive distraction which can have a therapeutic healing effect as well as reduce patient anxiety and agitation.

The correct and careful use of imagery cannot be understated. What may seem pleasant and peaceful to one individual could be alarming to another.

Key considerations

- Natural imagery preferred over abstract art
- Consider the effect of color carefully when selecting imagery
- Avoid color combinations that could contribute to visual misperception

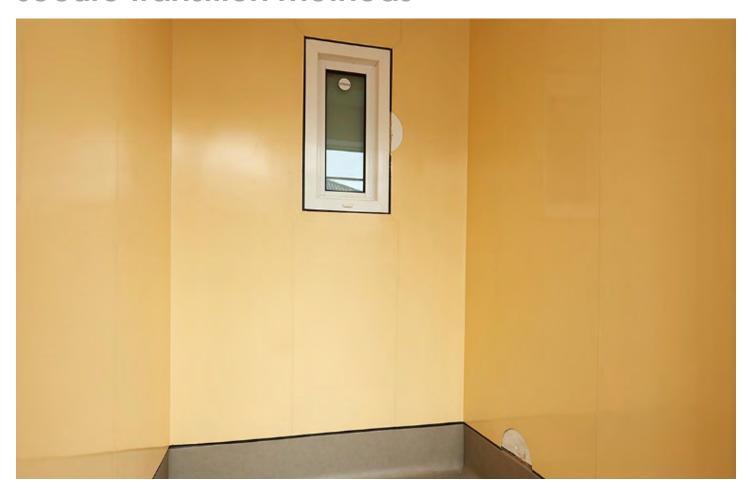


Learn more about the completely custom Altro Whiterock Digiclad and Altro Whiterock PopArt process in the brochure or ask your local sales rep.





secure transition methods



An extremely important facet of BMH are the secure transitions between materials in high risk areas. The risk of weaponization and self-harm that comes with standard transitions prevents the use of many trim pieces.

Altro has developed various joining methods between different surfaces which allow for hygienic construction without the need for potentially hazardous transition pieces.

For example, regulations forbid the use of standard flooring cap strip in mental health installations, for fear of tampering and weaponization.

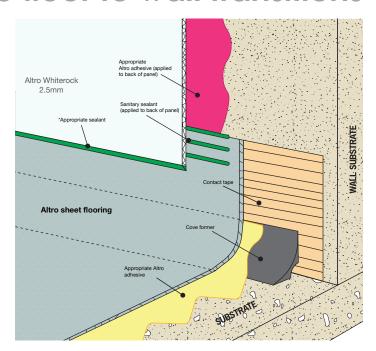
In lieu of a cap strip, Altro flooring can be terminated into the Altro Whiterock wall system via a variety of methods that do not require the use of traditional flooring cap strips.





secure floor to wall transitions

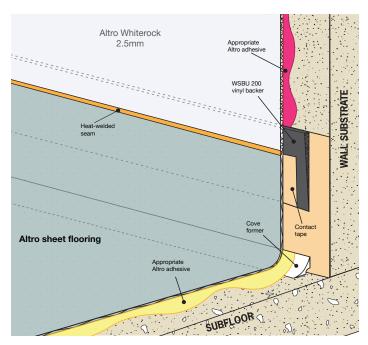




Overlap floor to wall transition

In this process, the coved sheet flooring tucks beneath corresponding wall panels. The edges of the panel are chamfered and a layer of tamper-resistant security sealant is applied to ensure that patients cannot access the excess flooring or remove pieces of the wall.





Floor to wall heat weld transition

Altro Whiterock can be heat welded directly to Altro sheet flooring. This advanced installation technique creates a virtually seamless transition that is ideal for extremely hygienic environments.

secure floor to wall transitions continued



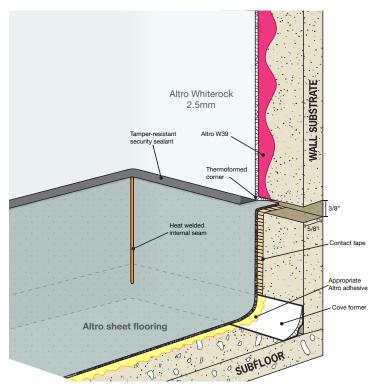
Floor to wall rebate transition

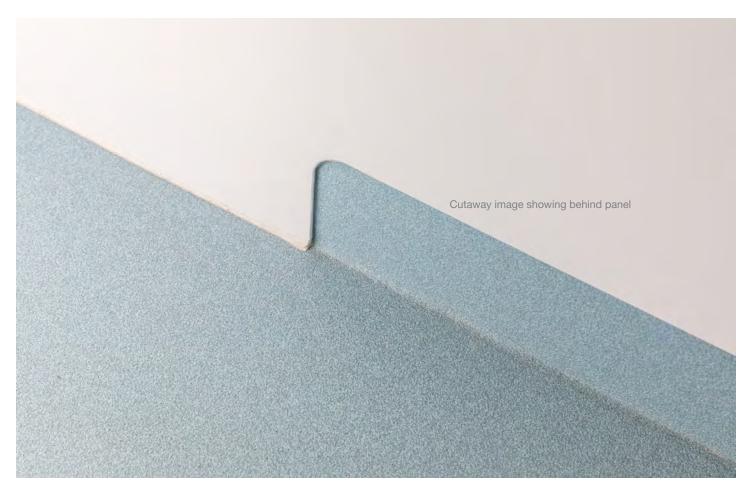
The rebate method is an extremely secure way to transition the floors and walls in high risk areas. It is ideal for use in seclusion rooms.

In this transition a rebate is saw cut into the wall. The flooring and Altro Whiterock are then tucked into it and glued in place. The void between the two products is filled with a tamper-resistant security sealant to prevent tampering.

Benefits

- Completely sealed system
- Tamper-resistant
- Two-part polyurethane adhesive securely bonds floors and walls to the substrate
- Flooring can be replaced without affecting the wall cladding



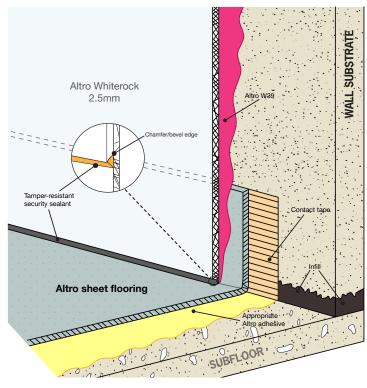


Altro Whiterock run flush to floor with pencil cove installation

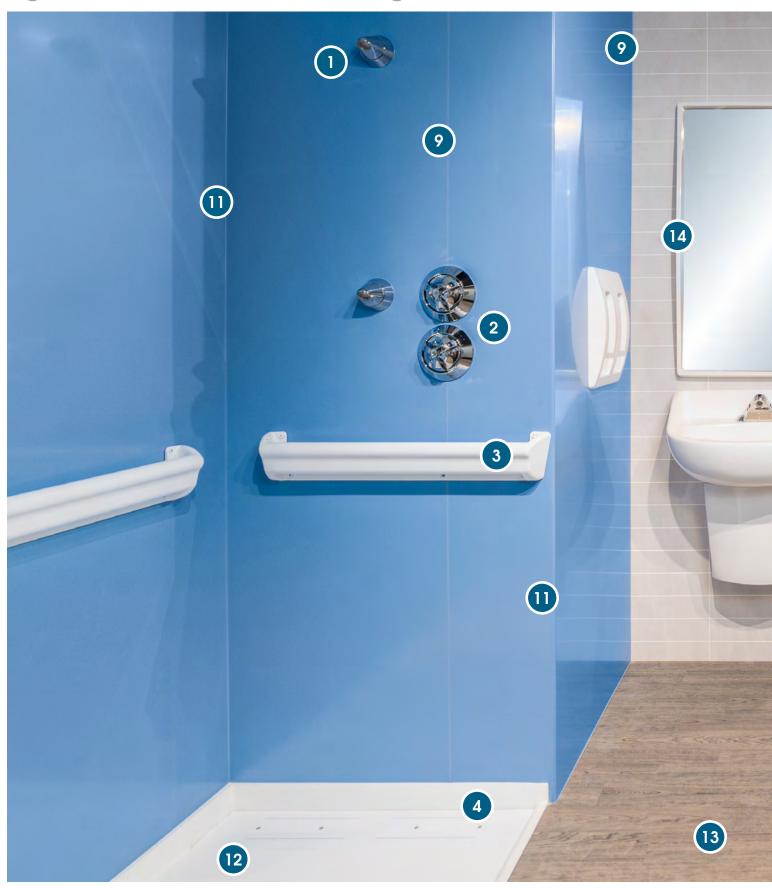
The pencil cove installation method is an extremely secure way of detailing showers and wet areas. In this installation depicted above, the flooring has been self-coved without using a cove former/covestick and is protected by the overlapping wall cladding. The wall is flush against the flooring to ensure there is no opportunity to pick at the finishes. The bottom edge of the wall panel is chamfered and caulked with tamperresistant security sealant. This installation method ensures the room is both watertight and tamperresistant.

Benefits

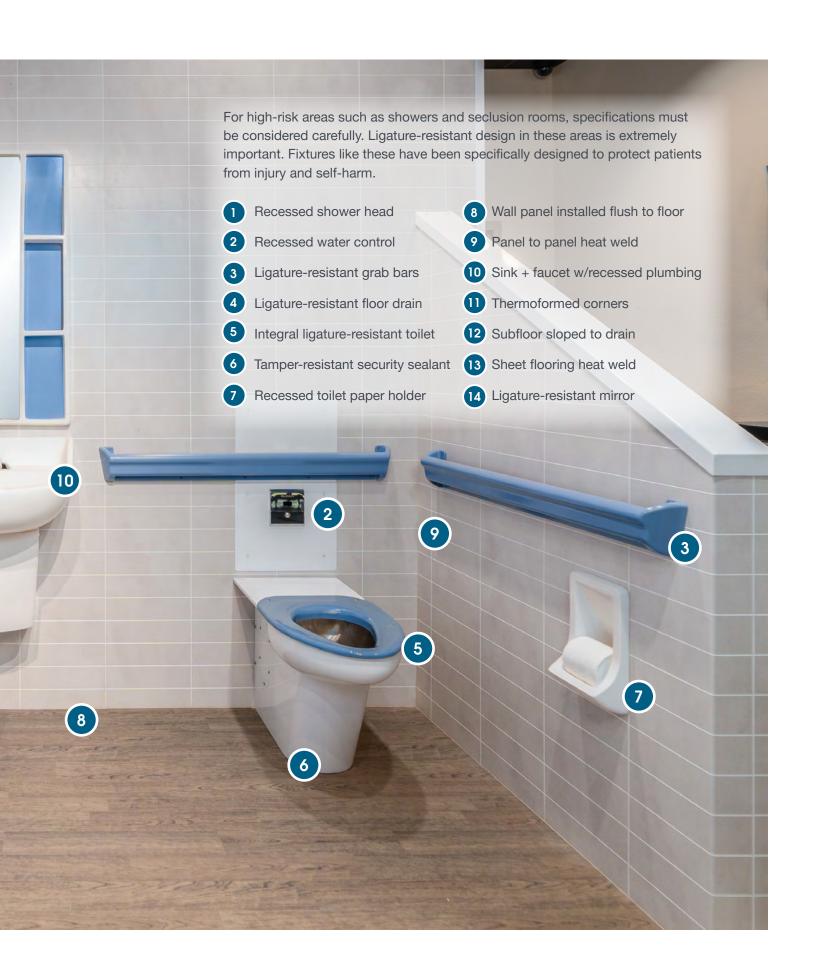
- Completely sealed system
- Tamper-resistant
- Watertight



ligature-resistant detailing



To learn more about the finishes and plumbing fixtures featured here, we invite you to visit the showrooms located at Whitehall Manufacturing's facilities in Southern, California. To schedule a tour, please contact sales@whitehallmfg.com



flooring considerations



Monolithic flooring

Altro sheet vinyl flooring is heatwelded together to create a virtually seamless, water-tight, monolithic surface. This allows for the entire bathroom to be one floor and eliminates potential ligature points.



Integral flash cove

Guidelines prohibit the use of conventional vinyl and rubber wall base as these can be removed and weaponized. Altro flooring utilizes an integral cove base behind the flooring so it cannot be accessed or tampered with.

Above shows a cutaway image of a cove stick reducing and terminating at a door architrave to create a seamless, unobtrusive finish.



Flooring heat welds

A heat weld is the required method of seaming sheets together to create a hygienic, impermeable seal in mental health facilities. This bond is extremely difficult to remove via gradual picking and is incapable of repurposing for acts of aggression or self-harm once damaged.



Two-part polyurethane adhesive

Altro flooring and wall cladding can be installed with two-part polyurethane adhesive. When cured, these hard set adhesives are water-resistant and rock solid, making removal of the floor or wall panel nearly impossible.

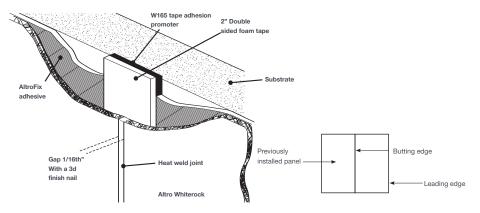


Ligature-resistant clamping drains

Ligature-resistant clamping drains are an essential fixture in BMH bathrooms and shower areas. Secured with tamper-proof screws that can only be loosened via the corresponding specialty tool or removing the screw heads completely, these drains prevent misuse in low-supervision environments. The drain cover is designed with an internal gusset system to prevent ligature points.

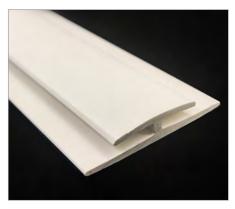


wall cladding considerations



Panel to panel heat-weld

Altro Whiterock wall panels can be heat-welded together. This bond is extremely difficult to remove via gradual picking and is incapable of repurposing for acts of aggression or self-harm once damaged.



No pick, one-part connectors

An alternative to heat welding, one-part joint strips securely bond Altro wall panels together. Installed beneath the panels, this accessory cannot be forcibly removed.



Altro Whiterock Recessed Shelf

These shower units offer the same hygienic benefits as Altro Whiterock wall panels. They are installed flush into the wall panel and heat-welded to ensure there are no ledges or lips to pick at. This makes the system tamper-resistant and free of potential ligature points.



Recessed shower fixtures

To reduce potential ligature points it is vital that shower fixtures such as shower heads and valves are properly recessed into the wall to prevent tampering or risk of self harm. Great care must be taken when selecting appropriate fixtures for this environment as conventional options are not suitable.



altro in action

UNC Emergency Dept. Transition Unit

Chapel Hill, North Carolina, USA

In September of 2020, the UNC Medical Center in Chapel Hill, NC, completed its conversion of a previously used clinical space into a 36-bed Emergency Department Transition Unit (EDTU). The goal behind this renovation was to improve the facility's care capabilities for medical and behavioral health emergencies while providing employees with a larger, more efficient workspace. UNC's newly constructed EDTU includes a mix of dedicated behavioral health and medical beds, with 12 adaptable beds that can be flexed or transitioned between patient populations as needed.

Given that a renovation of this scale would require extensive planning to optimize the available space while adhering to stringent behavioral and mental health guidelines, UNC collaborated with local architect firm MHAworks for guidance. The main priority for this project was to create a safe and therapeutic environment for UNC's patients, families and staff. This would include incorporating durable and hygienic surfaces with essential cleanability and tamper resistance that could reduce the risk of potential self-harm – a specialty of Altro Whiterock wall cladding.

MHAworks specified Altro Whiterock wall panels for use throughout the behavioral health and transitional exam rooms as well as the patient shower rooms. With impressive impact resistance, Altro Whiterock is capable of enduring the stress of potentially aggressive behavior without chipping or cracking. This prevents patients from removing damaged sections of the walls as a means of harming their caretakers or even themselves. The panels' watertight, heatwelded seams provide further tamper resistance while allowing for truly thorough cleaning and disinfection without bacteria or excess moisture escaping below the surface.

The firm chose Altro Whiterock wall designs for the EDTU's headwall and desk areas to create a warm, home-like aesthetic. This decorative wall cladding range combines the durability, hygiene and resilience of Altro Whiterock wall panels with realistic wood, linen, concrete and metallic visuals, offering a practical design option for healthcare environments.

Photo credit: Monica Slaney | photographie:fourseven







Altro Whiterock







altro in action

Rockville Hospital Behavioral Health Unit

Vernon-Rockville, Connecticut, USA

Rockville Hospital, part of the Eastern Connecticut Healthcare Network, boasts a strong behavioral health unit that provides support and specialized, sophisticated services for many areas of mental health, including additions, anxiety, depression and other counseling.

Moser Pilon Nelson Architects worked with the hospital, selecting Altro Aquarius and Altro Whiterock for use throughout the unit.

For the bathrooms and other wet areas throughout the unit, the award-winning Altro Aquarius was specified for the floors, accompanied by Altro Whiterock hygienic wall panels on the walls. The ideal flooring for wet environments, Altro Aquarius is fit for both bare feet and shoes, providing excellent slip resistance in an area where slipping and falling is a major concern.

Altro Whiterock's hygienic nature prevents water and moisture ingress, and its durable impact-resistance ensures a sledgehammer strike won't even crack its panels. Other walls can break upon heavy impact, resulting in punctures and holes that can house unwanted bacterial tenants.

Rockville also utilized the Altro Whiterock
Recessed Shelf. This product's welded seal
makes it tamper-resistant and incapable of being
weaponized for aggressive behavior or self-harm.
This fixture also possesses durability similar to
that of Altro Whiterock, allowing it to endure
heavy impact without cracking or splintering.

With the increasing efforts to combat healthcare acquired infections in hospitals around the country, impact-resistant and hygienic wall products are essential.







Altro Aquarius

Altro Aquarius

Altro Whiterock

Altro Whiterock Recessed Shelf



Cleaning

Proper cleaning is essential to keeping a facility hygienic no matter which interior finishes are selected. We highly recommend that a cleaning and sanitizing program is created specific to your facility that utilizes the resources and products as recommend by individual manufacturers.

Our cleaning guidelines are available at altro.com

Samples

Altro recommends that color selection is never made through printed or digital materials. Please order a physical sample for color and pattern approval before placing your order with us.

Order samples 24 hours a day at **altro.com** or find us on Material Bank.





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