

**May 2015**

**Edition 7.0**



# **Design Guide for the Built Environment of Behavioral Health Facilities**

---

***Now with  
Patient Safety Risk Assessment Tool***

---

**by James M. Hunt, AIA, NCARB  
and David M. Sine, DrBE, CSP, ARM, CPHRM**

**Distributed by the  
The Facility Guidelines Institute**

Revised July 17, 2015

“The hospital plans activities to minimize risks in the environment of care.”

“Risks are inherent in the environment because of the types of care provided and the equipment and materials that are necessary to provide that care. The best way to manage these risks is through a systematic approach that involves the proactive evaluation of the harm that could occur. By identifying one or more individuals to coordinate and manage risk assessment and reduction activities – and to intervene when conditions immediately threaten life and health – organizations can be more confident that they have minimized the potential for harm.”

“The hospital manages safety and security risks.”

“Safety and security risks are present in most health care environments. These risks affect all individuals in the organization – patients, visitors, and those who work in the hospital. It is important to identify these risks in advance so that the hospital can prevent or effectively respond to incidents.”

**The Joint Commission**  
**“Standards and Rationale”**  
***2012 Hospital Accreditation Standards***

“Listen to the patients, they’ll tell you what you need to know.”

**-- J.J., Safety Officer,  
Greystone Park State Psychiatric Hospital, New Jersey**



**Design Guide  
for the  
Built Environment of  
Behavioral Health Facilities:  
Edition 7.0  
May 2015  
(Revised July 17, 2015)**

---

In an effort to keep up with the rapidly increasing number of new products that are becoming available for use in behavioral health care facilities, this document will be updated more frequently. The date of the latest posting will be provided in the upper left corner of the cover page and at the bottom of each page.

Readers are urged to check [www.fgiguideelines.org/beyond](http://www.fgiguideelines.org/beyond) whenever referring to this document to assure the latest information is being accessed.

**EDITION 7.0**

All revisions and/or additions made since edition 6.2 are shown in blue, including the borders of images.

The electronic version of this edition is searchable (CTL+F) on computers to make it easier to find exactly what you are seeking.

---

# CONTENTS

Introduction .....	5
A Word from the Authors .....	6
Acknowledgments .....	7
A Word from FGI: The Value of Focusing on the Behavioral Health Environment.....	8
General Comments	
1. Space Planning Considerations.....	9
2. Safety.....	12
3. Outdoor Areas .....	15
Construction and Materials Considerations	
Level I. Staff and Service Areas .....	17
Level II. Corridors, Counseling, and Interview Rooms.....	17
Level III. Lounges and Activity Rooms.....	27
Level IV-a. Patient Rooms .....	29
Level IV-b. Patient Toilets.....	38
Level V-a. Admissions .....	45
Level V-b. Seclusion Rooms.....	47
Summary .....	50
Appendix.....	51
About the Authors.....	96
About FGI .....	97
Definitions/Resources.....	97
List of Manufacturers .....	98

## INTRODUCTION

This document is intended to address the built environment of the general adult inpatient behavioral health care unit. Additional considerations that are *not* addressed here are required for child and adolescent patients, patients with medical care needs, dementia patients, and some patients with diagnoses such as substance abuse and eating disorders.

This document is not a replacement for regulatory requirements, but rather augments them to detail practical means of protecting patients and staff. It is intended to represent best current practices, in the opinion of the authors. It is not intended to represent minimum acceptable conditions and should not be interpreted as establishing a legal “Standard of Care” which facilities are in any way required to follow.

**NOTE:**

Product information included in this document is intended for illustration of one or more specific items that are deemed appropriate for use in this type of facility. Comparable products by other manufacturers meeting the same design criteria may be substituted after careful comparison.

## A WORD FROM THE AUTHORS

The *Design Guide* continues to be based upon our experiences in the field as operators, designers, consultants, and surveyors: what we have seen that is working and what we have seen that has not worked. Since first electronically published by the National Association of Psychiatric Health Systems (NAPHS) in 2003, we have received and welcomed countless suggestions, recommendations, and comments from users of the *Guide*, which continue to inform and lead us to new discoveries. We are grateful and humbled by how well our suggestions have been received and inspired others to think of new solutions to the inherent challenges of the behavior health built environment.

We hope that this edition of the *Design Guide for the Built Environment of Behavioral Health Facilities* will meet the expectations of and prove useful to the designers, operators, and clinicians who are entrusted with both the care of behavioral health patients and with the environment of care in which those people are cared for and treated.

As always, we introduce this edition by repeating how we introduced the 2003 edition, with a reminder that *“while a safe environment is critical, no environment of care can be totally safe and free of risk. No built environment – no matter how well designed and constructed – can be relied upon as an absolute preventative measure. Staff awareness of their environment, the latent risks of that environment, and the behavioral characteristics and needs of the patients served in that environment is an absolute necessity. We also know that different organizations and different patient populations will require greater or lesser tolerance for risk; an environment for one patient population will not be appropriate for another. Each organization should continually visit and revisit their tolerance for risk and changes in the dynamics of the patient population served.”*

As before, we have highlighted products that we have found to be both safe and able to withstand the rigors of use in the behavioral health care environment. However, inclusion or exclusion of a product does not indicate endorsement or disapproval (nor that any product we identify is free of risk). There may be equivalent products available: all facilities should continually look to the marketplace to find products that are safer and more cost-effective.

**James M. Hunt, AIA, NCARB**  
President  
Behavioral Health Facility Consulting, LLC.  
2342 SE Alamar Road  
Topeka, KS 66605  
[jim@bhfccllc.com](mailto:jim@bhfccllc.com)  
[www.bhfccllc.com](http://www.bhfccllc.com)



**David M. Sine, DrBE, CSP, ARM, CPHRM**  
President  
SafetyLogic Systems  
Austin, TX  
[dsine9@gmail.com](mailto:dsine9@gmail.com)  
[www.safetylogicsystems.com](http://www.safetylogicsystems.com)  
**SafetyLogic** Systems

P

## SHARE YOUR BRIGHT IDEAS



A continuing feature in this updated edition is the inclusion of **Bright Ideas** that are indicated by the graphic shown at the left. These are applications that we have thought of, or that have been suggested by readers, that do not require the use of any specific product, but utilize readily available items in creative ways to improve the safety of these units. Most of these **Bright Ideas** can be implemented by maintenance staff at nominal cost. We thank those who have contributed these ideas and information on new products. We encourage this kind of input and invite feedback from you, the readers. With your help, this can become a compilation of the best thinking of the industry. We promise to include more of your **Bright Ideas** in the future.

## ACKNOWLEDGMENTS

We want to express our appreciation to the following professionals who have shared their insight and experience with us and helped make this edition more helpful to other readers:

Larry Denoyer – The Menninger Clinic  
Steve Lindquist – Avera McKennan Behavioral Health Services  
Tom Hess – Sheppard Pratt Health System  
Byron Kitagawa – Sharp Healthcare Corp.  
Steve Sullivan - Britton Construction  
Tim Rappold - The Good Shepherd Center  
Tom Ferrel - Systems West Engineers  
Steven Shilts, RN - La Jolla Veterans' Medical Center  
Tom Loats, St. Joseph Hospital  
Carter Wright, CWC Corporation

## A WORD FROM FGI

### THE IMPORTANCE OF RECOGNIZING THE UNIQUE NEEDS OF BEHAVIORAL HEALTH ENVIRONMENTS

We at the Facility Guidelines Institute are expanding our mission to publish documents that go beyond the fundamental health care design requirements we are known for. We are pleased to have been asked to publish this valuable document, which goes beyond the basic requirements to provide information that will help those in the behavioral health field develop safe and effective care environments for patients and staff.

Whether you are designing new construction, renovating existing space, or maintaining a facility, the *Design Guide* is intended to help you think through how the physical environment affects patient and staff safety. Keeping a behavioral health environment safe is an ongoing endeavor and requires a continuous process of review and evaluation.

For any health care facility type, it is essential to base decisions about the built environment on potential risks to the patient populations served. However, as noted by the National Association of Psychiatric Health Systems (NAPHS), previous publisher of this guide, this is particularly important in behavioral health facilities, where many patients are admitted because they are at risk of harming themselves or others.

We hope the *Design Guide* will help users engage all the stakeholders in a project or facility's operation in the discussions needed to develop and maintain an appropriate care environment. As identified by NAPHS, some questions to consider are:

- Could a patient be hurt by a particular aspect of the environment? Could it be used to harm someone?
- Can staff easily navigate the environment to get to patients in need of assistance?
- Is it possible to maintain patient privacy in this environment?
- Is the environment a respectful, therapeutic one that will contribute to recovery?

FGI does not endorse or recommend any specific product, and exclusion of a product from this document does not indicate disapproval. However, we support the authors' belief that providing information about specific products can help designers find solutions that work in the unique circumstances of behavioral health environments.

Douglas S. Erickson, FASHE, CHFM, HFDP, CHC  
CEO, The Facility Guidelines Institute

Facility Guidelines Institute • [www.fgiguideelines.org](http://www.fgiguideelines.org) • [info@fgiguideelines.org](mailto:info@fgiguideelines.org)

# GENERAL COMMENTS

## 1. Space Planning Considerations:

- A. **Behavioral health units and facilities should be designed to appear comfortable, attractive, and as residential in character as possible.** The focus on patient and staff safety has often pushed the aesthetics of these units toward the appearance of a prison environment. The Planetree organization actively advocates for patient centered design and has made a significant positive impact on the general hospital therapeutic environment. However, many “healing environment” features that are desirable for a medical surgical environment do not adapt well to behavioral health units and hospitals. Planetree designated its first Patient-Centered behavioral health hospital in 2011.

The final design must avoid an “institutional look” while meeting the array of applicable codes and regulations as well as the therapeutic and safety needs for patients and staff. The challenge, therefore, is to strike a balance between the safest possible healing environment and a non-institutional appearance that is correct for the unique conditions that exist in each and every facility.

- B. **Nurse stations should provide the least possible barrier between staff and patients.** This goal is sometimes felt to be in conflict with staff safety concerns. Some facilities have been successful in finding ways to prevent patients from jumping over the counter without providing solid barriers that restrict conversations and the exchange of objects. HIPAA (*Health Insurance Portability and Accountability Act of 1996*) privacy regulations make an “open” design increasingly challenging. Patient records, electronic or otherwise, must be protected from view of other patients, visitors and unauthorized staff. Care must also be taken to shield computer monitors from unauthorized viewing. Areas must be provided in which clinical staff may discuss patients without being overheard by other patients or visitors. Provision should be made to accommodate storage of charts and patients’ valuables in appropriately secure areas. The advancements in electronic medical records have somewhat reduced the need to provide all of the charting-related activities and spaces in the area behind the nurse station. Since the electronic “chart” can be accessed from many locations, the area around the nurse station can be utilized for more patient-centered activities in many cases.
- C. **Gathering areas for patients near the nurse station are encouraged because patients often congregate near there to socialize.** It is far better to plan for this in the original design and to accommodate this behavior. This area should encourage comfortable seating and places for conversation, card or board games and other quiet activities that will not be distractions for staff working in the nursing station. Television sets, CD players, etc. should not be included at these locations. Many facilities are now experiencing issues, especially with younger patient populations, regarding use of electronic devices (e.g., iPods, MP-3 players, and similar devices).

Many patients like these electronics and say they help keep them calm, but the wires on the earphones can be hazardous. This is just one of many decisions that facilities will need to weigh to determine the level of risk they are willing to accept for the perceived benefit. It should always be remembered that a patient who is assessed as safe to have the player may set it down where another patient may pick it up to gain access to the wires.

- D. **Chart rooms and other staff areas should be located so that staff members may have conversations regarding patients and other clinical matters without being overheard by patients or visitors.** Teaching hospitals that have a large number of residents and/or students making rounds will need larger spaces for confidential conversations. The expansion of the use of electronic medical record technology is continuing to change the needs and configurations of these rooms.
- E. **Medication rooms should be sized to accommodate the number of staff that will be necessary at peak times as well as planned for future (if not current) computer systems.** HVAC and electrical systems should have sufficient capacity to accommodate the cooling load of the refrigerator, computer, automated medication systems, and the number of people who may be in the room at peak times. The medication room should also have a hand-washing sink. The room should be sized to accommodate storage of the medication cart when not in use without restricting use of the space by staff. (See Section 2.1-2.6.6.2 (1) in the *FGI Guidelines for Design and Construction of Hospitals and Outpatient Facilities*, 2014 edition.)
- F. **When possible, locate service areas (such as trash rooms and clean and soiled utility rooms) so that they are accessible both from the unit and from a service corridor.** This eliminates the need for environmental staff servicing these rooms to enter the treatment areas of the unit and possibly disturb patient activities. All doors to these rooms must be kept locked at all times.
- G. **Traditional nurse call systems for patients to use to get assistance from nursing staff are not required** in behavioral health units. There are significant new developments in duress alarm systems that greatly improve safety for staff when in a threatening situation with patients. These utilize sensors located in all patient-accessible areas and a small device that the staff members wear.<sup>650</sup> If the staff feel threatened and want other staff to come, the device can be activated. The alarm annunciates in different ways with the various products, but many provide the exact location of the staff activating the alarm.
- H. When possible, have all **electrical outlets** in each patient room be tamper resistant, hospital grade units on Ground Fault Interrupted Circuits (GFCI) and have the breakers for these circuits located where they are readily available to staff without entering the patient rooms. This is easily accomplished in new construction and very difficult to accomplish in remodeling projects.
- I. **All electrical circuits** having receptacles near sources of water (such as sinks, lavatories, and toilets) must be protected by (GFCI) breakers. Simply replacing one receptacle on a circuit with a GFCI-equipped receptacle provides that protection for the

entire circuit. It should be noted that this can cause complications in that poorly maintained equipment (such as vacuums and floor polishers) may trip these devices.

- J. When possible, locate **water shut-off valves** in corridor walls where they are accessible from the corridor by opening a locked access door. This has been successfully accomplished during remodeling projects of existing units.
- K. When possible, **locate serviceable parts of patient-room HVAC systems** where they can be serviced without entering the patient rooms. In new construction, consideration should be given to radiant heating and cooling systems that greatly reduce the need for mechanical devices in the patient rooms.
- L. **Housekeeping rooms should be large enough to lock away the carts when not in use.** All cleaning materials must be locked inside at all times when the carts are in patient areas or corridors and not attended by staff.
- M. **Smoking areas (if provided) should be outdoors.** These can be in the form of screened-in porches using heavy stainless steel screen fabric<sup>81</sup> similar to that specified in Level III-H.1 below. Furniture should be securely anchored in place. Provision should be made for staff observation without having to breathe the second-hand smoke. No wastebaskets should be allowed in these areas. Indoor smoking is not permitted now in most facilities, and many hospitals have gone to smoke-free campuses.
- N. **At the time of this writing, the applicable standards** (the FGI *Guideline for Design and Construction of Hospitals and Outpatient Facilities*, published by the Facility Guidelines Institute, 2014 edition) **require 100 net usable square feet per private patient room and 80 net usable square feet per patient in semi-private rooms (2.5-2.2.2.2).** All requirements of the FGI *Guidelines*, NFPA 101: *Life Safety Code* (2012 edition), and the Joint Commission standards as well as state and local regulations and building codes must be incorporated into the planning.

## **2. Safety:**

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 unit or facility. The level of precautions necessary depends on the staff's knowledge of the patient (i.e. the patient's intentions regarding self-harm) and the amount of supervision the patient will have while using that part of the facility.

Previous editions of this Design Guide have proposed that the level of concern for patient safety in the behavior health built environment could be stratified into five categories (with five being the highest level of concern). The lowest level (Level I) was described as spaces having no patient access or under constant supervision such as staff and service areas and correlated to an area in which some latitude was available regarding design, construction, and materials used. The highest level (Level IV) was described as an area within the built environment where patients were present with unknown or unassessed risks and in which patients could be cared for that were in a highly agitated condition. The Level V areas present special considerations that need to be addressed individually.

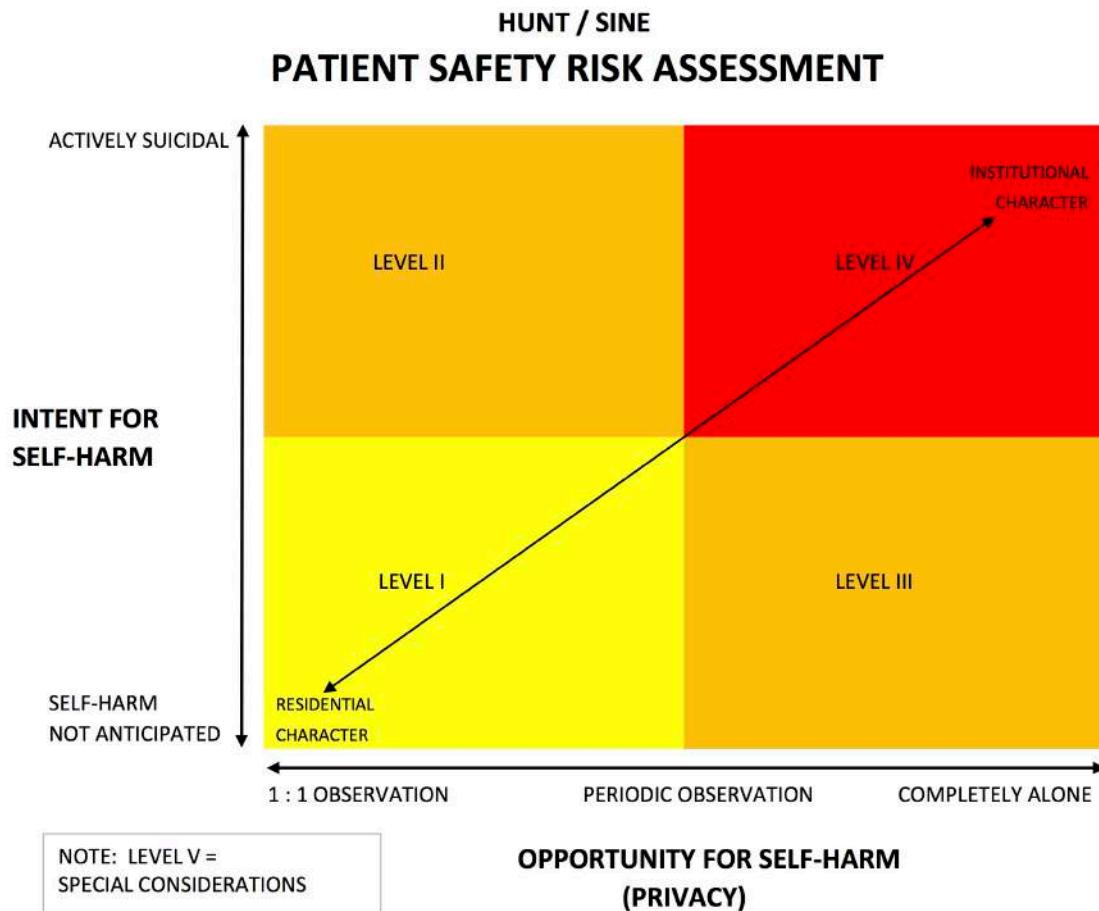
This approach of risk levels based on a functional statement of intended usage has been adopted by many others with varying numbers of levels but all share a similarity of describing the level of risk for a room or space that is similar to spaces with a similar occupant function (i.e. admissions rooms, examination rooms, etc.). However, some rooms or room functions can comfortably fit into more than one category or sit on a blurry boundary between two categories. In addition, the categories do not anticipate every use of every room. Thus, facility clinical staff and facility designer may be making assumptions when a room is described as an "activity room" and a level of concern to drive design choices is made that does not meet the actual needs of the stakeholders in an operating environment. For example, a Day Room may be located so that it is within line of sight of a nurse station that "always has staff present." However, if there is a patient who can't sleep and he or she is in the Day Room watching television at 2 AM and the only staff on duty is making rounds, the patient may actually be "completely alone" for a period of time in a space that may contain hazards.

For this edition of the Design Guide the authors propose that the conversation between clinical staff and designers regarding patient safety could be facilitated by the use of a "patient safety risk assessment" (PSRA, see page 14) that, in a Cartesian matrix, considers the opportunity for a patient to be alone in a particular space (of any name) on one axis and a level of risk of self-harm on the other axis. The greater the opportunity for a patient to be alone, the greater the opportunity for self-harm and the greater the caution that should be taken regarding design choices and materials. The authors acknowledge that patient intent for self-harm is often opaque and difficult to assess but place "actively suicidal" on the far end of this scale and describe the opposite end as "self-harm not anticipated". Privacy is arranged with close observation (such as "1:1 observation") on one end of the opportunity scale and the patient "completely alone" on the opposite end of that scale. This risk

matrix is partly informed by longitudinal studies done by the Veterans Health Administration of the frequent locations of acts of self-harm by inpatients and supported by Joint Commission data and is further influenced by the seminal works of Richard Prouty on risk maps. Designers and clinicians, rather than seeking agreement on what is meant by a particular room name, may now seek to agree on the actual or anticipated degree of aloneness or privacy a patient will experience in a room or space independently of room name and it is that agreement that will drive design choices for that room or space.

For example, a room such as a patient bathroom in which the patient is anticipated to be alone and have privacy would be far along the privacy axis. If that assessment intersects far along the patient intent for self-harm axis then the space should be designed with the attributes of a Level IV space as described below. In sum, no matter the name of the room, a high level of privacy warrants a high level of concern if it is anticipated that patients who are actively suicidal (or patients with an unknown or unassessed intent for self-harm) are to be treated or housed in that space. While spaces with risk assessments located in the upper right (Level IV) of the risk map will have different products utilized, they do not necessarily need to look more “institutional” than spaces with a risk assessment located in the lower left (Level I) corner of the risk map.

Although the authors believe that the use of such a tool will facilitate the necessary conversation regarding patient safety and design between operators, clinicians, and designers the tool is not an absolute and not intended to predict risk levels in a particular facility (which the authors believe to be dynamic and non-static). The tool is only intended to encourage a dialog and promote a common understanding of for whom a designed space is intended and the risks of an anticipated patient population. Neither should this proposal be interpreted as a suggestion that patient privacy is to be avoided or a risk to be avoided. Quite the contrary, privacy is generally considered a good thing and desirous in the built environment, but privacy has associated with it a risk that should be considered and mitigated through good design when possible.



Level I: Areas where patients are not allowed or under constant supervision such as staff and service areas

Level II: Areas where patients are highly supervised and not left alone for periods of time such as corridors, counseling rooms, activity rooms and interview rooms

Level III: Areas where patients may spend time with minimal supervision such as lounges and day-rooms

Level IV: Areas where patients spend a great deal of time alone with minimal or no supervision such as patient rooms (semi-private and private) and patient toilets

Level V: Areas that require special consideration where staff interacts with newly admitted patients that present potential unknown risks or where patients may be in a highly agitated condition. Due to the unknowns, these areas fall outside of the risk map and require special considerations for patient safety. Such areas include seclusion rooms, examination rooms and admission rooms.

### 3. Outdoor Areas:

Outdoor areas (e.g. enclosed courtyards, fenced areas adjacent to the treatment unit, or simply an open campus) are considered to be of great therapeutic benefit. Levels of staff supervision for patients using outdoor areas may vary widely between facilities or even between different groups using the space at any given facility and should be carefully reviewed by the facility and be dependent on the acuity and assessment of the most acute patients using the area.

In all cases, careful consideration should be given to exterior landscaping and furniture in the vicinity of patient-use buildings. Trees should be located away from buildings to prevent access to building roofs. Climbable fences can permit, if not encourage, unauthorized access to windows and roofs or elopement over walls. Shrubbery should be non-toxic and low-growing. Avoid planting shrubbery close together as it can create visual barriers that patients or unauthorized visitors may hide behind. Landscape or decorative rocks that can be thrown and injure staff or other patients should not be used.

All outdoor furniture<sup>660</sup> should be anchored firmly in place. This is to prevent the furniture from being moved to create barricades or stacked to allow climbing over fences, into windows or onto buildings. There are many types of furniture commercially available that can be anchored or are made of concrete or other heavy materials.



Buildings, walls or fences may be used to establish clear boundaries and impede elopement to a degree appropriate to the patient population being served. Some facilities are comfortable with providing a perimeter enclosure that is not particularly difficult to climb and simply make any elopements a treatment issue if the patients return. Other facilities have a very high need to reduce elopements to the extent possible. Where this is the case, the enclosures may take on a very prison-like appearance. If views to the distance are not required, one approach is to treat the outdoor areas as meditation gardens with solid masonry walls that have a smooth interior surface and are twelve to fourteen feet high. One facility has installed large (22"-24") diameter plastic pipe on top of the wall to resist patients being able to get a grip on the top surface. This pipe can be painted to match the color scheme of the building and provides a much less institutional appearance than concertina wire. If views to the distance are desired,





“windows” glazed with polycarbonate<sup>201</sup> or security glass<sup>200</sup> may be provided. Care should be taken to not have sills or cross bars that will provide footholds for climbing.

Another option is a fine mesh chain link fence fabric<sup>675</sup> that can be installed over the existing fence material. This fabric comes in a range of sizes down to as small as 3/8” openings. This makes it more difficult to climb and the openings are too small for most bolt cutters. Care should be taken when using this material to assure that fence posts and rails are sufficiently strong to support the fabric and the additional wind loading that can occur. There has been at least one verified instance of a patient successfully climbing a mini-mesh fence, so it is suggested that a section at the top be angled inward to further increase the difficulty of climbing.

There are also maximum security fencing<sup>676</sup> available that have a very prison-like appearance, but may be necessary in some facilities with involuntarily admitted patients.

If portions of the building walls are used to enclose exterior courtyards for patient use, care should be taken that these walls are not easily climbable, especially if they are only one story high. Window sills, rain gutters, etc. may assist efforts to climb these walls to get access to the roof. All windows that patients will have access to from exterior courtyards shall have security glazing<sup>200</sup> polycarbonate glazing<sup>201</sup> or security window film<sup>190</sup> (as discussed in Level II-D below) for their exterior surfaces.



All areas surrounding patient-use buildings, areas where staff will be walking or escorting patients at night and courtyards should be well lighted. Care should be taken that exterior lights do not shine directly into patient room windows. Parking areas for staff and visitors should be well lighted and reviewed regularly for design features that encourage personal and property security. While security is generally beyond the intended scope of this document, closed circuit television monitoring and video surveillance recording of these semi-public areas (i.e., where there is no expectation of privacy) should be considered.

All manhole covers, access panels, and area drain grates should be anchored firmly in place to prevent them being removed and used as weapons or allowing patients to enter the underground piping.

# CONSTRUCTION AND MATERIALS CONSIDERATIONS

Each of these levels of concern requires increasing attention to the built environment to reduce the potential of the patients being afforded a means of doing harm to themselves or others. These levels are cumulative, and all steps taken for lower levels are also required for a higher level. For example: all steps recommended for Levels I, II, and III are also recommended for Level IV.

**Level I. Staff and Service Areas** – Comply with all applicable codes and regulations. All unattended service areas should be locked at all times to reduce the possibility of patients entering these areas.

**Level II. Corridors, Counseling, and Interview Rooms -**  
Minimize blind spots in corridors where patients cannot be observed from an attended nurse's station. All unattended counseling and interview rooms should be locked at all times to reduce the possibility of patients entering these areas. Counseling rooms and interview rooms should have a "classroom"-type lockset which requires a key to lock or unlock the outer handle, but the inside handle is always free.

- A. **Floors** – Carpet or vinyl tile meeting class A rating. Avoid patterns and color combinations that may appear to "animate" into objects that could contribute to visual misperception by patients. Anti-microbial carpet with solution-dyed yarn and moisture-resistant backing generally works well in these facilities and is available from most major carpet companies.
- B. **Walls** – Lightweight concrete block, abrasion resistant, and impact-resistant gypsum board<sup>230, 231</sup> on a minimum of 20 gage metal studs spaced at 16 inches on center are appropriate for use in these areas. Sound deadening gypsum board<sup>232</sup> is now available to help reduce noise levels created by traditional hard services. Consult manufacturers regarding the characteristics of the specific material most appropriate for a particular installation. These products are now available from several manufacturers. A painted finish is preferred because of easy reparability and the relatively low cost of renewing or changing colors to keep up with current trends. This helps with minimizing the institutional qualities of the space and aids in providing as residential (or home-like) an ambiance as possible while meeting the institutional requirements.

**C. Ceiling** – May be lay-in acoustic tile if needed for accessibility to equipment and the ceiling height is sufficient to make the tiles and grid system difficult to reach. However, a solid ceiling is always preferred in all areas of the Units, but especially interview rooms used for patient intake and assessment purposes (see section 5a: Admissions). If a “lay-in” ceiling is used, consideration should be given to the use of clipped-in-place ceiling tiles. If clips are used, regular safety rounds should include checking to see that the clips are in place. Frequently, they do not get replaced after maintenance is performed on equipment above the ceiling. Some facilities report installing motion sensors above lay-in ceilings to alert staff to patient activity above the ceilings.

**D. Glass** (Interior and Exterior) All glazing that is exposed in patient accessible areas should stay in the frames when broken and not yield sharp shards of glass that patients could use as weapons. Terminology can be confusing in that laminated glass like used in vehicle windows is often referred to as “safety glass”, but, when broken, can yield large sharp pieces. Some of the forms of glazing that are recommended for use in these facilities are listed below:

1. Standards - All glazing in patient accessible areas should be safety glass. *The 2014 Edition of the "Guidelines" Section 2.5-7.2.2.5(a) calls for, "All glazing (both interior and exterior), borrowed lights, and glass mirrors shall be fabricated with polycarbonate or laminate on the inside of the glazing or with any glazing that meets or exceeds the requirements for Class 1.4 per ATSM F1233-08: Standard Test Method for Security Glazing Material and Systems."*
2. Impact Resistant Glass - Several glass manufacturers<sup>200</sup> are now producing products that may be appropriate for use in these facilities. Actual products will vary depending on the size of the opening, the type of frame and the patient population being served. It is suggested that the manufactures be contacted directly to determine exact products that may be appropriate for a specific project.
3. Polycarbonate (Lexan) – Polycarbonate panels<sup>201</sup> are highly impact resistant and are available in a variety of thicknesses from several manufacturers.

It will also deflect upon impact and large pieces have been known to pop out of their frames. Care should be taken to assure that the depth of the stop securing the panel will retain it when subjected to strong impact near the center of the panel. This material is also highly susceptible to scratching and is a frequent target of patients to use to write profanity and draw pictures. Mar resistant coatings are available, but they do not completely eliminate this concern.

4. Heat-Strengthened Glass – is more difficult to break than regular float glass but has about half of the strength of tempered glass. Heat strengthened glass may be a good choice if it is laminated and high impact resistance is not required for the specific location.
5. Tempered Glass – this may be acceptable for use in some patient accessible areas such as small windows in doors, portions of glass walls separating activity rooms from corridors and patient toilet room mirrors. Tempered glass is more impact resistant than float glass or laminated glass, but will break into many small pieces and each piece may have sharp edges. Patients have been known to break tempered glass mirrors and rub the inside of their wrists on the broken surface to cut themselves. The hazard of this may be reduced by covering the tempered glass with a security film as described below.
6. Window film - If replacing existing glass is cost prohibitive, application of a window film security laminate <sup>190</sup> to existing glass may be an alternative. However, these films may be susceptible to scratching and being defaced by patients, but may be removed and replaced at less cost than replacing glass or polycarbonate panels. Additional protection may be obtained by using impact protection adhesives and a perimeter tape system to help hold the glass in the frame if broken. Claims that these window films will prevent the glass from breaking should not be relied upon in these authors' opinion.
7. Wire Glass will break and yield sharp shards of glass and is generally not permitted by many current codes and regulations. Any use of wire glass should be verified with all authorities having jurisdiction.

8. Observation mirrors - Convex mirrors installed in corridors, seclusion rooms, and other locations to assist with the observation of patients that are in locations accessible to patients should be made of a minimum 1/4" thick polycarbonate, be filled with a high-density foam, and have a heavy metal frame that fits tightly to the wall and ceiling.<sup>420</sup> Convex mirrors made of steel are also available. Additionally, the perimeter should be sealed with a pick-resistant caulking.<sup>20</sup>



**E. Doors** in behavioral health facilities are subject to heavy use and possibly extensive abuse. They make up a significant percentage of the exposed wall surface in corridors and have a strong visual impact on these spaces.

Painted steel doors are durable, easily touched up or refinished, but more institutional in appearance. Doors with wood veneer faces and stain and varnish finish are more “residential” in character, but are easily damaged and difficult to repair. Plastic laminate covered doors are also easy to chip on the edges and may soon become unsightly. One response to the damage these doors receive is to add stainless steel kickplates, door edges and other add on devices which also add to the institutional look. (NOTE: The installation of kickplates may invalidate the fire rating of doors in some jurisdictions.) The kickplates and other protective devices are available in durable synthetic materials that come in a variety of colors that soften the stainless steel look but can still result in a patchwork quilt appearance.



One possible solution to this is a durable door with wood grain appearing synthetic faces and removable end caps<sup>25</sup> which can be replaced if they become damaged for much less expense than replacing the entire door. First cost may be comparable if the expense of finishing the doors and purchasing and installing the kickplates, etc. are factored in. The life cycle cost can potentially be much less other doors and the appearance may be a significant improvement.



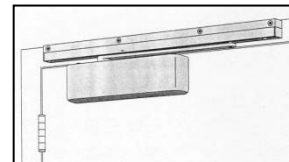
#### **F. Hardware**

1. Hinges – Continuous hinges are preferred for all patient-accessible areas because they minimize possible attachment points. Geared-type continuous hinges are available with a closed-



sloped top and continuous gears that resist ligature attachment.<sup>111</sup>

2. Closers – Closers are generally not required for patient room doors in most jurisdictions, but may be required for other doors. When needed, it is suggested that track closers<sup>100</sup> be mounted on corridor side of door away from rooms where patients will be alone or in groups.



3. Locksets – All doors in patient-accessible areas are recommended to have some type of ligature-resistant lockset. There are three ways that a lockset can be used for ligature attachment: pulling down, pulling up and over the top of the door, and tying something around the latch edge of the door using both the inside and outside handles (transverse). The latchbolt itself has even been used successfully as an attachment point as has the opening behind the strike plate. In these authors' opinion, the perfect solution for this dilemma does not exist at this time. Several of the better options are discussed below.

- a. Lever handle locksets<sup>130</sup> effectively deal with up and down pressure, but are susceptible to transverse attachment. The lever should move freely in both directions when locked to reduce ligature attachment risks. This type of handle is more typical (less intuitional) in appearance and operation than other choices. Both of these qualities are very desirable in items that patients will touch and use on a regular basis. However, lever handles may present more risk than some of the other choices. These levers are generally considered to be *Americans with Disabilities Act* (ADA)-compliant.



- b. Crescent handle lockset<sup>136</sup> is available which utilizes a lever handle and thumb turn that are ligature resistant and may meet ADA requirements. This is now available with a revised handle that can be mounted in a horizontal position and allows the user's hand to easily slip off the free end.



c. Push/Pull Handle locksets<sup>137</sup> installed with both handles pointing down resist pulling down and, to some extent, the transverse attachment. However, it is very susceptible to pulling up and looping something over the top of the door. This hazard can be reduced by installing an Over-the-Door Alarm as discussed later in this paper. This type of device is generally considered to be ADA-compliant.



d. Push/Pull hardware is also available with a flush push pad and on one side and a ligature-resistant pull handle on the other.<sup>137b</sup> This type of device may be ADA-compliant.

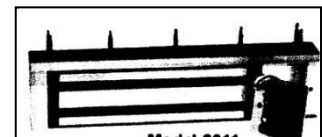


e. Modified lever handles, which provide minimal ligature attachment risk but have an unusual appearance and operating motion, are also available in various designs.



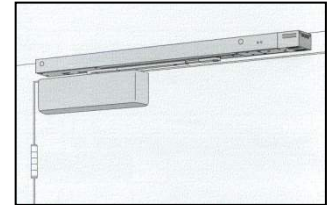
4. Unit entrance doors – Provide intercom (or telephone) for communication to nurse stations from outside the unit if needed. Electronically controlled access systems that utilize electric strikes or electromagnetic locks are preferred. These may be operated by a switch at the nurse station if the door is clearly visible from the location of the release button. Care should be taken to assure that patients are not in the area when the door is released. Card readers or keypads adjacent to the door are also commonly used. These are readily available from hardware suppliers and are generally extensions of systems currently in place at most facilities. Sally Ports (two sets of cross corridor doors that are electronically interlocked so that only one door can be open at a time) may be provided for units where elopement resistance is desired.

5. All exit doors (including stairway doors) may generally be locked at all times in these facilities. Exit doors may be locked with electromagnetic locks<sup>110</sup> that are connected to fire alarm system and may either stay locked when the fire alarm is activated (fail secure) or release when alarm is activated (fail safe) as deemed appropriate for patient population. The acceptability of this type of hardware and its operating mode should be verified with the authorities having jurisdiction at location of the facility. These are available in varying holding

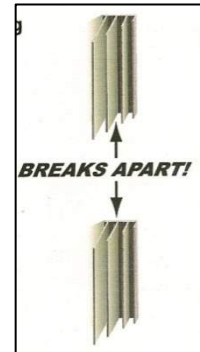


strengths and the mounting position recommended by the manufacturer must be carefully followed to provide the rated holding force. When extraordinary circumstances exist, more than one electromagnetic lock can be provided per door or electrically operated deadbolts or providing a vertical frame member at the strike jamb may be required.

6. All doors on the unit:
  - a. That are required by applicable codes and regulations to have a closer, but need to be open to provide observation of patients by staff shall be provided with a closer with a built-in release<sup>101</sup> that will allow the door to close automatically when fire alarm is activated.
  - b. That are in-swinging and will have patients in the associated rooms are recommended to have one of the barricade resistant methods discussed in “Level IV-a” below.



7. Smoke seals may be required in some situations and are often applied with adhesive strips that can allow patients to remove them to use as ligatures. Smoke seals that break into 8” long pieces<sup>10</sup> are preferred for use on all doors that patients will pass through.



8. Patient accessible Toilet Rooms and Shower Rooms that are located near Activity Rooms and other locations on the unit are recommended to have all of the features of the Patient Toilet Rooms as discussed in “Level IV-b” below.

**G. Light fixtures** – If located at a height or location that is not easily accessible to patients, these may be normal fixtures and lamps as long as staff observation from the nursing station is good and staff are in attendance, but tamper-resistant fixtures are preferred. Where they can be reached by the patients or are in areas that are not readily observable by staff, they must be tamper-resistant type<sup>620</sup> or have minimum ¼” thick polycarbonate prismatic lenses<sup>634</sup> securely fixed in the frame and the covers must be firmly secured with tamper-resistant screws.<sup>470</sup> No glass components that will be accessible by the patients should be used in any fixture. Use of table lamps or desk lamps is strongly discouraged. Neither incandescent light bulbs nor fluorescent tubes should ever be accessible to patients.





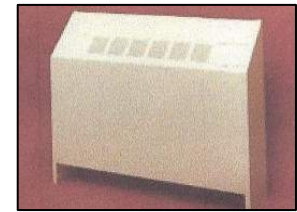
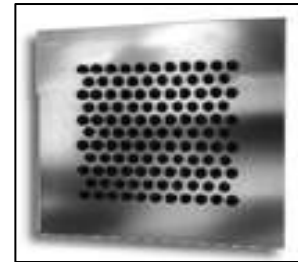
It has been suggested that corridor light fixtures (other than minimal night lighting) be controlled at night by motion detectors. This would allow staff to know immediately when a patient leaves his or her room.



**H. Fire sprinklers – institutional heads<sup>521</sup>** that provide very little opportunity for attachment should be provided.

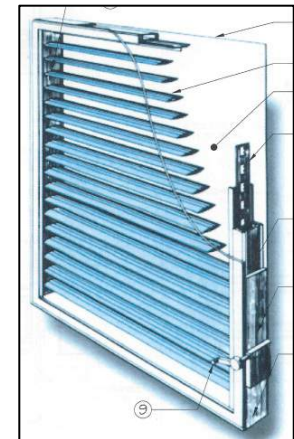
**I. HVAC grilles and equipment**

- a. Standard grilles with small perforations<sup>600</sup> that are secured in place with tamper-resistant fasteners are generally acceptable in these areas as long as the ceilings are high enough to not be easily reachable by the patients.
- b. If there are existing fan/coil units (as well as fin-tube heaters or old style radiators) present in these spaces, they should be protected with vandal resistant covers.<sup>606</sup>



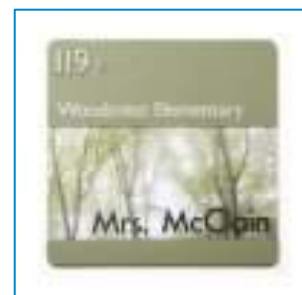
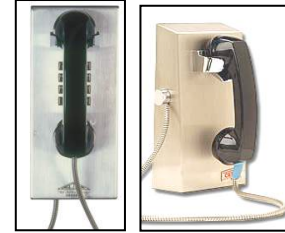
**J. Window covering hardware**

1. Mini-blinds mounted between layers of safety glass<sup>200</sup> are preferred because they are not accessible to patients. Care should be taken to assure that any exposed devices to control the tilt of the blinds not create a potential ligature attachment point. There are some commercially available window assemblies that have all of these features.<sup>430</sup> Exposed mini-blinds should never be used.
2. Roller Shades<sup>440</sup> that are specifically manufactured for use in psychiatric hospitals are another option. These have enclosed security roller boxes, security fasteners, cordless operation and locking devices that resist tampering by patients.
3. Curtains and curtain tracks of any type (including those designated as “break-away” and represented by their manufacturers as “safe for psychiatric hospitals”) are not recommended for use in any patient accessible areas, especially patient rooms and patient showers.



## K. Miscellaneous

1. No plastic trash can liners should be allowed in any space accessible to the patient. Breathable paper liners<sup>1</sup> should be provided.
2. All operable windows in these areas should have opening limited to four inches<sup>170</sup>.
3. Telephones located in corridors or common spaces for patient use should have stainless steel case<sup>655</sup> be securely wall mounted, have a non-removable shielded cord of minimal length (14 inches maximum), and may be equipped either with or without touch pads for placing outbound calls. It has been reported that if a patient pulls very hard on the receiver that the armored cable can unwind and provide sharp edges. This risk should be weighed against the ease of removal of standard cords.
4. Cabinet pulls should be either recessed, with no protruding openings or of a closed ligature resistant type.<sup>460</sup>
5. Cabinet locks are very important in these, and all patient accessible areas. Cabinets that are used to store items that patients could use to harm themselves or others should be kept locked at all times when patients are present. This can lead to staff constantly looking for the right key on a large keychain. One solution is to provide locks that can be unlocked by using a key that staff already carry, such as the key used to activate the fire alarm. Another solution is to utilize existing key access cards now used by many facilities or a pushbutton keypad.<sup>465</sup> These are becoming more affordable and should be particularly helpful in Examination/Treatment rooms and any locked cabinets in patient rooms.
6. Room Signs<sup>300</sup> are available in a flexible material that is adhesively applied and will not provide a weapon to the patients if removed. These can include braille and meet ADA requirements.
7. All fire alarm pull stations and all fire extinguisher cabinets<sup>521</sup> should be locked. All staff on duty must carry keys for these at all times. Key should be provided with a red plastic ring or other means of providing quick identification. In addition, fire



extinguisher cabinets should have continuous hinges, recessed pulls (if any) and polycarbonate glazing (if view windows are provided).

8. Lighted exit signs<sup>640</sup> or Photoluminescent signs<sup>642</sup> should be vandal-resistant and installed tight to the ceiling with a full-length mounting bracket to avoid use as a hanging device. Wall mounting these signs perpendicular to a wall is not recommended because it leaves the top exposed as a possible attachment point.



## L. Furniture

1. Should be easily cleaned, easily reupholstered, very sturdy and as heavy as possible to minimize likelihood of patients throwing chairs, tables, etc. It is recommended that as much furniture as practical be built-in or securely anchored in place to prevent stacking or barricading of doors. The remaining loose items (such as chairs) can vary from high-quality wood or steel framed upholstered chairs<sup>482</sup> that resemble typical residential furniture in appearance. Another option is the use of polyethylene rotationally-molded<sup>483</sup> and sand-ballasted seating that is now available in a less institutional look. The selection depends on the facility's determination regarding the patient population to be served.
2. Provide lockable storage cabinets and drawers and the means to lock phones and computers away from patients.
3. All upholstery and foam used in furniture should have flame spread ratings that comply with the requirements of NFPA 101 Section 10.3.



## M. All pictures and artwork must be given special consideration in patient accessible areas:

1. Murals have been used very effectively in some facilities. These can be very effective in brightening and adding interest to corridors and day rooms. It is usually a good idea to cover them with at least two coats of a clear sealer for protection, but patients typically enjoy these and defacing them is not usually a problem. Murals are also available on wall vinyl and wall protection materials.
2. Specially designed frames<sup>302</sup> that slope away from the wall and have polycarbonate<sup>201</sup> or acrylic glazing. The



frames should be screwed to the walls with a minimum of one tamper-resistant screw<sup>470</sup> per side. Care should be taken to reduce the opportunity of attaching ligatures to the frame or the joint between the top of the frame and the wall, especially when the surface of the wall is not perfectly straight and gaps between the wall and frame are present. The joint at the top should be sealed with a pick-resistant sealant.<sup>20</sup> Some of these frames also allow for easy replacement of the images and provide the opportunity for patients to customize what they are displaying with personal photos, etc.



3. Another option is to print artwork on flexible vinyl<sup>301</sup> that can be attached to the walls with low-tack adhesive or regular wall vinyl adhesive for more permanent installations. These reduce the risk of patients obtaining harmful materials. The low-tack adhesive used on smaller images also provides the opportunity to change the art displayed on a seasonal or other basis. It allows hospitals to give the patients a choice of artwork to display in their rooms which can contribute to them having more control over their environment.

### **Level III. Lounges and Activity Rooms**

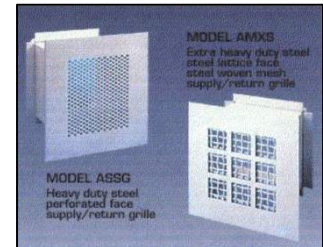
- A. **Floors** - Use sheet vinyl<sup>245</sup> where wet or potentially messy activities will be conducted. Carpet should be broadloom or sheet carpeting and have anti-microbial solution-dyed yarn and non-moisture absorbing backing.<sup>255</sup>
- B. **Walls** - Same as for corridors in #2 above.
- C. **Ceiling** – Prefer non-accessible solid gypsum board ceiling. If more sound attenuation is desired, apply 1'x1' acoustic tile to the gypsum board with adhesive or provide sound attenuation gypsum board.<sup>232</sup> A nine-foot-high ceiling is highly desirable in that the added height makes it more difficult to reach and therefore decreases patient tampering with ceiling-mounted devices.
- D. **Glass** - Same as for corridors in #2 above.
- E. **Hardware** - Same as for counseling and interview rooms in #2 above.

F. **Light fixtures** - Same as for corridors in #2 above.

G. **Fire sprinklers** – Institutional type – Same as for corridors in #2 above.

H. **HVAC grilles and equipment** –Only grilles with very small perforations<sup>600</sup> complying with the National Institute of Corrections standards,

1. If other types exist and must remain, cover with heavy gauge stainless steel screen fabric.<sup>81</sup>
2. If individual fan/coil type units exist and must remain, secure all access panels, grilles and controls - Same as for corridors in #2 above



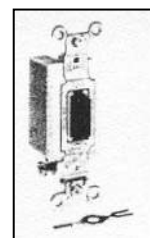
I. **Window covering hardware** – Same as for counseling and interview rooms in #2 above.

J. **Furniture** – All lounge furniture requirements listed for counseling and interview rooms in Level II above apply to this level also. Where movable seating is required such as dining and activity rooms, polypropylene very lightweight chairs<sup>481</sup> that resist breaking into sharp pieces are preferred. An alternative is a chair that can be partially filled with sand to make it difficult to throw or use as a weapon.<sup>480</sup>



K. **Kitchen appliances**

1. All cooking appliances (ranges, microwaves, coffee makers, etc.) should have key operated lock-out switches<sup>611</sup> to disable the appliance.
2. Patients' access to coffee should be carefully considered by each facility's Risk Management Program. If access to this (and other potentially scalding liquids) is allowed, the location of the coffeemaker should be chosen so it is readily observable by staff. Glass coffee pots should never be available to patients. Insulated plastic dispensers are preferable.
3. All garbage disposal units should have a key operated lock-out switch<sup>611</sup> to disable the device.
4. GFCI-protected receptacles must be provided near all sources of water including sinks and are recommended for all patient accessible receptacles.



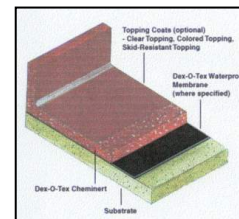
## L. Miscellaneous

1. All electrical device (switches, outlets, etc.) cover plates must be attached with tamper-resistant screws.<sup>470</sup> Electrical cover plates for switches and receptacles should be made of polycarbonate<sup>612</sup> materials and secured with tamper-resistant screws.
2. All miscellaneous requirements listed for counseling and interview rooms in Level II above apply to this level also.
3. Television – TV sets should not be mounted on walls using brackets because of the risk presented to patients. All cords and cables should be as short as possible. Consideration should be given to providing built-in TV or media centers and installing an isolation switch that staff can control. Manufactured covers with sloped tops<sup>290</sup> are now available to fit a variety of TV set sizes. For maximum safety, the electrical outlet and cable TV outlet should be located inside the cover to keep the wires and cables away from the patients. One facility utilized unused platform bed frames mounted vertically on the wall to house television sets and conceal all wires and cables.



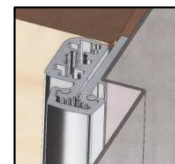
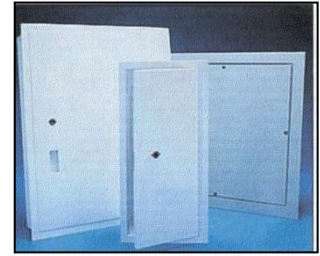
## Level IV-a. Patient Rooms

- A. **Floors** – Same as lounges and activity rooms in #3 above. If some patients are prone to urinate on the floor, provide some rooms with seamless epoxy flooring<sup>250</sup> with integral cove base or sheet vinyl flooring with integral cove base. Metal or plastic strips should not be provided at the top edge of the base.
- B. **Walls** – Impact and/or abrasion resistant gypsum board<sup>230</sup> on metal studs – paint finish preferred. Sound attenuating gypsum board<sup>232</sup> may also be used on walls if approved by the manufacturer.
- C. **Ceiling** - Non-accessible solid gypsum board (sound attenuating if desired) ceiling - paint. Provide key-lockable access panels<sup>50</sup> at all locations where access is required. If doors do not fit tightly, or on larger panels, it may be necessary to provide tamper-resistant screws in the corners of the panels.

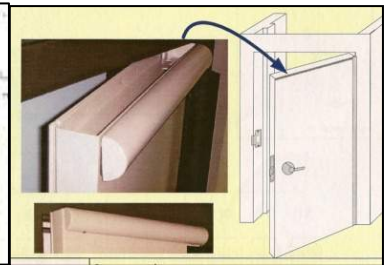
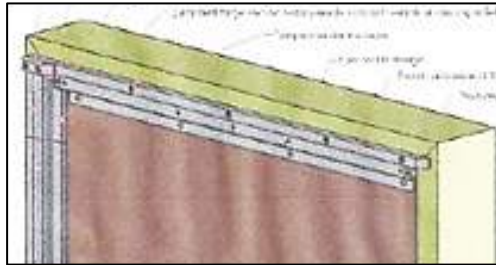
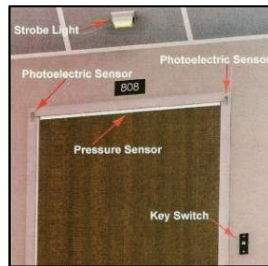


**D. Doors** – Patient Room to Corridor Doors present the possibility of patients barricading themselves in their rooms to delay staff members' access. One solution is to hinge the door so that it swings into the corridor (which may create its own problem with the Life Safety Code and applicable building codes). However, this may (depending on the design) result in the creation of an alcove that is difficult to observe and which patients may use as hiding places from which to attack staff or other patients. If these doors are mounted to swing into the Patient Rooms, there are several other barricade solutions that may be provided:

1. The door-within-a-door<sup>44</sup> (sometimes referred to as a “wicket” door) has a portion of the center of the door hinged to swing into the corridor. This hinged panel is mounted on a continuous (or concealed) hinge and the panel is secured with a deadbolt lock.
2. If space is available, a separate narrow (18”-24”) wide door that swings into the corridor may be used for emergency access to the room. This smaller leaf can either be mounted in the same frames as the main door in a “double egress” configuration, or there can be a mullion<sup>47</sup> between the two leaves.
3. Double acting continuous hinges<sup>113</sup> can be used on patient room to corridor doors to assist with barricading without the hazard presented by pivot hinges. They are also available with a full height emergency stop<sup>115</sup> that locks in place and can be easily unlocked to allow the door to swing into the corridor.
4. Integral system doors<sup>30</sup> are available that have a nearly flush push plate on the outside that releases the continuous latch bar and a tapered pull handle that releases the latch bar from the other side. A recessed-pull handle<sup>121</sup> is necessary on the push side to aid in closing the door. These doors come as an assembly including the door itself, lockset and a continuous hinge. This assembly is very resistive to upward, downward and transverse attachment. This product is also available with an “Emergency Release Hinge” that can be unbolted and allows an in-swinging door to be pulled into the corridor in the event that it is barricaded. A standard latchbolt is not used with this system, but the top of the latching bar may still provide an attachment point. Maintenance staff may need to be available on all shifts to remove this door if required for emergency access



5. The top of all tight-fitting doors provides a pinch point that allows a patient to tie a knot (in a sheet, the leg of a pair of jeans or other object), place it over the top of the door, and close the door. This provides a hanging device. One way to reduce this risk is with a pressure-sensitive or photoelectric device placed near the top of the door that can sound an alarm<sup>150</sup> when activated.

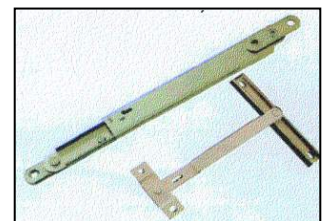


6. Some facilities have begun to address a desire of some patients to lock themselves in their rooms to avoid unwanted entrance by other patients. The challenges with this are to provide individual security for the patient without restricting access to the room by staff. Locksets with specialized locking functions and ligature resistant turnpieces<sup>140</sup> for the inside of the door are now available. A cylinder protector<sup>141</sup> to cover the lock cylinder on the corridor side of the door resists attempts to insert objects in the keyway. Options are also available to control these locks with card access technology.



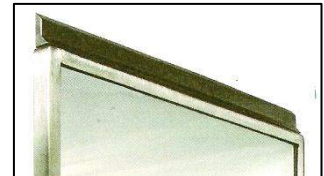
## E. Glass

1. **Exterior windows** – (See Level II-D.1 Safety Glazing above.) Advances in different types of safety glass make it worthwhile to consult an expert for advice for any specific project. The height above the ground, patient population and many other factors should be taken into account in making these decisions. Comply with all applicable codes and regulations for operable sash. Fixed windows or units equipped with sash control devices<sup>170</sup> that limit amount of opening and can be released using a key to full opening for evacuation purposes are preferred.



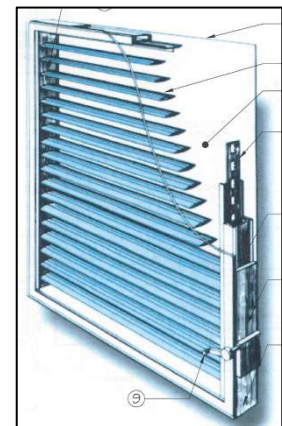
**2. Security screens** - If replacing the windows presents a prohibitive cost in remodeling work, provision of a security screen with a very sturdy steel frame<sup>80</sup> designed to resist deflection with multiple key locks and equipped with heavy gage stainless steel screen fabric<sup>81</sup> may be used. These are very functional and secure, but create a very “institutional” appearance and can be defaced by writing obscene words with toothpaste (or other material).

**3. Mirrors** – Radiused stainless steel framed security mirrors<sup>360</sup> are preferred for patient-room mirrors, and the reflective surface may be polycarbonate, tempered glass, stainless steel, or chrome-plated steel. Each has durability and distortion characteristics. Some framed mirrors will have a flat surface on top and/or not fit tightly to the wall and provide opportunities for ligature attachment. When this occurs, a tapered strip<sup>361</sup> may be installed to reduce this risk.



**4. View windows to corridors in doors or sidelights**  
– Use polycarbonate<sup>201</sup> (if possible). If wire glass is required by codes, request permission from the authority having jurisdiction to install a layer of polycarbonate on each side of the wire glass. (Wire glass can be broken and yield shards of glass that can be used as weapons.)

View windows in Patient Room to Corridor doors create some conflicting issues. One view is that they are necessary to provide observation by the staff. The other point of view is that the windows infringe on patient privacy in that anyone, including other patients can see into the room. One solution to this is to provide an operable blind<sup>220</sup> that only staff can control from the corridor side.



**F. Hardware** – See comments under Level II-E above. It is highly desirable to keep vacant patient rooms locked at all times to avoid other patients entering these rooms without staff's knowledge. Many jurisdictions do not allow the capability of locking a patient in a room. Therefore, “classroom”-type locks are recommended. These can always be opened from the inside, and the corridor side may be either locked or unlocked with a key.

**G. Light fixtures** – Same as in Level II above except that all light fixtures should be security-type fixtures<sup>620</sup>. The use of 2'x4' fluorescent light fixtures creates a very commercial or institutional appearance to patient rooms and the placement of one of these directly over the bed is a carryover from general hospital design that is seldom needed in behavioral health facilities. Preference is for using either round or oval surface mounted, vandal-resistant fixtures for general illumination and recessed security downlights with polycarbonate lenses over the beds for reading lights.

Covers<sup>630</sup> are available for existing (or new) downlights that are secure and make the appearance more residential in nature.

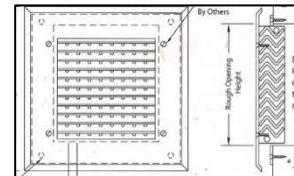
No glass components should be exposed to patients in any fixture, and table lamps and desk lamps are strongly discouraged.



**H. Fire sprinklers** – Institutional type – Same as for corridors in Level II above.

**I. HVAC grilles and equipment** –

1. Fully recessed vandal-resistant grilles with S-shaped air passageways<sup>602</sup> are recommended for all ceiling and wall-mounted grilles.
2. In new construction or major remodeling, locate individual room HVAC equipment (such as fan/coil units) in an adjacent corridor or in other location (such as an interstitial space) where they can be serviced without entering the patient's room.
3. In existing facilities that have units located below the windows, Manufactured vandal resistant enclosures<sup>606</sup> should be provided or care should be taken to secure all access panels with tamper-resistant screws. All supply and return air grilles should also be covered with perforated grilles or stainless-steel screen fabric.



**J. Window covering hardware** – Same as for Counseling and Interview rooms in Level II above.

## K. Furniture

- 1. Furniture** – Sturdy wood, thermoplastic or composite furniture should be bolted to the floor or walls whenever possible. Care must be taken to assure that the furniture will withstand abuse, will not provide opportunities for hiding contraband, and will resist being dissembled to provide patients with weapons.

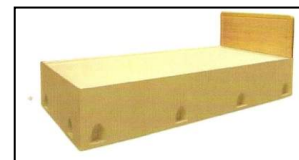
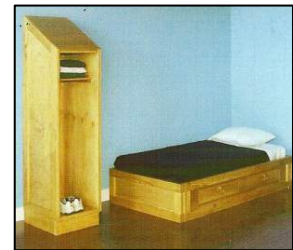
Open-front units with fixed shelves and no doors or drawers<sup>495</sup> are recommended. Doors should not be provided because they can be used by patients to hang themselves. Drawers should not be provided because they can be removed by the patients and broken to use as weapons. All upholstery and foam used in furniture and mattresses should have flame spread ratings that comply with the requirements of NFPA 101: *Life Safety Code*, Section 10.3.

Desk chairs are preferred to be lightweight<sup>481</sup> or ballasted<sup>480</sup> as discussed in Level III above.

### 2. Beds

- Non-adjustable platform beds**<sup>493</sup> without wire springs or storage drawers are needed. It is recommended that these beds be securely anchored in place to prevent patients from being able to use them to barricade the door. If use of a portable lifting device is needed, beds are available with an opening under the bed to accommodate the legs of the lift<sup>494</sup>. Portable lifts can also be accommodated by placing an existing platform bed on a specially designed riser. This also reduces the amount of bending over that staff need to do to work with the patient.<sup>494b</sup>

- Mattresses** for platform beds<sup>492</sup> should be specifically designed for use in these facilities and be resistant to abuse and contamination.



- c. If medical necessity is present, **manual hospital beds<sup>491</sup>** are preferred. It is recommended that the wheels of hospital-type beds be removed or rendered inoperable to reduce the opportunity of using them to barricade the door. It should be noted that the bed rails, headboard and footboard all present hazards for these patients.
- d. If **electrically operable beds** are needed to reduce risk of staff injuries (especially on geriatric units), new beds are available<sup>490</sup> that are specifically better suited for use on these units than standard electrically adjustable hospital beds. These beds will sense obstructions and reverse direction, have lockout features for the controls, reduced length cords and other tamper resistant features.
- e. If existing beds must be used for financial reasons, use only beds that require a constant pressure on a switch located on the bed rail (not a remote control device or paddle that can be placed on the floor). If existing electric beds are to be used, provide key lockout switches on beds (or removable pigtail) so that only staff can operate the beds. All electrical cords should be secured and shortened. Key lock-out switch is preferred.<sup>611</sup> It is recommended that the wheels of hospital type beds be removed or rendered inoperable to reduce the opportunity of using them to barricade the door. It should be noted that the bed rails, headboard and footboard all present hazards for these patients.



### 3. Wardrobe

Wardrobe units should not have doors and should have fixed (non-adjustable) shelves<sup>495</sup>. They should be securely anchored in place and have sloped tops. Wardrobes with clothes poles requiring hangers are discouraged because, while the bar itself can be made safe, the hangers themselves present serious hazards. It should be noted that the current (2010) edition of the “*Guidelines*” no longer calls for patient rooms to have accommodations for “hanging full length clothing”. The average length of stay in many facilities is now in the 7- to 10-day range, and patients no longer come with clothing that needs to be hung up.



## L. Miscellaneous

1. **Pull cords** on nurse call and/or emergency call switches (where required or provided) **are preferred to be push button type<sup>653</sup> if cords are provided**, it is recommended that they be no longer than 8" and as lightweight as possible.
2. All **Miscellaneous** requirements listed for lounges and activity rooms in Level IV above apply to this level also.
3. In new construction, or major remodeling, provide a **dedicated circuit for all electrical outlets in each patient room and bath**. This will allow power to the outlets in a specific room to be turned off if necessary for patients' safety. Where this is not practical, the outlet may be temporarily covered. It is strongly recommended that all electrical outlets in patient rooms and patient toilet rooms be hospital grade, tamper-resistant type. It is also preferred that they be GFCI receptacles<sup>610</sup> to greatly reduce the risk of patients being able to harm themselves by tampering with the receptacles.



All electrical switches and outlets should be made of polycarbonate<sup>612</sup> to reduce the risk of being broken to obtain access to the wiring or to obtain sharp pieces of plastic and they should be secured with tamper resistant fasteners.

4. **Coat hangers** are not recommended.
5. **Cubicle curtains and tracks** are generally not required and are not recommended in behavioral health facilities because of the risk they present. If non-ambulatory patients with co-existing medical conditions are being treated on these units it is recommended that they be assigned to single patient rooms.
6. **Telephone** – If desired, cordless phones may be provided to allow the patient to check out a phone for private conversations when appropriate. Phones should not be left in patient rooms permanently because they can be used as weapons.
7. **Television sets** should not be typically provided in patient rooms to encourage patients to use activity

areas with other patients and allow easier supervision. Some facilities that are treating patients who also have medical conditions that prevent them from being ambulatory and are providing televisions sets in tamper-resistant enclosures.<sup>290</sup>

8. **Medical gas outlets** – These are not normally required for behavioral health units. If there is medical necessity or the outlets are a pre-existing condition in remodeling projects, they should be covered with panels that are lockable<sup>590</sup> or are attached with tamper-resistant screws. These should be removed only for medical necessity of the current patient and replaced when that patient is discharged or moved. Special care must be taken in semi-private rooms to assure that access to the medical gasses does not present a safety risk to the other patient. Some manufacturers can provide these lockable covers for their outlets.

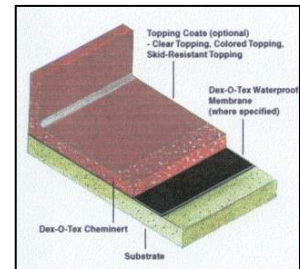


9. **Trashcans and liners** – Trash cans and liner requirements listed for counseling and interview rooms in Level II above apply to this level also. In choosing trashcans and liners, the potential for patient risk should always be assessed. Plastic liners should be prohibited because of their potential risk of suffocation. A substitute liner made of paper<sup>1</sup> may be used.

10. **Baseboards** that are made of rubber or vinyl and are thin, flexible and applied with adhesive only that are intended to cover the joint between the wall and floor is strongly discouraged. They become prime targets for patients to tamper with and can be used to conceal contraband.

Finishing the wall surface to the floor, sealing the joint with pick-resistant sealant<sup>20</sup> and painting a contrasting color stripe at the floor is preferred. There are several alternatives for locations where finishing the wall material to the floor is not practical.

- a. Seamless epoxy flooring<sup>250</sup> that has an integral coved base is an exception to this as long as there is no metal edge strip on the top of the base.
- b. Pre-molded base<sup>240</sup> that extends onto the floor plane and finishes flush with the top of the floor tile and is heat welded to the flooring may be



acceptable in some locations, but does not address the issue of hiding contraband unless the top edge is sealed with a pick resistant sealant<sup>20</sup>.

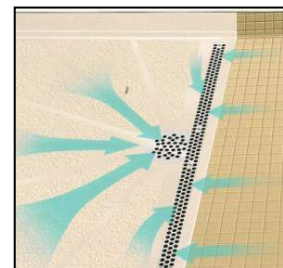
- c. Rubber base that is thicker and resembles wood base profiles<sup>241</sup> is available and provides a more “residential” appearance. It is suggested that all joints to the wall floor and vertical joints be sealed with a pick resistant sealant<sup>20</sup>.
- d. In some cases wood-base material of a minimum  $\frac{3}{4}$ ” thickness that is adhered to the wall, secured with countersunk tamper-resistant fasteners, and sealed with pick-resistant sealant<sup>20</sup> has been used successfully. If desired, this can be given a semi-transparent stain finish to provide more of a residential look.



## Level IV-b. Patient Toilets

A. **Floors** – Use one of the following depending on acuity of patient population:

- i. Seamless epoxy flooring<sup>250</sup> with slip-resistant finish and integral cove base including shower. Do not use metal or plastic strip at top of base as this can be removed by patients and used as a weapon.
- ii. Ceramic and porcelain tile may be used as long as larger pieces are provided to reduce the number of joints and it is maintained in good condition.
- iii. One piece floor units<sup>566</sup> are now available that provide a monolithic floor (European style) for the entire patient toilet room that drains the shower to a central location and, if used in conjunction with location of the shower enclosure and shower head can eliminate the need for shower curtains.
- iv. Solid surface material floors are also available that include a trench drain<sup>565</sup> across the entire front opening of the stall which not only helps control water from getting into the room, but also makes the drain more difficult for patients to intentionally clog. Fiberglass shower stalls and floors are generally not durable enough.
- v. Pre-Built Bathrooms<sup>568</sup> that contain all finishes, fixtures and accessories are available that can reduce construction time because they are shipped to the site ready to be connected to the utilities.



- c. **Walls** - Use one of the following depending on acuity of patient population and budget.
  - i. Avonite<sup>320</sup> solid surface type sheet material
  - ii. Ceramic or porcelain tile in large pieces.
  - iii. Gypsum board that is impact-resistant with mold- and moisture-resistant facing<sup>230</sup> with epoxy paint and solid surface sheets in shower.
- d. **Ceiling** – Gypsum board with mold- and moisture-resistant facing<sup>230</sup> with epoxy paint.
- e. **Glass** – Mirrors, same as patient rooms in #4 above.

#### E. Door

1. “**Soft Suicide Prevention Door**” (SSPDoor)<sup>41</sup> has been developed that eliminates many of the hanging hazards associated with a typical door. The door is attached by magnets and may be easily removed by staff and used as a shield against an attacking patient and can have a photograph printed on its faces. This door cannot be locked or latched in any manner. (Use of this product eliminates the need for the items listed under “Hardware” below.)
2. **Sentinel Event Reduction Door**<sup>40</sup> (without movable top panel) is another option. Privacy for two patient rooms can be improved slightly by installing the door a little higher than normal.
3. Acrovyn Patient Safety Door<sup>42</sup> is similar to the item above but is available in finishes to match other Acrovyn doors if they are used on the unit.
4. Some facilities with single patient rooms are electing to remove the doors entirely from the patient toilet rooms. The practicality of this depends on the sight lines into the toilet room from the corridor door.
5. If there is a need to be able to lock patients out of the toilet room, a full door will need to be installed with similar hardware as described above and with a classroom function lockset. With the tight-fitting door, an over-the-door alarm should also be provided.<sup>150</sup>



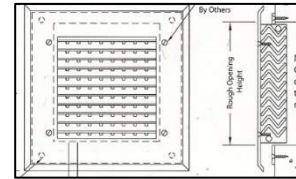
F. **Hardware** - See II-E above.

G. **Light fixtures** – Same as patient rooms in Level IV above except that fixtures shall be water-resistant type with a

sealed polycarbonate lens. No glass components should be used in any fixture.

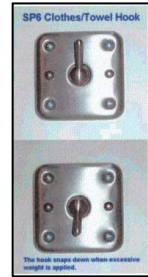
H. **Fire sprinklers – institutional type** – Same as for corridors in Level II above.

I. **HVAC grilles and equipment** – Fully recessed vandal-resistant grilles with S-shaped air passageways<sup>602</sup>

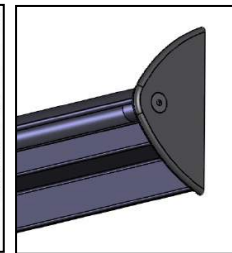
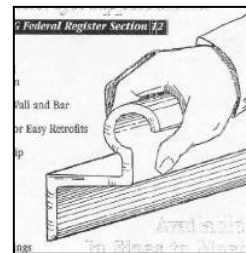


#### J. Miscellaneous

1. **Medicine cabinets** should not be provided because of difficulty in observing potentially dangerous items that may be placed in them.
2. Evaluate the risk of using **robe hooks**. If they are required, they should be the collapsible type.<sup>350</sup>
3. **Towel bars** should not be used. Provide collapsible hooks<sup>350</sup> for towels.



4. **Grab bars** for toilets and showers are preferred to be provided in all patient accessible toilets because some patients may be on medications that interfere with their equilibrium. A self-draining bar<sup>332, 335</sup> may be installed on a slight slope with one end cap on the higher end. These provide a high degree of safety and are also easy to clean and sanitize. If the wall surface behind the bar is not smooth and flat, provide pick resistant sealant to this joint between the bar and the wall.



5. **Vertical grab bars** are required or desired in some locations and these ligature resistant bars can typically be grasped only from one side, not both.

There is now a ligature resistant grab bar that is specifically designed to be mounted vertically<sup>337</sup> and can be grasped from either side.



Cross-section



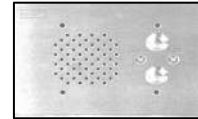
Finished End

6. Shower Curtains and curtain tracks of any type (including those designated as “break-away” and represented by their manufacturers as “safe for psychiatric hospitals”) are not recommended for use in any patient accessible areas, especially patient showers. In new construction, showers could be designed to contain the spray within the compartment



without the use of a curtain. In existing facilities, the use of a Soft Suicide Prevention Shower Door<sup>41</sup> mounted with a minimal gap between the bottom of the door and the floor may be used for a 36-inch or narrower openings. A Sentinel Event Reduction Shower Door<sup>473</sup> with a seal on the bottom may also be provided.

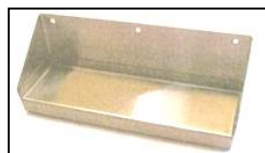
7. **Nurse call switches** (where required or provided) should be push button type<sup>653</sup> that are ligature resistant. If pull cords are provided they should be no longer than 4" and as lightweight as possible.



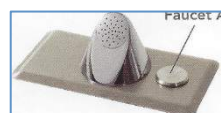
8. **Lavatories** – Vanity top-type lavatories<sup>541</sup> are preferred because they provide the patients a place to set their toothbrush, etc. and have a more residential appearance. The enclosure below should have an access panel that is secured with tamper-resistant screws in lieu of a door. This enclosure can be designed to be wheelchair-accessible, if needed.



Wall-hung solid surface -lavatories are available that make it very difficult to tie anything around them.<sup>540</sup> These have an optional filler panel that is recommended to fill the space between the side of the fixture and an adjacent wall when there is one near the fixture. Stainless steel or high impact polymer pipe covers that fit beneath the unit are also available and should be provided. If a wall mounted lavatory is used, a shelf (surface-mounted or recessed)<sup>370</sup> that limits attachment of a ligature may be needed to hold toiletry items.



9. **Lavatory and sink faucets and valves** provide attachment points for ligatures. A lavatory valve unit is now available that uses a shower valve fitted with a ligature resistant handle<sup>574</sup> to allow patients control over the temperature (thermostatically limited to prevent scalding) and duration of the water flow. This valve can be used to replace the motion sensor activation of some of the faucets below. Faucets are available in a variety of materials and configurations that range from push button to motion sensor activation.<sup>570</sup>



10. All **lavatory waste and supply piping** must be enclosed and should not be accessible to patients<sup>410</sup>. Extreme care should be taken when doing this that the material is trimmed to fit tightly to the underside of the lavatory fixture to prevent the patient from using this to hide contraband.



11. **Soap dishes**<sup>390</sup> should not have handles and should be recessed.



12. Many facilities are now using **liquid soap** in patient areas. The hard plastic dispensers in use in many facilities are problematic in that they can fairly easily be pulled off of the wall and broken to provide sharp shards that can be used as weapons. **At least one manufacturer of these dispensers now has steel covers available for their standard dispensers.** One solution is a dispenser that is made of solid-surface material<sup>391</sup> that is commonly used for countertops and is relatively tamper-resistant. There are some commercially available stainless steel dispensers that are reasonably ligature-resistant



13. **Toilets** used by these patients in new construction should be floor mounted, back outlet, back water supply type<sup>530</sup>; in lieu of wall-mounted fixtures which can be broken off of their hangers. These are also available in ADA handicapped accessible fixtures<sup>531</sup> where required. Where wall-hung toilets exist and replacing them is not practical, a wall-hung toilet support<sup>538</sup> can be used if it can be secured in place so that patients cannot remove it to use as a weapon. Movable seats provide attachment points for ligatures and should be considered carefully by each hospital. The solution is to use a fixture with an integral seat as suggested above. Some facilities feel this is too prison-like and choose to accept the risk of the movable seat. China fixtures themselves can be broken (both floor- and wall-mounted) and yield large, sharp shards. A support leg<sup>538</sup> can be provided, but it may also provide a ligature attachment risk.



14. Toilet fixtures made of solid surface material<sup>533</sup> and stainless steel<sup>534</sup> are available and are much more resistant to breaking. The stainless steel fixtures can be powder-coated for a less “institutional” appearance



Toilet fixtures that will support the weight of bariatric patients<sup>536</sup> are also available to withstand loads in excess of 2,500 pounds are available if needed.



15. Patients in behavioral health care facilities have been known to use various materials to attempt to clog toilets. There is now a product to help simplify the removal of material clogging the waste lines.<sup>537</sup> This is installed in the waste line immediately adjacent to the fixture and is intended to catch the material at that location so it can be removed more easily by maintenance staff.

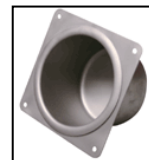


16. **Flush valves** are preferred to be recessed in the wall<sup>580</sup> and activated by a push button<sup>581, 582</sup>. Where this is not practical, the flush valve and all related pipes should be enclosed with a stainless steel<sup>584</sup> or plastic<sup>584</sup> cover that has a sloped top that incorporates a push-button activator for the valve.



#### 17. Toilet Paper Holders

- a. Fully recessed<sup>400</sup> stainless steel units. These have been used widely for a number of years; however, some facilities feel this creates an infection control problem because the users have to handle the entire roll.



- b. Other toilet paper holders are available that use a bar(s) that pivots down<sup>402</sup> when vertical pressure is imposed.



c. A fully enclosed toilet paper dispenser<sup>404</sup> is ligature-resistant and is designed to always have the paper tear off outside the cabinet. It is available in several sizes to accommodate different size rolls.



**18. Shower Control Valves** - NOTE: Provide **thermostatically limited hot water** to prevent accidental or intentional scalding in all patient-accessible toilet rooms.

a. Single knob mixing valves that provide minimal opportunity for tying anything around are preferred.<sup>552</sup> These give the patients control of the water temperature and duration of flow.



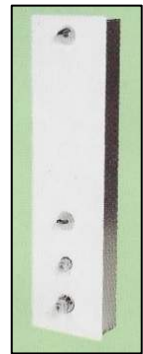
b. If it is only necessary to replace the valve handles and the valve itself is working properly, a replacement valve handle<sup>553</sup> that can be adapted to a variety of valves might be considered.



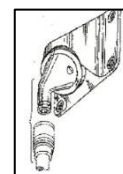
c. If an ADA handicapped accessible valve is needed, the infrared-controlled, “no touch” valve<sup>551</sup> provides a range of water temperatures and the duration of flow.



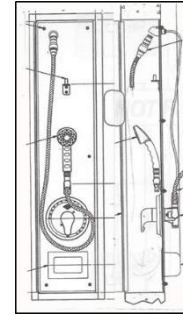
f. One-piece units that contain shower head and push button valves as a recessed soap dish<sup>560, 561</sup> are available and work well for remodeling projects because they reduce the amount of repair needed for wall finishes. These are also available with a second head located at 48” above the floor and a diverter valve if needed for ADA purposes.



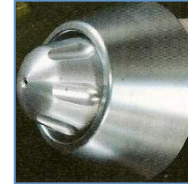
**19. Shower heads** should be institutional type<sup>550</sup> that are ligature resistant. **Handicapped accessible showers are required to have either a hand-held shower head or a second, lower head. The hand-held**



shower head should be on a quick disconnect fitting that will allow the head and attached hose to be removed when not in use. If a hook is provided to hold the hand held showerhead, it should be mounted on the part of the fitting that is removed when the hose is removed. Other options include providing a lockable cabinet to house the hand-held head and valve<sup>563</sup> or the second head mounted at 48" above the floor.



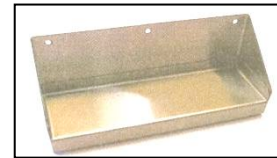
20. If a **diverter valve** is needed to change the water flow from the standard shower head to the hand-held head or lower head, a ligature resistant diverter valve<sup>557</sup> should be provided.



21. **Shower seats** that fold away typically have many tubes and brackets that are hazardous. If a folding shower seat is necessary, one without the tubes and brackets<sup>380</sup> is suggested.



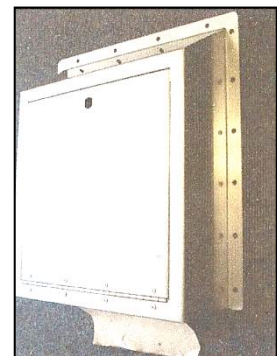
22. **Shelves** to hold miscellaneous items are often requested in shower stalls and near wall-hung lavatories. A stainless steel suicide-resistant shelf that is either surface mounted or recessed into the wall<sup>370, 371</sup> may be considered for these applications.



23. **Paper towel dispensers** in patient-accessible toilets are a concern because they have sharp edges and are not securely constructed. [Placing a small stack of paper towels on a surface mounted or recessed shelf is a solution being used in some facilities.](#)



24. **Existing tri-fold paper towel dispensers** may be left in use if desired and covered with a heavy-duty secure cover<sup>340</sup>.



25. Provide ground fault circuit interrupter (GFCI)-type electrical circuit breakers for all receptacles near sources of water such as lavatories, toilets, and showers.

**Level V-a. Admissions** (especially emergency admissions, which frequently occur at night and on weekends). A separate room that has direct access from both outside and inside the unit should be considered for this purpose. This

allows for the patient to be brought directly into the admissions area without entering the unit directly. At admission, unit staff members know very little about the new patient and his or her trigger points. . A separate room avoids disrupting either the unit or the new patient, due to the agitation of either. This room should be pleasant and welcoming and should be minimally furnished (with a minimum of loose pieces of furniture). The room should be large enough to allow for several staff to physically manage the patient if necessary. If possible, the admitting staff member should not be in the room alone with the patient. After the admitting process is complete, the patient can be taken through the second door and directly onto the unit.

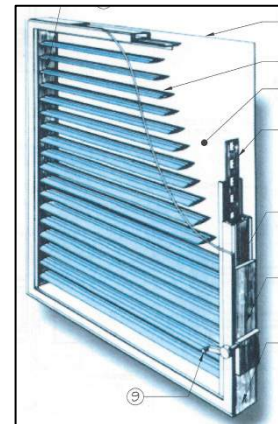
A. **Floors** - Same as activity rooms and lounges in Level III above.

B. **Walls** - Same as patient rooms in Level IV above.

C. **Ceiling** - Same as patient rooms in Level IV above.

D. **Glass**

1. Same as in Level IV above.
2. Provide small (12"x12" or 4"x24") view window in door to patient unit.
3. If privacy is desired on occasion, panels are available that can be changed from 50% transparent to 100% frosted by turning a key<sup>220</sup> or concealed mini blinds may be used.



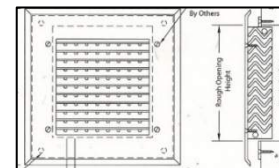
E. **Hardware** – Same as in Level IV above.

F. **Light fixtures** – Same as in Level IV above.

G. **Fire sprinklers – institutional type** – Same as in Level IV above.

H. **HVAC grilles** – Fully recessed vandal-resistant grilles with S-shaped air passageways<sup>602</sup>.

I. **Window covering hardware** – Same as in Level IV above.



J. **Miscellaneous**

1. All Miscellaneous requirements listed for corridors in Level II above apply to this level also.

2. An emergency call button should be provided so the staff may summon additional staff if necessary.
3. "Baseboards" same as patient rooms in Level IV above.

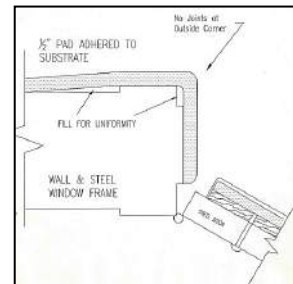
#### K. Furniture

1. This room should have a built-in desk or table that is firmly attached to the floor or walls and contain a lockable file drawer for forms and a lockable box drawer for pens, pencils, staplers, etc. All loose items should be kept in drawers and out of sight. The furniture arrangement should locate the patients' chair so that the patient, when seated, will not be between the staff member and the door to the unit.
2. The computer, printer, and telephone should be located so they cannot be easily reached by the patient.
3. Seating should be fixed in place or heavyweight as discussed above.

**Level V-b. Seclusion Rooms** – should be no less than 7 feet wide and no greater than 11 feet long and designed to minimize blind spots where patients cannot be observed by staff without entering the room. A minimum of a 9-foot ceiling height is preferred. The distance of the seclusion room from the nurse's station needs to be considered. The goal is to avoid excessive distance so that staff can be readily available as needed. The seclusion room door should open directly into an Anteroom to separate these activities from the other patients as well as provide access to a patient toilet to be used by these patients without entering the corridor.

A. **Floor** – Continuous sheet vinyl with foam backing and heat-welded seams.<sup>272</sup>

B. **Walls** – Impact resistant gypsum board<sup>230</sup> over  $\frac{3}{4}$ " plywood on 20 gauge metal studs at 16" on center with high performance finish.<sup>280</sup> If wall padding is desired, a Kevlar-faced or a heavy, heavy vinyl material with a 1 1/2" thick foam backing<sup>270</sup> may be considered.





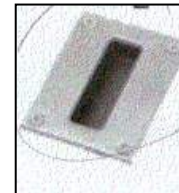
One facility has encountered issues with regulating authorities when using plywood for this purpose and has substituted 25-gauge sheet metal, which stiffens the wall, is easily cut and does not require wider doorframes.

C. **Ceiling** – Impact resistant and/or abrasion resistant gypsum board,<sup>230, 231</sup> painted at 9'-0" minimum height.

D. **Glass** – All glazing exposed to patients should be same as Level II-D above. This includes the exterior pane of any window accessible to patients from exterior courtyards

E. **Hardware** –

1. **Doors** – Commercial-grade steel doors that have a minimum clear width of 3'-8" and are hinged to open out of room with a polycarbonate<sup>201</sup> view window not to exceed 100 square inches **installed at a height where shorter staff members will be able to see into the room.**

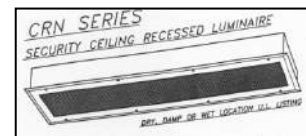


2. No exposed door hardware in the room.

3. The Anteroom side shall have three-point latching, which may be individual bolts<sup>162</sup> or included in one piece of hardware with a single lever to operate all three.<sup>160</sup> **Consideration should be given to whether the facility wants to have hardware that latches immediately upon the door being closed or manual motion that is required to latch this door. If the door is self-latching, there may be increased risk of staff becoming locked in the room with a patient and a keyed cylinder may be required on the inside of the door.**



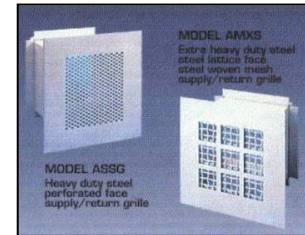
F. **Light fixtures** – Fully recessed, moisture resistant, vandal resistant type light fixtures<sup>620</sup> in the ceiling are recommended.



G. **Fire sprinklers—institutional type** – Same as for Level IV above.

H. **HVAC grilles**

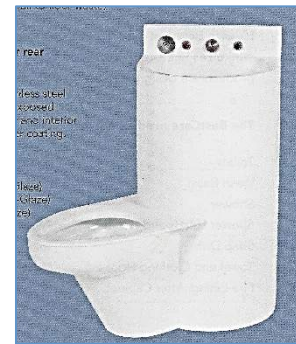
1. Fully recessed vandal-resistant grilles with S-shaped air passageways <sup>602</sup>.
2. **Thermostats** should be digital-type mounted on wall in Anteroom with sensors in return air ducts serving the room.



I. **Window Covering** – No window covering material or hardware should be accessible to the patient. All window coverings should be located behind safety glazing as described in Level II-D above. Mini-blinds, roller shades or other types of window covering may be used behind the safety glazing as long as only staff can operate the covering and no ligature attachment points are provided by the system. If electrically operated devices are chosen, controls should be located in the Anteroom.

J. **Miscellaneous**

1. No electrical outlets, switches, thermostats, blank cover plates, or similar devices are permitted inside these rooms.
2. Toilets same as Toilets in Level IV-B above or one piece <sup>539</sup> stainless steel fixtures combining toilet and lavatory are preferred by some facilities.
3. Baseboards; No baseboards should be used in these rooms.
4. Install a convex mirror same as for glass in Corridors in Level II above. Locate the mirror in the upper corner of the room and opposite the seclusion room door. Make sure the mirror can be seen when viewing it from the window in the door. By installing this mirror, you are now providing staff with a 360-degree view of the room prior to opening the door. Care shall be taken to assure that the attachment is secure so the patient will not be able to remove it and have a weapon.



## SUMMARY

Thoughtful consideration of these design elements and materials by design professionals and health care professionals can result in a very aesthetically pleasing environment, which will enhance the treatment process and help maximize safety for all patients, staff, and visitors. It is strongly recommended that wall-hung lavatories, 2'x4' fluorescent light fixtures, paddle handle door hardware and many other items that are typically found in general hospitals **NOT** be used in behavioral health care facilities. The reasons that these are used in general hospitals typically do not exist in behavioral health care units. Their elimination will significantly reduce the institutional character of these facilities without increasing patient or staff safety. As stated in the introduction, this document is intended to represent best current practices, in the opinion of the authors, and does not establish minimum standards for these facilities.

## APPENDIX

### 1a. Trash can liner

#### **Sani-Liner; Paper Trash Can Liner**

Sani-Liner®  
Wisconsin Converting  
Green Bay, WI  
1-800-544-1935  
[www.wisconsinconverting.com](http://www.wisconsinconverting.com)

### 1b. Trash can liner

#### **Weizel Security; SR851-S36 Breathable Trash Can Liners**

Weizel Security  
800-308-362  
<http://www.securingshospitals.com/>

### 1c. Large trash can liner

#### **Dano Group; Large Select SLCT Psych Ward Bag**

Dano Group  
150 Harvard Avenue  
Stamford, CT 06902  
800-348-3266  
[www.danoinc.com](http://www.danoinc.com)

### 10. Smoke Seals: Break-away

#### **DHSI, Door and Hardware Systems, Inc.; Cush-N-Seal with break-away anti-ligature option**

DHSI  
17 Silver Street  
Rochester, NY 14611  
585-235-8543  
<http://www.dhsi-seal.com/>

### 20a. Pick-Resistant Caulk

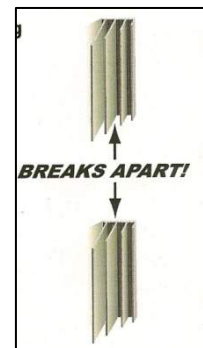
#### **Pecora Corporation; DynaFlex SC**

Pecora Corporation  
165 Wambold Road  
Harleysville, PA  
800-532-6688  
[www.pecora.com](http://www.pecora.com)

### 20b. Pick Resistant Sealants

#### **Surebond; SB-190 Everseal**

Surebond  
3925 Stern Avenue  
St. Charles, IL 60174  
877-843-1818  
[www.surebond.com](http://www.surebond.com)



25. Synthetic Door

**C/S Acrovyn Doors**

Construction Specialties.

3 Werner Way

Lebanon, NJ 08833

800-972-7214

<http://www.c-sgroup.com/>



30. Quick Release Hinge Door

**Total Door; Quick Release Hinge Door**

Total Door

6145 Delfield Dr.

Waterford, MI 48329

800-852-6660

[www.total-door.com](http://www.total-door.com)



40a. Patient Toilet Door

**Norva Plastics, Inc.; Sentinel Event Reduction Door**

Norva Plastics, Inc.

3911 Killam Ave.

Norfolk, VA 23508

800-826-0758

[www.norvaplastics.com](http://www.norvaplastics.com)



40b. Patient Toilet Door

**Soft Suicide Prevention Door**

Kennon Products, Inc.

Sheridan, WY

307-674-6498

<http://www.suicideproofing.com/>



40c. Patient Toilet Door

**C/S Acrovyn Patient Safety Door**

Construction Specialties.

3 Werner Way

Lebanon, NJ 08833

800-972-7214

<http://www.c-sgroup.com/>



44b. Wicket doors

**C/S Acrovyn Doors**

Construction Specialties.

3 Werner Way

Lebanon, NJ 08833

800-972-7214

<http://www.c-sgroup.com>



44c. Wicket doors

**Ceco Door; Step through Access Door**

Ceco Door  
9159 Telecom Drive  
Milan, TN 38358  
888-232-6462  
[www.cecodoor.com](http://www.cecodoor.com)



44d. Wicket doors

**Marshfield Door Systems; Wicket Door (Wood Doors)**

Marshfield Door Systems  
800-869-3667  
[www.marshfelddoors.com](http://www.marshfelddoors.com)

44e. Wicket doors

**Graham Wood Doors; GCD-EC Wicket (Wood) Structural Composite Lumber Core**

Graham Wood Doors  
525 9th St. SE  
Mason City, Iowa 50401  
641-423-2444  
[www.grahamdoors.com](http://www.grahamdoors.com)

47a. Security Sidelight

**Curries Company; Security Sidelight**

Curries Company  
1502 12<sup>th</sup> St. NW  
Mason City, IA 50401  
641-423-1334  
[www.curries.com](http://www.curries.com)



47b. Security Sidelight

**Ceco Door; Security Sidelight Unit**

Ceco Door  
9159 Telecom Drive  
Milan, TN 38358  
[www.cecodoor.com](http://www.cecodoor.com)



50. Access panel – lockable

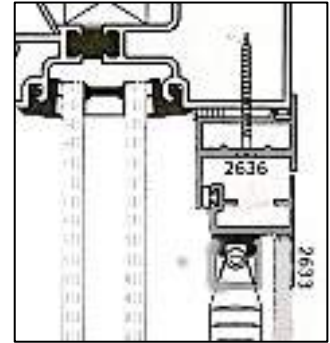
**J. L. Industries, Inc.; Standard SP Security Panel with mortise prep**

J.L. Industries, Inc.  
4450 West 78<sup>th</sup> Street Circle  
Bloomington, MN 55435  
1-612-835-6850  
[www.jlindustries.com](http://www.jlindustries.com)

430a. Aluminum window with integral blind

***Manko Window Systems; 2450 Storefront with hinged sash and integral blind***

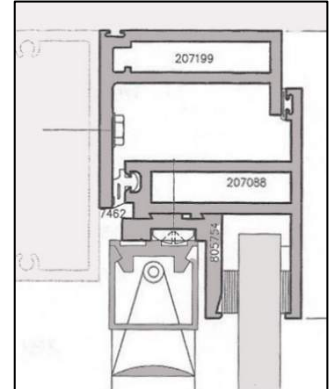
Manko Window Systems, Inc.  
800 Hayes Drive  
Manhattan, KS 66502  
800-642-1488  
[www.mankowindows.com](http://www.mankowindows.com)



430b. Aluminum window with integral blind

***Wausau Window Systems; 4000i-DT Psychiatric Windows with integral blind***

Wausau Window and Wall Systems  
7800 International Drive  
Wausau, WI 54401  
877-678-2983  
[www.wausauwindow.com](http://www.wausauwindow.com)



434. Exterior Windows

***Britplas; Safevent Windows***

Britplas  
Unit 18 Kingsland Grange  
Woolston  
Warrington  
WA1 4RW  
+44-1925-824317  
[www.britplas.com](http://www.britplas.com)



80. Detention Security Screens

***Kane Manufacturing Corporation***

Kane Manufacturing Corp.  
515 North Fraley Street  
Kane, PA 16735  
1-800-952-6399  
<http://www.kanescreens.com/>

81. Stainless steel screen fabric

***McMaster-Carr; Type 304 Stainless Steel, Standard Grade Woven Wire Cloth***

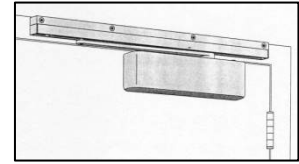
McMaster-Carr Supply Company  
P.O. Box 4355  
Chicago, IL 60680-4355  
1-630-833-0300  
[www.mcmaster.com](http://www.mcmaster.com)

100. Security arm door closers

**LCN 4510T Series Security Track Closer**

Ingersoll-Rand  
Architectural Hardware  
LCN Division  
P.O. Box 100  
121 West Railroad Avenue  
Princeton, IL. 61356-0100  
1-815-875-3111

<http://us.allegion.com/brands/lcn/Pages/default.aspx>

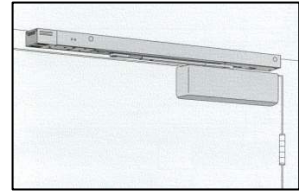


101. Sentronic closer

**LCN Fire/Life Safety Series Sentronic closer**

Ingersoll-Rand  
Architectural Hardware  
LCN Division  
P.O. Box 100  
121 West Railroad Avenue  
Princeton, IL. 61356-0100  
1-815-875-3111

<http://us.allegion.com/brands/lcn/Pages/default.aspx>

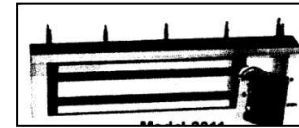


110. Electromagnetic lock

**Dynalock Corp. series 2011 Full Size Series**

DynaLock Corporation  
705 Emmett Street  
P.O. Box 9470  
Forestville, CT 06011-9470  
1-877-DYNALOCK

[www.dynalock.com](http://www.dynalock.com)

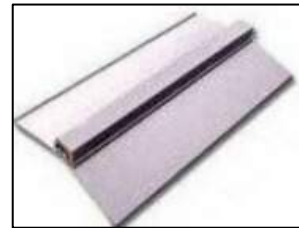


111b. Continuous Hinges – gear type

**Ives 112HD Concealed Continuous Hinge**

Ives  
2720 Tobey Dr.  
Indianapolis, IN 46219  
877-613-8766

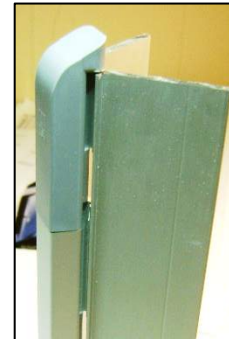
<http://us.allegion.com/>



111d. Continuous Hinges – gear type, plastic hospital tip

**Behavioral Safety Products – Continuous Hinge #DH430  
w/ plastic hospital tip**

Behavioral Safety Products  
29A N. Main St., Suite 3  
Watkinsville, GA 30677  
706-705-1500  
[www.besafepro.com](http://www.besafepro.com)



113b. Double Acting Continuous Hinge

**Pemko Double Swing Hinge - DSHP01**

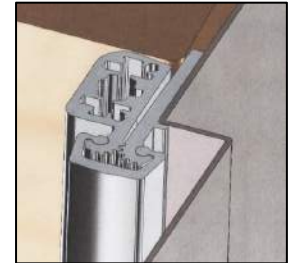
Pemko  
P. O. Box 18966  
Memphis, TN 38181  
800-824-3018  
<http://www.pemko.com/>



115b. Emergency Stop

**Pemko Emergency Release Stop - ERS**

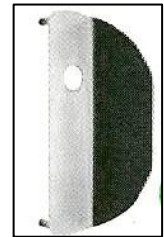
Pemko  
P. O. Box 18966  
Memphis, TN 38181  
800-824-3018  
<http://www.pemko.com/>



120. Door pull

**Ives Vandal Resistant Door Pull; VR910-DT**

Build.com, Inc.  
282 Convair Ave.  
Chico, CA 95973  
877-613-8766



121a. Door pull, recessed

**Stanley Hardware; cast, flush door pull**

Stanley Hardware  
480 Myrtle Street  
New Britain, CT 06053  
1-800-337-4393  
[www.stanleyworks.com](http://www.stanleyworks.com)



121c. Door Pull, recessed

**Rockwood; D89 Heavy Duty Security Flush Pull**

Rockwood Manufacturing Company  
300 Main Street  
Rockwood, PA 15557  
800-458-2424  
[www.rockwoodmfg.com](http://www.rockwoodmfg.com)



130a. Ligature Resistant Lever Handle Lockset

**Stanley Hardware SPSL Anti Ligature Lockset**

Best Access Systems  
Stanley Security Solutions  
6161 East 75th Street  
Indianapolis, IN 46250  
[www.bestaccess.com/media/catalogs/BehavioralHealthcare.pdf](http://www.bestaccess.com/media/catalogs/BehavioralHealthcare.pdf)



130b. Ligature Resistant Lever Handle Lockset

***Townsteel, Inc.; Anti-Ligature Lever Lockset MRX-L-IP***

Townsteel, Inc.  
707 N Barranca Ave. Building 6  
Covina, CA 91723  
877-858-0888  
<http://www.townsteel.com/>



136b. Ligature Resistant Lockset

***Sargent Lock Company; 8200 with BHW Trim***

Sargent Manufacturing Company  
100 Sargent Drive  
P. O. Box 9725  
New Haven, CT 06536-0915  
800-727-5477  
<http://www.sargentlock.com>



137a. Push/Pull Locksets

***Sargent Lock Company; 8200 with Push/Pull Trim (ALP)***

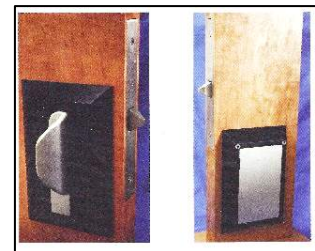
Sargent Manufacturing Company  
100 Sargent Drive  
P. O. Box 9725  
New Haven, CT 06536-0915  
1-800-727-5477  
[www.sargentlock.com](http://www.sargentlock.com)



137b. Ligature Resistant Lockset

***Accurate Lock and Hardware; Push/Pull Paddle Trim***

Accurate Lock and Hardware  
1 Annie Place  
Stamford, CT 06902  
203-348-8865  
[www accuratelockandhardware.com](http://www accuratelockandhardware.com)



140. Patient Room Privacy Lockset

***Stanley Security Solutions; Patient Room Privacy Lockset SPSL-ML-RF-16F-630 & SPSL-ML-LTF-16F-630***

Stanley Security Solutions  
6161 East 75th Street  
Indianapolis, IN 46250  
800-392-5209  
[www.stanleysecuritysolutions.com](http://www.stanleysecuritysolutions.com)



141. Cylinder Protector

**Stanley Security Solutions; Cylinder Protector**

Stanley Security Solutions  
6161 East 75th Street  
Indianapolis, IN 46250  
800-392-5209

[www.stanleysecuritysolutions.com](http://www.stanleysecuritysolutions.com)



145. Ball Catch

**Ives - #347 Dual Adjustable Ball Catch**

Ives  
2720 Tobey Dr.  
Indianapolis, IN 46219  
877-613-8766

<http://us.allegion.com/IRSTDocs/Catalog/109107.pdf>



146. Roller Latch

**Ives - #RL30 Roller Latch**

Ives  
2720 Tobey Dr.  
Indianapolis, IN 46219  
877-613-8766



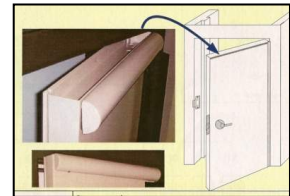
<http://us.allegion.com/http://us.allegion.com/IRSTDocs/Catalog/109107.pdf>

150a. Over door alarm

**Stanley Hardware SEDA Door Alarm**

Best Access Systems  
Stanley Security Solutions  
6161 East 75th Street  
Indianapolis, IN 46250

[www.bestaccess.com/media/catalogs/BehavioralHealthcare.pdf](http://www.bestaccess.com/media/catalogs/BehavioralHealthcare.pdf)

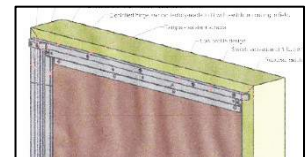


150b. Over door alarm

**The Door Switch**

11772 Westline Industrial Drive  
St. Louis, MO 63146  
877-998-5625

<http://thedoorswitch.com/>

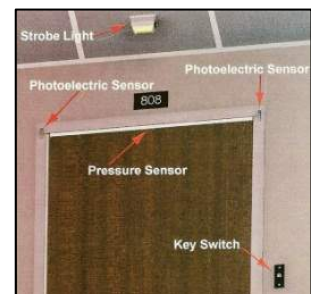


150c. Over door alarm

**Door Control Services, Inc.; Top Door Alarm**

Door Control Services, Inc.  
321 VZ County Road 4500  
Ben Wheeler, TX 75754  
800-356-2025

<http://www.doorcontrolsusa.com/pages/suicide-door-alarm>



160a. Seclusion Room Door Locks

**Securitech – Seclusion Room Time-Out Lock**

Securitech  
54-45 44<sup>th</sup> Street  
Maspeth, NY 11378  
1-800-622-5625  
[www.securitech.com](http://www.securitech.com)



160b. Seclusion Room Door Locks

**Schlage; LM9000 Multipoint Solution**

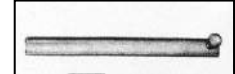
Allegion  
11819 N. Pennsylvania Street  
Carmel, IN 46032 US  
877-671-7011  
<http://us.allegion.com/IRSTDocuments1/104833.pdf>



161. Surface mounted slide bolt

**Stanley Hardware CD4060 solid brass 6inch long surface bolts**

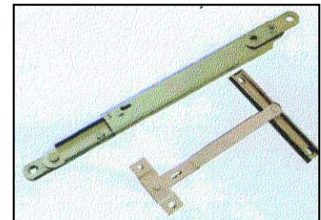
Stanley Hardware  
480 Myrtle Street  
New Britain, CT 06053  
1-800-337-4393  
[www.stanleyworks.com](http://www.stanleyworks.com)



170. Life safety window hardware

**Truth Hardware; Life Safety Window Hardware**

Truth Hardware  
700 West Bridge St.  
Owatonna, MN 55060  
1-800-866-7884  
[www.truth.com](http://www.truth.com)



190a. Window Film

**3M; Scotchshield Ultra or ACE Security Laminates; 200 Series**

3M Specified Construction Products Department  
3M Center Building 225-4S-08  
St. Paul, MN 55144  
800-480-1704  
[http://solutions.3m.com/wps/portal/3M/en\\_US/Window\\_Film/Solutions/?WT.mc\\_id=www.3m.com/windowfilm](http://solutions.3m.com/wps/portal/3M/en_US/Window_Film/Solutions/?WT.mc_id=www.3m.com/windowfilm)

190b. Window Film

***ACE Security Laminates, 200 Series – High-end Safety***

Ace/Security Laminates, Inc.  
200 Isabella St., Ste. 500  
Ottawa, ON, Canada  
K1S 1V7  
1-888-607-0000  
[www.smashandgrab.com](http://www.smashandgrab.com)

200a. Safety Glass

***Oldcastle Building Envelope***

Oldcastle Building Envelope  
5631 Ferguson Drive  
Los Angeles, CA 90022  
320 3887 6000  
[www.oldcastlebe.com](http://www.oldcastlebe.com)

200b. Safety Glass

***Global Security Glazing – 9/16” Secur-Tem+Poly; #2117***

Global Security Glazing  
616 Selfield Road  
Selma, AL 36703  
(800) 633-2513  
[www.security-glazing.com](http://www.security-glazing.com)

201a. Polycarbonate sheet glazing

***SABIC brand “Lexan” MR10 Sheet with Margard II UV and Abrasion-Resistant Coating***

SABIC Americas  
[www.sabic.com](http://www.sabic.com)

201b. Polycarbonate sheet glazing

***Sheffield Plastics - Makrolon GP Sheet***

Sheffield Plastics  
119 Salisbury Road  
Sheffield, MA 01257  
800-254-1707  
[www.sheffieldplastics.com](http://www.sheffieldplastics.com)

201c. Polycarbonate sheet glazing

***Alro Plastics; Tuffak CM-2 with Abrasion-resistant coating***

Alro Plastics  
3100 E. High Street  
Jackson, MI 49204  
800-877-2576  
<https://www.myalro.com/>



220a. Vision Panels

***Vistamatic, LLC.; Vision Panels, key operation***

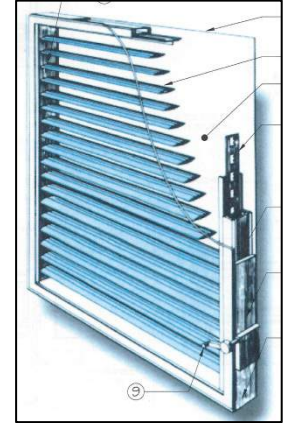
Vistamatic, LLC  
11713 NW 39<sup>th</sup> St  
Coral Springs, FL 33065  
866-466-9525  
<http://www.vistamaticvisionpanels.com/>



220b. Vision Panels

***Unicel Architectural Corp.; mini blinds inside glass panels***

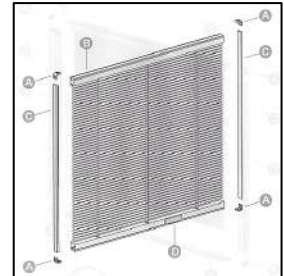
Unicel Architectural  
2155 Fernand Lafontaine Blvd.  
Longueuil, Quebec  
J4G 2J4 Canada  
800-668-1580  
<http://www.unicelarchitectural.com/en/index.php>



220c. Vision Panels

***Vistamatic, LLC.; Vision Panels, Between Glass Blinds***

Vistamatic, LLC  
11713 NW 39<sup>th</sup> St  
Coral Springs, FL 33065  
866-861-9135  
<http://www.betweenglassblinds.com/>



220d. Vision Panels

***RAL & Associates, Inc. - IE; Blinds***

RAL & Associates, Inc.  
P. O. Box 442  
Ben Wheeler, TX 75754  
866-267-1917  
[www.ieblinds.com](http://www.ieblinds.com)



230a. Impact Resistant Gypsum Board

***USG; SHEETROCK® Brand Abuse-Resistant Gypsum Panels***

USG  
800-874-4968  
<http://www.usg.com/content/usgcom/en.html>

230b. Impact-resistant wallboard

***National Gypsum Hi-Impact Brand Fire Shield Wallboard***

National Gypsum Company  
2001 Rexford Road  
Charlotte, NC 28211  
1-704-365-7300  
[www.nationalgypsum.com](http://www.nationalgypsum.com)

231a. Abrasion-resistant wallboard

***National Gypsum Hi-Abuse Brand Wallboard***

National Gypsum Company  
2001 Rexford Road  
Charlotte, NC 28211  
1-800-628-4662  
[www.nationalgypsum.com](http://www.nationalgypsum.com)

232. Sound-absorbing wallboard

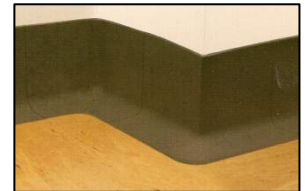
***Pabco Gypsum; QuietRock - sound absorbing gypsum board***

Pabco Gypsum  
Newark, CA  
1-800-797-81592  
[www.quietrock.com](http://www.quietrock.com)

240. Wall Base

***Flexco Health Design Wall Base***

Flexco Corporation  
1401 East 6<sup>th</sup> Street  
Tuscumbia, AL 35674  
800-633-3151  
<http://www.flexcofloors.com/F>



241a. Wall Base

***Roppe Visuelle Wall Base***

Roppe Corporation, USA  
1602 North Union Street  
Fostoria, OH 44830  
800-5379527  
[www.roppe.com](http://www.roppe.com)



241b. Wall Base

***Johnsonite "Millwork" Contoured Wall Base - Mandalay***

Roppe Corporation, USA  
1602 North Union Street  
Fostoria, OH 44830  
800-5379527  
[www.roppe.com](http://www.roppe.com)



245a. Sheet vinyl flooring

**Armstrong World Industries, Inc. Commercial Flooring, vinyl, homogeneous**

Armstrong World Industries, Inc.

P.O. Box 3001

Lancaster, PA 17604

1-877-ARMSTRONG

<http://www.armstrong.com>

250a. Seamless floors and base

**Dex-O-Tex Cheminert "K" Flooring**

Dex-O-Tex

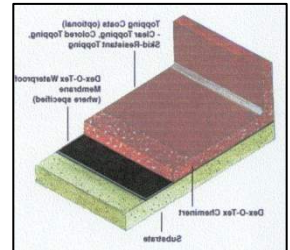
Division of Crossfield Products Corp.

140 Valley Road

Roselle Park, NJ 07204

908-245-2800

[www.dexotex.com](http://www.dexotex.com)



250b. Seamless floors and base

**Dur-A-Flex Flooring**

Dur-A-Flex, Inc.

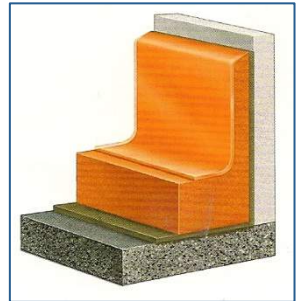
95 Goodwin Street

East Hartford, CT 06108

800-253-3539

1-908-245-2800

<http://dur-a-flex.com/>: 800



255. Carpet

**Lees Bello IV Collection**

Lee's Carpets

3330 W. Friendly Avenue

Greensboro, NC 27410

336-379-3897

[www.leescarpets.com](http://www.leescarpets.com)

270a. Wall Padding

**Marathon Engineering Corporation; Gold Medal Safety Padding**

Marathon Engineering Corporation

5615 2nd Street West

Leigh Acres, FL 33971

239-303-7378

<http://goldmedalsafetypadding.com/>



270b. Wall Padding

**Padded Surfaces**

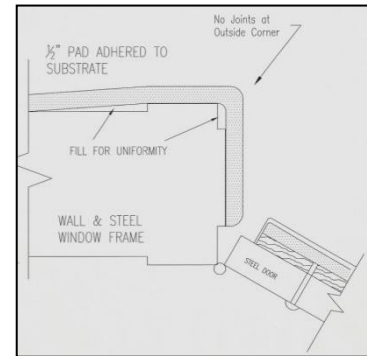
*Padded Surfaces*

5323 W. Minnesota Street

Indianapolis, IN 46241

888-243-8788

<http://paddedsurfaces.com/>



272. Seclusion room wall & floor material

**Lonseal, Inc. LonFloor plain, smooth**

Lonseal, Inc.

928 East 238<sup>th</sup> Street, Building A

Carson, California 90745

1-800-832-7111

[www.lonseal.com](http://www.lonseal.com)

280. Deco Coat

**Sto-ex, Inc.; DecoCoat**

Sto-ex, Inc.

3932 N Greenbrooke Dr. SE

Kentwood, MI 49512

1-800-782-3162

[www.sto-ex.com](http://www.sto-ex.com)

290a. TV Enclosure – suicide resistant

**Behavioral Safety Products; Suicide Resistant Protective TV Enclosure**

Behavioral Safety Products

29A N. Main St., Suite 3

Watkinsville, GA 30677

706-705-1500

[www.besafepro.com](http://www.besafepro.com)



290b. TV Enclosure – suicide resistant

**Peerless A-V; Protective Enclosures, FPE55F(H)-S**

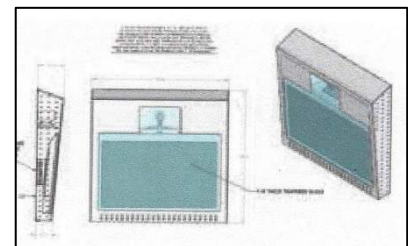
Peerless A-V

2300 White Oak Circle

Aurora, IL 60502

800-865-2112

[www.perlessmounts.com](http://www.perlessmounts.com)



300a. Room Signs

**2/90 Sign Systems – Flxsigns**

2/90 Sign Systems

5350 Corporate Grove Blvd. SE

Grand Rapids, MI 49512

800.777.4310

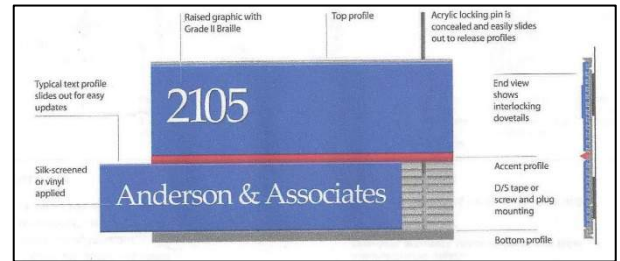
[www.290signs.com](http://www.290signs.com)



300b. Room Signs

**King Architectural Products; King KMS  
Modular Sign System**

King Architectural Products  
31 Simpson Road  
Bolton, ON, Canada, L7E 2R6  
877-857-2804  
[www.kingarchitecturalproducts.com](http://www.kingarchitecturalproducts.com)



301. Vinyl Art Work

**Vinyl printed art work**

Kennon Products, Inc.  
Sheridan, WY  
307-674-6498  
<http://www.suicideproofing.com/>



302a. Ligature-Resistant Frames

**Custom Design Frameworks; Solid Surface frames**

Custom Design Frameworks  
3998 Fox Hunter Lane  
Mechanicsville, VA 23111  
804-476-4233  
<http://www.customdesignframeworks.com/>



302b. Ligature-Resistant Frames

**Behavioral Safety Products; Ligature Resistant Art  
Frame #AF550**

Behavioral Safety Products  
29A N. Main St., Suite 3  
Watkinsville, GA 30677  
706-705-1500  
[www.besafepro.com](http://www.besafepro.com)



320a. Synthetic wall material

**Avonite Solid Surface Wall Panels**

Avonite  
1945 Highway 304  
Belen, NM 87002  
1-800-4-AVONITE  
[www.avonitesurfaces.com](http://www.avonitesurfaces.com)

320a. Synthetic wall material

**C-S Products; Acrovyn By Design Protective Wall Panels**

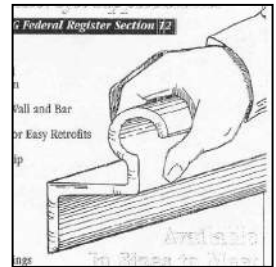
Construction Specialties  
6696 State Road 405  
Muncy, PA 17756  
800-233-8493  
[www.c-sgroup.com](http://www.c-sgroup.com)



332a. Grab Bar

**Cascade Specialty Hardware; SafeBar**

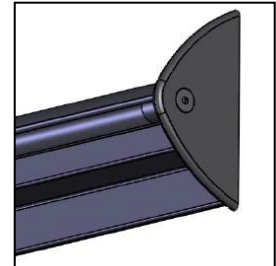
Cascade Specialty Hardware, Inc.  
1413 Lincoln Avenue  
Vancouver, WA 98660  
360-823-3995  
<http://www.cascadesh.com/>



332b. Grab Bars

**Weizel Security; SafeBar Grab Bar**

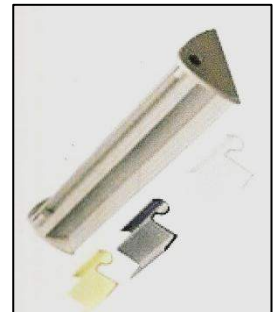
Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



332c. Grab Bar

**Northwest Specialty Hardware, Inc.; SecurityBar**

Northwest Specialty Hardware, Inc.  
15865 SE 1143th Avenue, Suite C  
Clackamas, OR 97015  
503-557-1881  
<http://www.northwestsh.com/>



337. Grab Bars - Vertical

**Odd Ball Industries; Vertical Grab Bar**

Odd Ball Industries Mfg. Co., Inc.  
P.O. Box 376  
Greenlawn, NY 11740  
1-631-754-0400  
[www.oddballindustries.com](http://www.oddballindustries.com)

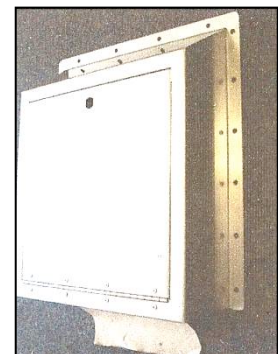


Cross-section with finished end

340. Paper Towel Dispenser

**Weizel Security; Paper Towel Dispenser  
Model 11-100-10-010**

Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



350a. Robe hook – break-away

**Odd Ball Industries; SP6 Robe/Towel Hook**

Odd Ball Industries Mfg. Co., Inc.

P.O. Box 376

Greenlawn, NY 11740

1-631-754-0400

[www.oddballindustries.com](http://www.oddballindustries.com)



350b. Robe hook – break-away

**;Bradley Corporation – B983 Vandal Resistant Clothes Hook**

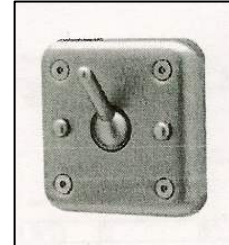
Bradley Corporation

P.O. Box 309

Menomonee Falls, WI 53052

1-800-BRADLEY

[www.bradleycorp.com](http://www.bradleycorp.com)



360. Security Mirrors

**American Specialties, Inc.; Roval Inter-Lok stainless steel framed mirror**

American Specialties, Inc.

441 Saw Mill River Road

Yonkers, NY 10701

914-476-9000

<http://www.americanspecialties.com/>



361. Mirror Guard

**Odd Ball Industries; Mirror Guard**

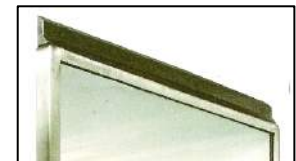
Odd Ball Industries Mfg. Co., Inc.

P.O. Box 376

Greenlawn, NY 11740

1-631-754-0400

[www.oddballindustries.com](http://www.oddballindustries.com)



370a. Recessed shelf

**Bradley Corporation – SA47 Recessed Shelf**

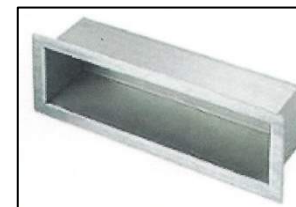
Bradley Corporation

P.O. Box 309

Menomonee Falls, WI 53052

1-800-BRADLEY

[www.bradleycorp.com](http://www.bradleycorp.com)



370c. Recessed shelf

**Whitehall Manufacturing; Bestcare Bathroom Accessory  
Solutions Model Number 1820-FA (front mount)**

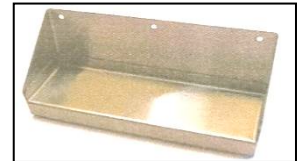
Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706  
[www.whitehallmfg.com](http://www.whitehallmfg.com)



371a. Suicide resistant shelf

**Norix; Suicide Resistant Stainless Steel Shelf**

Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900  
[www.norix.com](http://www.norix.com)



371c. Shelf – surface mounted

**Bradley Corporation – SA56 Surface Mounted Shelf**

Bradley Corporation  
PO. Box 309  
Menomonee Falls, WI 53052  
1-800-BRADLEY  
[www.bradleycorp.com](http://www.bradleycorp.com)



380. Shower Seat

**Norix; ADA Shower Seat**

Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900  
[www.norix.com](http://www.norix.com)



390a. Soap Dish

**Norix Group Inc.; Recessed Soap Dish**

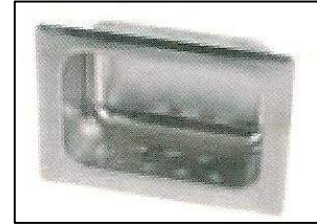
Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900  
[www.norix.com](http://www.norix.com)



390b. Soap Dish

**Brey-Krause Manufacturing Co.; Recessed Soap Dish  
S-2632-SS**

Brey-Krause Manufacturing Co.  
1209 W. Lehigh Street  
Bethlehem, PA 18018 USA  
Phone - 610.867.1401  
[www.breykrause.com](http://www.breykrause.com)



391a. Soap Dispenser

**Norva Plastics – Soap Dispenser**

Norva Plastics, Inc  
3911 Killam Ave.  
Norfolk, VA 23508  
800-826-0758  
[www.norvaplastics.com](http://www.norvaplastics.com)



391c. Foaming hand soap dispenser

**Archer Manufacturing; OPS 1-Touch Ligature Resistant  
Soap Dispenser**

Archer Manufacturing  
Danville, CA  
800-796-5545  
<http://www.vandalproof.org/>



391e. Liquid Soap Dispenser

**GOJO Industries, Inc.; Security Enclosure**

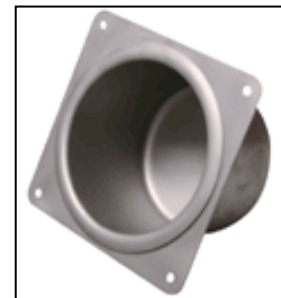
GOJO Industries, Inc.  
One GOJO Plaza, Suite 500  
Akron, OH 44309  
800-321-9647  
[www.GOJO.com](http://www.GOJO.com)



400b. Toilet Paper Holder

**Odd Ball Industries; SP-5 Toilet Paper Holder**

Odd Ball Industries Mfg. Co., Inc.  
P.O. Box 376  
Greenlawn, NY 11740  
1-631-754-0400  
[www.oddballindustries.com](http://www.oddballindustries.com)



400c. Toilet Paper Holder

**Brey-Krause Manufacturing Co.; Recessed Soap Dish S-2632-SS**

Brey-Krause Manufacturing Co.  
1209 W. Lehigh Street  
Bethlehem, PA 18018 USA  
Phone - 610.867.1401  
[www.breykrause.com](http://www.breykrause.com)



402. Toilet Paper Holder

**Cascade Specialty Hardware; Safety Toilet Paper Holder, Model C-400**

Cascade Specialty Hardware, Inc.  
1413 Lincoln Avenue  
Vancouver, WA 98660  
360-823-3995  
<http://www.cascadesh.com/>



402b. Toilet Paper Holder

**Whitehall Manufacturing; Model #1845 Auto-release Toilet Paper Holder (front mount)**

Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706  
[www.whitehallmfg.com](http://www.whitehallmfg.com)



404. Toilet Paper Holder

**Weizel Security; 817-S59 SafeSupport SR Maryland TP Dispenser.**

Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



410a. Lav Shield

**Truebro, IPS Corporation**

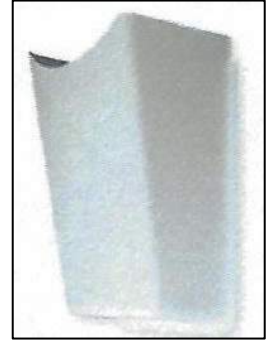
Truebro  
202 Industrial Park Lane  
Collierville, TN 38017  
<http://www.truebro.com/plumbing/truebro/lavshield>



410b. Lav Shield

**Weizel Security; SR831-S27 SafeSupport SR Undersink Enclosure**

Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



**10 86 00 –Security Mirrors and Domes**

420a. Convex Mirrors

**Norix Group Inc.; Duarvision, Model QD18**

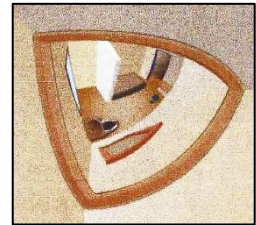
Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900  
[www.norix.com](http://www.norix.com)



420b. Convex Mirrors

**Duramax Corrections polycarbonate quarter dome:**

Convex Mirror Shop  
3 Bert Drive, Unit 10  
West Bridgewater, MA 02379  
781-344-8459  
<http://www.convexmirrorshop.com/>



440a. Roller Blinds

**Webb Shade; Level-Lok**

Webb Designs, Inc.  
P. O. Box 1405  
El Cajon, CA 92022  
800.262.9322  
[www.webbshade.com](http://www.webbshade.com)



440b. Roller Blinds

**Draper, Inc.; FlexShades for Healthcare Facilities**

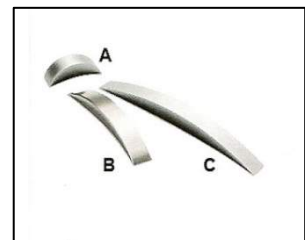
Draper, Inc.  
411 South Pearl Street  
Spiceland, IN 47385  
800-238-7999  
[www.draperinc.com](http://www.draperinc.com)



460a. Cabinet pulls

**Doug Mockett & Company, Inc. – DP74C Cabinet Pull**

Doug Mockett & Company, Inc.  
1915 Abalone Ave.  
Torrance, CA 90501  
800-523-1269  
[www.mockett.com](http://www.mockett.com)



460b. Cabinet Pulls

***Sugatsune America, Inc.; UT-105/S***

Sugatsune America, Inc.

18101 Savarona Way

Carson, CA 90746

800-562-5267

<http://www.sugatsune.com/>



460d. Cabinet pulls

***Hafele; Modern Zinc Handles – 104.66.200***

Hafele

800-423-3531

<http://www.hafele.com/us/index.htm>



465a. Cabinet Locks – Keyless

***CompX Security Products; eLock Series***

CompX Security Products

Mauldin, SC

864-297-6655

[www.compx.com](http://www.compx.com)



465b. Cabinet Locks – Keyless

***Hafele; dialock***

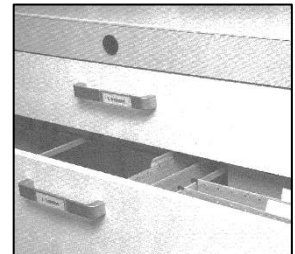
Hafele America Co.

3901 Cheyenne Drive

Archdale, NC 27263

800-423-3531

<http://www.hafele.com/us/index.htm>



465c. Cabinet Locks – Keyless

***CompX Security Products; 100 Series Cabinet Locks***

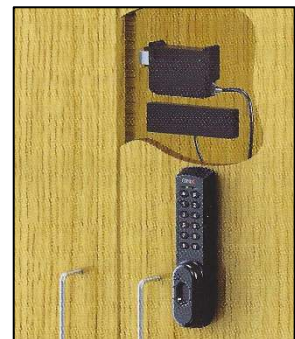
CompX Security Products

P. O. Box 200

Mauldin, SC 29662

864-297-6655

[www.compx.com](http://www.compx.com)



470a. Tamper-resistant screws

***Tamperproof Screw Company, Inc.***

Tamperproof Screw Company, Inc.

30 Laurel Street

Hicksville, NY 11801

516-931-1616

[www.tamperproof.com](http://www.tamperproof.com)



470b. Tamper-resistant screws

***Northwest Specialty Hardware, Inc.; Security Pin Torx  
Screws and Bits***

Northwest Specialty Hardware, Inc.

15865 SE 1143th Avenue, Suite C

Clackamas, OR 97015

503-557-1881

<http://www.northwestsh.com/>



473a. Shower Doors

***Norva Plastics, Inc.; Sentinel Event Reduction Shower Door***

Norva Plastics, Inc.

3911 Killam Ave.

Norfolk, VA 23508

800-826-0758

[www.norvaplastics.com](http://www.norvaplastics.com)



480. Sand ballasted seating

***Norix Group Inc.; Ultra-Max Series***

Norix Group, Inc.

1000 Atlantic Drive

West Chicago, IL 60185

1-800-234-4900

[www.norix.com](http://www.norix.com)



481a. Light weight seating

***Norix Group Inc.; Integra Series***

Norix Group, Inc.

1000 Atlantic Drive

West Chicago, IL 60185

1-800-234-4900

[www.norix.com](http://www.norix.com)



481b. Lightweight seating

**Cortech; RazorBack Chair**

Cortech Correctional Technologies, Inc.  
7530 Plaza Court  
Willowbrook, IL 60527  
800-571-0770  
[www.cortechusa.com](http://www.cortechusa.com)



481c. Lightweight seating

**Moduform; Stackable chairs**

Moduform  
172 Industrial Road  
Fitchburg, MA 01420  
800-221-6638  
[www.mycorrectionalfurniture.com](http://www.mycorrectionalfurniture.com)



482a. Upholstered seating

**Norix Group Inc.; Sierra Series**

Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900  
[www.norix.com](http://www.norix.com)



482b. Upholstered Seating

**Nemschoff; Meridian Chair**

Nemschoff  
909 North 8<sup>th</sup> Street  
Sheboygan, WI 53081  
920-459-1205  
<http://www.nemschoff.com/>



482c. Upholstered Seating

**Blockhouse Contract Furniture Company; Endurance Series**

Blockhouse Contract Furniture Company  
3285 Farmtrail Road  
York, PA 17406  
800-346-1126  
<http://www.blockhouse.com/>



482d. Upholstered Seating

**Spec Furniture Inc. – Dignity Series**

Spec Furniture Inc.

888-761-7732

<http://www.specfurniture.com/>



483c. PVC molded seating

**Norix Group Inc.; Forte' roto-molded upholstered chairs with wood base or sand ballasted base**

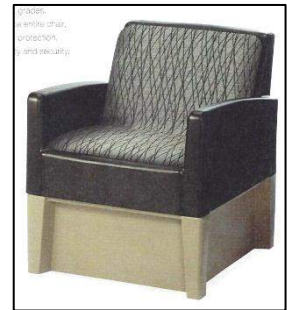
Norix Group, Inc.

1000 Atlantic Drive

West Chicago, IL 60185

1-800-234-4900

[www.norix.com](http://www.norix.com)



483d. PVC molded seating

**Norix Group Inc.; Hondo Nuevo**

Norix Group, Inc.

1000 Atlantic Drive

West Chicago, IL 60185

1-800-234-4900

[www.norix.com](http://www.norix.com)



490a. Electrically adjustable hospital bed

**Sizewise Behavioral Health Bed**

Sizewise

1600 Genessee, Suite 950

Kansas City, MO 64102

800-814-9389

[www.sizewise.net](http://www.sizewise.net)



490b. Electrically adjustable hospital bed

**CHG Spirit Bed with Mental Health Package**

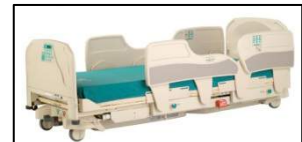
Stryker Medical London

1020 Adelaide St. South

London, ON N6E 1R6

866-516-5446

[www.chgbeds.com](http://www.chgbeds.com)



490c. Electrically adjustable hospital bed

**Stryker; S3 Med/Surg Bed**

Stryker  
3800 East Centre Avenue  
Portage, MI 49002  
269-385-2600  
[https://www.stryker.com/en-](https://www.stryker.com/en-us/products/PatientHandlingEMSandEvacuationEquipment/index.htm)

[us/products/PatientHandlingEMSandEvacuationEquipment/index.htm](https://www.stryker.com/en-us/products/PatientHandlingEMSandEvacuationEquipment/index.htm)



491. Manually adjustable hospital bed

**Stryker; Psych Bed**

Stryker  
3800 East Centre Avenue  
Portage, MI 49002  
269-385-2600

[http://www.stryker.com/en-](http://www.stryker.com/en-us/products/PatientHandlingEMSandEvacuationEquipment/Beds/MedSurgBeds/PsychBed/index.htm)

[us/products/PatientHandlingEMSandEvacuationEquipment/Beds/MedSurgBeds/PsychBed/index.htm](http://www.stryker.com/en-us/products/PatientHandlingEMSandEvacuationEquipment/Beds/MedSurgBeds/PsychBed/index.htm)

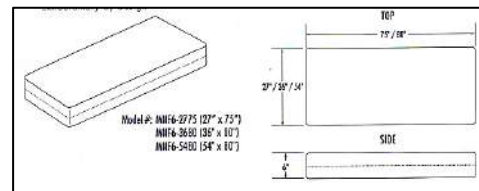


492b. Behavioral Health Mattresses

**Norix; Comfort Shield Mattresses**

Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900

[http://www.norix.com/comfort\\_shield.asp](http://www.norix.com/comfort_shield.asp)



492d. Behavioral Health Mattresses

**American Innovation Products; Behavioral Health  
Mattress with Bed Bug Protection & BioArmour™  
Infection Control Composite Lamination Surface**

American Innovation Products  
12004 Trinity Road  
Trinity, NC 27370  
Phone: 814-490-0660

<http://www.americaninnovationproducts.com/>



492e. Behavioral Health Mattresses

**Comfortex; Closed System Behavioral Health Mattress**

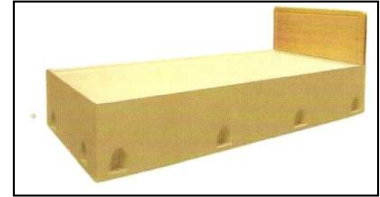
Comfortex  
1680 Wilkie Drive  
Winona, MN 55987  
800-445-4007  
[www.comfortexinc.com](http://www.comfortexinc.com)

493a. Platform Bed

**Norix Group Inc.; Roto Cast Series**

Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900

[www.norix.com](http://www.norix.com)

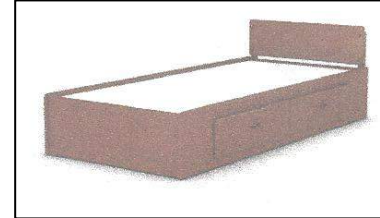


493d. Platform bed

**Nemschoff; Platform Bed BHBP/68 and BHHD/68**

Nemschoff  
909 North 8<sup>th</sup> Street  
Sheboygan, WI 53081  
920-459-1205

<http://www.nemschoff.com/>



493e. Platform bed

**Cortech; Endurance Series**

Cortech Correctional Technologies, Inc.  
7530 Plaza Court  
Willowbrook, IL 60527  
800-571-0770

<http://www.cortechusa.com/shop/uncategorized/endurance-bed/>



494a. Platform Bed - lift accessible

**Norix; Sleigh Bed**

Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900

[www.norix.com](http://www.norix.com)



494b. Platform Bed Riser - lift accessible

**Norix; Platform Bed Riser**

Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900

[www.norix.com](http://www.norix.com)



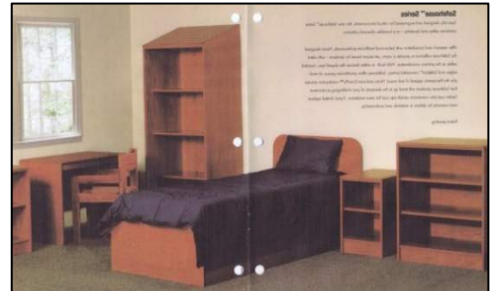
495a. Patient Room Furniture  
**Blockhouse Contract Furniture Company;  
 Vista Casegoods**

Blockhouse Contract Furniture  
 Company  
 3285 Farmtrail Road  
 York, PA 17406  
 800-346-1126  
[www.blockhouse.com](http://www.blockhouse.com)



495b. Patient room furniture  
**Norix- Safehouse Series**

Norix Group, Inc.  
 1000 Atlantic Drive  
 West Chicago, IL 60185  
 1-800-234-4900  
[www.norix.com](http://www.norix.com)



495c. Patient room furniture  
**This End Up Furniture Company, Inc.; Safe  
 and Tough**

This End Up Furniture Company, Inc.  
 500 N. 7<sup>th</sup> Street  
 Sanford, NC 27331  
 800-979-4579  
[www.thisendup.com](http://www.thisendup.com)



495e. Patient Room Furniture  
**Norix Group Inc.; Attenda Series**

Norix Group, Inc.  
 1000 Atlantic Drive  
 West Chicago, IL 60185  
 1-800-234-4900  
[www.norix.com](http://www.norix.com)



520a. Fire Sprinklers  
**Tyco Fire and Building Products; Raven Fire  
 Sprinkler Head**

Tyco Fire And Building Products  
 451 N. Cannon Avenue  
 Lansdale, PA 19446  
 215-362-0700  
[http://www.tyco-](http://www.tyco-fire.com/index.php?P=show&id=TFP651_08_2013&B=&BK=product&SB=S6)



[fire.com/index.php?P=show&id=TFP651\\_08\\_2013&B=&BK=product&SB=S6](http://www.tyco-fire.com/index.php?P=show&id=TFP651_08_2013&B=&BK=product&SB=S6)

520b. Fire Sprinklers

**Weizel Security; SR819-S17 SafeSupport SR Sprinkler**

Weizel Security

800-308-3627

<http://www.securinghospitals.com/>



521a. Fire Extinguisher Cabinet

**Whitehall Manufacturing; Facility Safety Solutions Model Number 1704-F**

Whitehall Manufacturing

P.O. Box 3257

City of Industry, CA 91744

1-800-782-7706

[www.whitehallmfg.com](http://www.whitehallmfg.com)



530a. Toilet fixture – floor mounted, back outlet

**American Standard; Neolo 2531.116 Elongated Flush Valve Bowl, Floor Mounted, Back Outlet, Concealed Back Spud Bowls, integral seat. Similar fixture with holes for moveable seat is Neolo 2530.116**

American Standard

P. O. Box 6820

1 Centennial Way

Piscataway, NJ 08855-6820

1-800-442-1902

[www.americanstandard-us.com/](http://www.americanstandard-us.com/)



531. Toilet fixture, ADA– floor mounted, back outlet

**American Standard; ADA height fixture is Huron Elongated Flush Valve Bowl, Floor Mounted, Back Outlet, Concealed Back Spud Bowls, Model 3341.001 with integral seat or 3342.001 with holes for movable seat**

American Standard

P. O. Box 6820

1 Centennial Way

Piscataway, NJ 08855-6820

1-800-442-1902

[www.americanstandard-us.com/](http://www.americanstandard-us.com/)



533. Solid Surface Toilet Fixture

**Wallgate Products; Solid Surface WCs**

Wallgate Products

44(0)1722-744-594

[www.wallgate.com/products.php?product=wcs](http://www.wallgate.com/products.php?product=wcs)



534a. Stainless steel toilet

***Willoughby Industries ETW-1490 Series***

Willoughby Industries  
5105 WestS78th Street  
Indianapolis, IN 46268  
800-428-4065  
[www.willoughby-ind.com](http://www.willoughby-ind.com)



534b. Toilet Fixture - stainless steel

***Whitehall Manufacturing; Bathroom Solutions Model Number 2142***

Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706  
[www.whitehallmfg.com](http://www.whitehallmfg.com)



536. Bariatric Toilet Fixtures

***Willoughby Healthcare Products; Bariatric Toilet***

Willoughby Healthcare Products  
5105 WestS78th Street  
Indianapolis, IN 46268  
800-428-4065  
[www.willoughby-ind.com](http://www.willoughby-ind.com)



537. Toilet Waste Line Clog Removal Assistant

***Willoughby Healthcare Products; Nallyator***

Willoughby Healthcare Products  
5105 WestS78th Street  
Indianapolis, IN 46268  
800-428-4065  
[www.willoughby-ind.com](http://www.willoughby-ind.com)



538. Wall-hung toilet support

***Big John Products, Inc.; Big John Toilet Support***

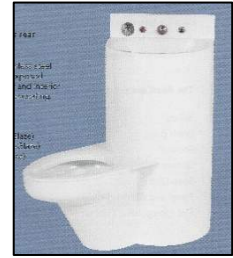
Big John Products, Inc.  
8533 Canoga Avenue, Suite D  
Canoga Park, CA 91304  
1-866-366-0669  
[www.bigjohntoiletseat.com](http://www.bigjohntoiletseat.com)



539a. Toilet – One-Piece

**Whitehall Manufacturing; Bestcare Bathroom Solutions  
Model Number 1440**

Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706  
[www.whitehallmfg.com](http://www.whitehallmfg.com)



539b. Toilet – One Piece

**Bradley Corporation; Comb15500**

Bradley Corporation  
PO. Box 309  
Menomonee Falls, WI 53052  
1-800-BRADLEY  
[www.bradleycorp.com](http://www.bradleycorp.com)



540a. Lavatories

**Bradley Corporation - Model HSL1 SafeCare Ligature  
Resistant Single Station Lavatory now available with  
High Impact Polymer Trap Cover**

Bradley Corporation  
PO. Box 309  
Menomonee Falls, WI 53052  
1-800-BRADLEY  
[www.bradleycorp.com](http://www.bradleycorp.com)



540c. Lavatories

**Intersan Manufacturing Company; Saniwave lavatory with extensions**

Intersan Manufacturing Company  
1748 West Fillmore Street  
Phoenix, AZ 85007  
602-254-3010  
[www.intersanus.com](http://www.intersanus.com)



541a. Vanity top lavatory with two button control

**Norva Plastics – Suicide Prevention Patient Sink Faucet**

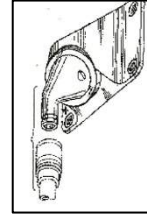
Norva Plastics, Inc  
3911 Killam Ave.  
Norfolk, VA 23508  
800-826-0758  
[www.norvaplastics.com](http://www.norvaplastics.com)



550a. Shower head – institutional

***Odd Ball Industries; SP7 Shower Head with Quick Disconnect Hand Held Shower***

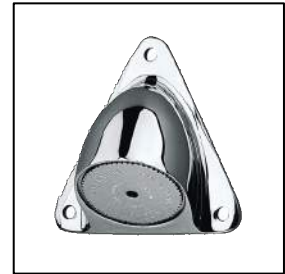
Odd Ball Industries Mfg. Co., Inc.  
P.O. Box 376  
Greenlawn, NY 11740  
1-631-242-8482  
[www.oddballindustries.com](http://www.oddballindustries.com)



550c. Shower head – institutional

***Behavioral Safety Products; Anti-Ligature Shower Head – SH330***

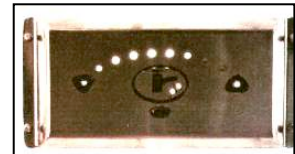
Behavioral Safety Products  
29A N. Main St., Suite 3  
Watkinsville, GA 30677  
706-705-1500  
[www.besafepro.com](http://www.besafepro.com)



551a. Shower Valve - ADA

***Armstrong Hot Water Group; brainwave Model DMV2- Individual Shower with optional stainless steel cover.***

Armstrong Hot Water Group  
221 Armstrong Blvd  
Three Rivers, MI 49093  
269-279-3602  
[www.armstronginternational.com](http://www.armstronginternational.com)



552a. Shower Valve

***Weizel Security; SafeSupport SR Shower Valve***

Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



552c. Shower Valve

***Odd Ball Industries; SP-10 Shower Valve***

Odd Ball Industries Mfg. Co., Inc.  
P.O. Box 376  
Greenlawn, NY 11740  
1-631-754-0400  
[www.oddballindustries.com](http://www.oddballindustries.com)



552f. Shower Control Valve

***Whitehall Manufacturing; ADA Ligature resistant shower valve and trim***

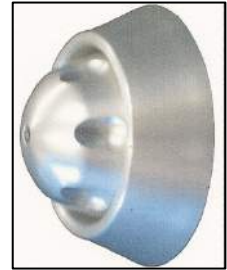
Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706  
[www.whitehallmfg.com](http://www.whitehallmfg.com)



553. Shower Valve Control Handle - retrofit

***Weizel Security; SafeSupport SR Retrofit Shower Knob***

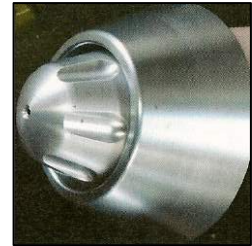
Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



557a. Shower Diverter Valve

***Weizel Security; SafeSupport SR Diverter Valve – 834-SN2***

Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



557b. Shower Diverter Valve

***Odd Ball Industries; SP-10 Shower Diverter Valve***

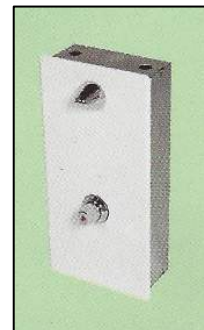
Odd Ball Industries Mfg. Co., Inc.  
P.O. Box 376  
Greenlawn, NY 11740  
1-631-242-8482  
[www.oddballindustries.com](http://www.oddballindustries.com)



560a. Shower Assembly

***Whitehall Manufacturing; Best Care Shower Solutions Model Number 1741-CSH-SRCH***

Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706  
[www.whitehallmfg.com](http://www.whitehallmfg.com)



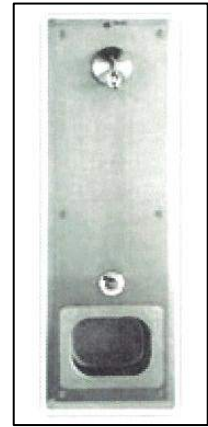
560b. Shower Assembly

**Weizel Security; SR834-S35 Safe Support SR Shower Panel**

Weizel Security

800-308-3627

<http://www.securinghospitals.com/>



563a. Shower Assembly – Handicapped Accessible

**Odd Ball Industries; SP7 Shower Head with Quick Disconnect Hand Held Shower**

Odd Ball Industries Mfg. Co., Inc.

P.O. Box 376

Greenlawn, NY 11740

1-631-754-0400

[www.oddballindustries.com](http://www.oddballindustries.com)



563b. Shower Assembly - Handicapped accessible

**Whitehall Manufacturing; Bestcare Wall Shower Solutions Model Number 1741-FH-CSH-SRCH**

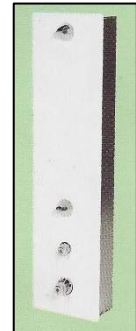
Whitehall Manufacturing

P.O. Box 3257

City of Industry, CA 91744

1-800-782-7706

[www.whitehallmfg.com](http://www.whitehallmfg.com)



563a. Shower Assembly – recessed hand-held

**Acorn Engineering; Model M0418-E508 in locking box**

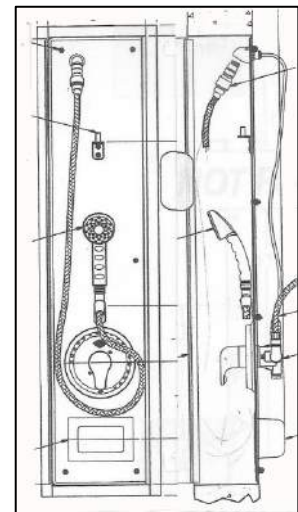
Acorn Engineering

P.O. Box 3527

City of Industry, CA 91744

1-800-782-7706

<http://www.acorneng.com>

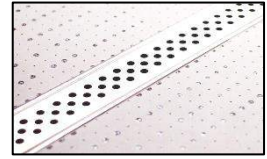


564a. Shower trench drain

**Quick Drain USA; Proline Drain with “Dots” cover**

Quick Drain USA  
101 Main Street #206  
Frisco, CO 80443  
866-998-6685

<http://www.quickdrain.com/>

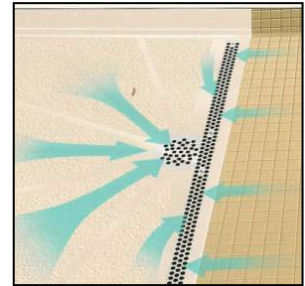


565a. Shower floor basin

**Watermark;**

Watermark  
2969 armory Drive, Suite 400  
Nashville, TN 37204  
615-291-6111

<http://www.watermarksolidsurface.com/product-category/all-shower-systems/5>



565b. Shower floor basin

**Willoughby Healthcare Products,  
Aqusurf Solid Surface Shower  
Bases**

Willoughby Healthcare Products  
5105 West 78th Street  
Indianapolis, IN 46268  
800-428-4065

[www.willoughby-ind.com](http://www.willoughby-ind.com)



566. One Piece Patient Toilet Room Floor

**Best Bath Systems; UniFloor**

Best Bath Systems  
4545 Enterprise Street  
Boise, ID 83705  
800-727-9970

[www.best-bath.com](http://www.best-bath.com)



568. Pre-Built Bathrooms

**Eggrock Pre-Built Bathrooms**

Eggrock, LLC  
265 Foster Street  
Littleton, MA 01460  
978-952-8800

[www.eggrock.com](http://www.eggrock.com)



570a. Lavatory Faucet

**Norva Plastics – Suicide Prevention Patient Sink Faucet**

Norva Plastics, Inc  
3911 Killam Ave.  
Norfolk, VA 23508  
800-826-0758

[www.norvaplastics.com](http://www.norvaplastics.com)

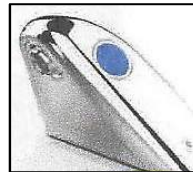


570c. Lavatory Faucet

**Behavioral Safety Products – SF370**

Behavioral Safety Products  
29A N. Main St., Suite 3  
Watkinsville, GA 30677  
706-705-1500

[www.besafepro.com](http://www.besafepro.com)



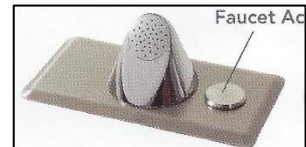
570d. Lavatory Faucet

**Whitehall Manufacturing; Bestcare Basin Solutions**

**Model Number 3374-PPZ**

Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706

[www.whitehallmfg.com](http://www.whitehallmfg.com)



574. Lavatory Countertop Valve

**Odd Ball Industries; SP11 Lavatory Faucet Valve**

Odd Ball Industries Mfg. Co., Inc.  
P.O. Box 376  
Greenlawn, NY 11740  
1-631-754-0400

[www.oddballindustries.com](http://www.oddballindustries.com)



580. Recessed flush valve

**Sloan Valve Company Royal 611 & WB-1-A Easy Access Wall Box**

Sloan Valve Company  
10500 Seymour Avenue  
Franklin Park, IL 60131-1259  
1-800-9-VALVE-9

<http://www.sloanvalve.com>



537. Toilet Waste Line Clog Removal Assistant

**Willoughby Healthcare Products; Nallyator**

Willoughby Healthcare Products  
800-428-4065

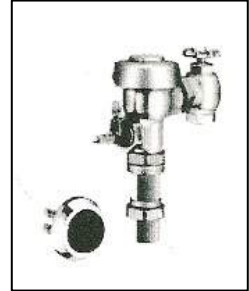
[www.willoughby-ind.com](http://www.willoughby-ind.com)



581a. Recessed flush valve

***Sloan Valve Company Regal XL Hydraulic Concealed  
Flushometer & WB-1-A Easy Access Wall Box***

Sloan Valve Company  
10500 Seymour Avenue  
Franklin Park, IL 60131-1259  
1-800-9-VALVE-9  
[www.sloanvalve.com](http://www.sloanvalve.com)



581b. Recessed flush valve

***Zurn Plumbing Products; 3" Push Button Assembly for Concealed Flush Valves-  
P6000-NL3***

Zurn Plumbing Products  
5900 Elwin Buchanan Drive  
Sanford, NC 27330-9525  
(919) 775-2255  
[www.zurn.com](http://www.zurn.com)

585a. Flush valve cover

***Bradley Corporation – Model No. HSC79 SafeCare Ligature  
Resistant Flush Valve with Cover***

Bradley Corporation  
P. O. Box 309  
Menomonee Falls, WI 53052  
800 BRADLEY  
[www.bradleycorp.com](http://www.bradleycorp.com)



585b. Flush Valve Cover

***Behavioral Safety Products – FV500 (2 piece) & FV600 (1  
piece)***

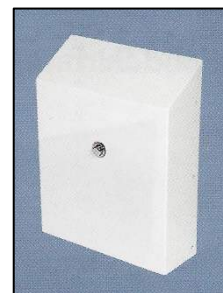
Behavioral Safety Products  
29A N. Main St., Suite 3  
Watkinsville, GA 30677  
706-705-1500  
[www.besafepro.com](http://www.besafepro.com)



585d. Flush Valve Cover

***Whitehall Manufacturing; Bestcare Bathroom Solutions  
Model Number 2802***

Whitehall Manufacturing  
P.O. Box 3257  
City of Industry, CA 91744  
1-800-782-7706  
[www.whitehallmfg.com](http://www.whitehallmfg.com)

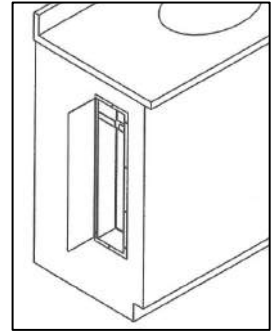
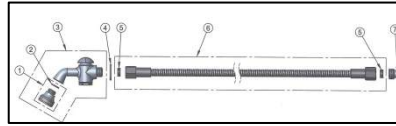


588. Recessed bed pan washer

***Willoughby Healthcare Products, Recessed Bed Pan Washer***

Willoughby Healthcare Products  
5105 West 78th Street  
Indianapolis, IN 46268  
800-428-4065

[www.willoughby-ind.com](http://www.willoughby-ind.com)



590a. Medical gas covers

***Hospital Systems, Inc. – PTC Series Security Patient Console***

Hospital Systems, Inc.  
750 Garcia Avenue  
Pittsburg, CA 94565  
925.427.7800

[www.HospitalSystems.com](http://www.HospitalSystems.com)



590b. Medical gas covers

***Modular Services Company Security Console***

Modular Services Company  
500 East Britton Road  
Oklahoma City, OK 73114  
800-687-0938

[www.headwalls.com](http://www.headwalls.com)



590c. Medical gas covers

***Modular Services Company Security Headwalls w/ 3/8" polycarbonate locked cover bottom hinge***

Modular Services Company  
500 East Britton Road  
Oklahoma City, OK 73114  
800-687-0938

<http://www.modularservices.com/products-services/products-type/secure>



600a. Air grilles

***Carnes; Stamped, Perforated Diffuser; see catalog D-22***

Carnes Company  
448 South Main Street  
Verona, WI 53593  
608-845-6411

[www.carnes.com](http://www.carnes.com)



600b. Air Grilles

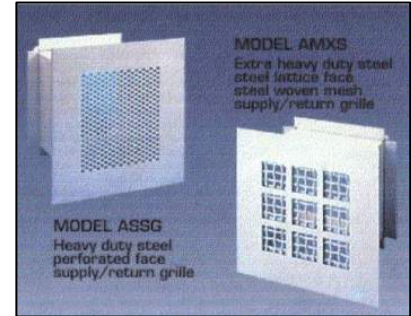
**Kees Incorporated - SEG-4P3 Security Grille**

Kees Incorporated  
400 S. Industrial Drive  
Elkhart Lake, WI 53020  
920-876-3391  
[www.kees.com](http://www.kees.com)

602a. Air Grilles

**Anemostat Products Model SSV42, SSV49 and SSV432 – Supply/Return Grille, Heavy Duty with "S" Channel Design**

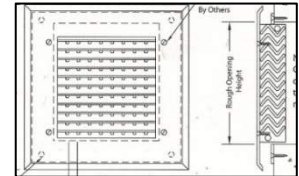
Anemostat Products  
P.O. Box 4938  
1220 Watson Center Road  
Carson, CA. 90745  
1-310-835-7500  
[www.anemostat.com](http://www.anemostat.com)



602b. Air Grille

**Weizel Security; SR814-R17 SS-Vent High Security Grille**

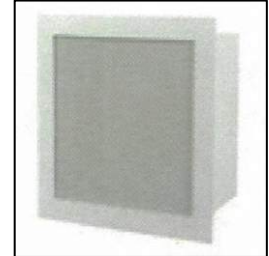
Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



604. Air Grille – Max Security

**Titus; "SD SG" Maximum Security Suicide Deterrent Grille, steel with 3/16" holes**

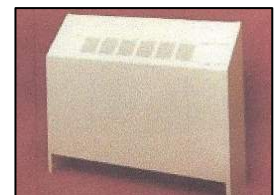
Titus  
605 Shiloh Road  
Plano, TX 75074  
972-212-4800  
[www.titus-hvac.com](http://www.titus-hvac.com)



606. Fan Coil Enclosures

**Arsco; Fan Coil Enclosures / Covers - Security**

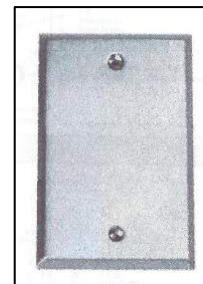
ARSCO Manufacturing Company  
5313 Robert Avenue  
Cincinnati, OH 45248  
800-543-7040  
<http://www.arscomfg.com/>



607. Thermostat – tamper resistant

**Kele, Inc.; KTP Series - Stainless Steel Flush-Mount Thermistor or KTP Series**

Kele, Inc.  
3300 Brother Blvd.  
Bartlett, TN 38133  
888-397-5353  
<http://www.kele.com/home.aspx>



610a. Hospital grade receptacles

***Hubbell Incorporated; Hospital Grade GFCI Receptacles***

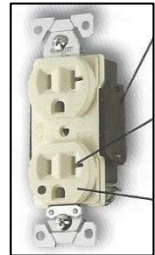
Hubbell Incorporated  
Wiring Device-Kellems  
185 Plains Road  
Milford, CT 06461  
800-255-1031  
[www.hubbell-wiring.com](http://www.hubbell-wiring.com)



610b. Hospital grade receptacles

***Cooper Industries LTD.; Hospital Grade GFCI Receptacles***

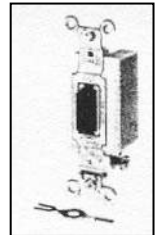
Cooper Industries LTD.  
600 Travis, STE. 5600  
Houston, TX 77002 1001  
713-209-8400  
[www.cooperindustries.com](http://www.cooperindustries.com)



611. Key-operated electric switches

***Hubbell Locking Type Switch #5Z724***

Hubbell, Inc.  
584 Derby Milford Road  
Orange, CT  
[www.hubbell.com](http://www.hubbell.com)



612a. Electrical Device Covers - Polycarbonate

***AZ Partsmaster; lexan wall plates***

AZ Partsmaster - Corporate Headquarters  
15 N. 57th Drive  
Phoenix, AZ 85043  
(602) 233-3580  
<http://www.azpartsmaster.com/>

612b. Polycarbonate electrical cover plates

***Mulberry; Unbreakable Endura Molded of Lexan Resin***

Mulberry  
2199 Stanley Terrace  
Union, NJ 07083  
201-688-8850  
<http://www.mulberrymetal.com/>

612c. Polycarbonate electrical coverplates

***Cortech, Correctional Technologies, Inc.; Tiger Security Wall Plates***

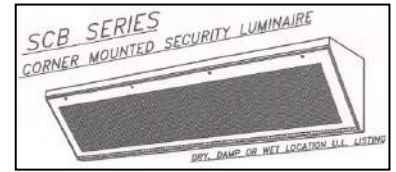
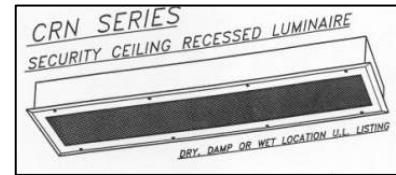
Cortech  
7501 Quincy  
Willowbrook, IL 60527  
800-571-0700  
[www.cortechusa.com](http://www.cortechusa.com)



620a. Light fixture

**The L. C. Doane Company; CRN Series with polycarbonate external lens TP door fasteners**

The L.C. Doane Company  
P.O. Box 975  
Essex, CT. 06426  
1-860-767-8295  
[www.lcdoane.com](http://www.lcdoane.com)



620b. Light fixture

**Cooper Lighting; Fail Safe SGI with Flat Polycarbonate Lens**

Cooper Lighting  
1121 Highway 74 South  
Peachtree City, GA 30269  
770-486-4800  
[www.cooperindustries.com](http://www.cooperindustries.com)



620c. Light Fixture

**Weizel Security; SR818-R13 Recessed Security Lighting with polycarbonate lens**

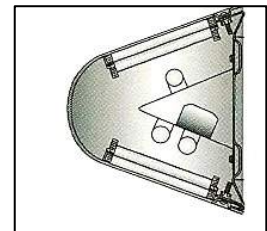
Weizel Security  
800-308-3627  
<http://www.securingshospitals.com/>



620d. Wall Mounted Light Fixture – vandal-resistant

**Kenall – Mighty Mac; WCBU Bull Nose Series**

Kenall Manufacturing  
1020 Lakeside Drive,  
Gurnee, IL 60031  
847.360.8200  
[www.kenall.com](http://www.kenall.com)



620e. Wall Mounted Light Fixture – vandal-resistant

**Designplan – RDL/RHL Security downlights**

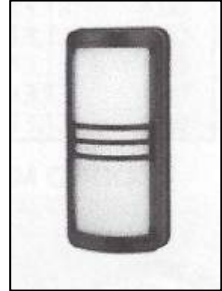
Designplan  
79 Trenton Avenue  
Frenchtown, NJ 08825  
908-996-7710  
[www.designplan.com](http://www.designplan.com)



620f. Wall Mounted Light Fixture – vandal-resistant

***Luminaire Lighting Corporation – Sonar 12 Vandal Resistant decorative wall fixture***

Luminaire Lighting Corporation  
7 Olsen Avenue  
P. O. Box 2104  
Edison, NJ 08818  
732-549-0056  
[www.luminairelighting.com](http://www.luminairelighting.com)



620g. Wall-Mounted Light Fixture – vandal-resistant

***Luminaire Lighting Corporation – Anyx ARV13 Vandal Resistant round wall/ceiling fixture***

Luminaire Lighting Corporation  
7 Olsen Avenue  
P. O. Box 2104  
Edison, NJ 08818  
732-549-0056  
[www.luminairelighting.com](http://www.luminairelighting.com)



624. Polycarbonate prismatic lens

***The L. C. Doane Company; CRN Series with polycarbonate prismatic lens***

The L.C. Doane Company  
P.O. Box 975  
Essex, CT. 06426  
1-860-767-8295  
[www.lcdoane.com](http://www.lcdoane.com)

630. Downlight Cover

***Re\*cesso Lights***

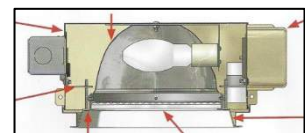
Re\*cesso Lights  
13501 100<sup>th</sup> Avenue NE, #524  
Kirkland, WA 98034  
877-357-6127  
<http://recessolighting.com/>



637. Exterior Lighting

***Kirlin Exterior Vandal Resistant Lighting***

The Kirlin Company  
3401 East Jefferson Avenue  
Detroit, MI 48207  
313-259-6400  
<http://www.kirlinlighting.com/>

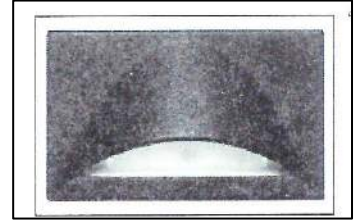


639. Night Light

**Chloride Systems; PathMaster LED; PH1SBK**

Chloride Systems  
272 West Stag Park Service Road  
Burgaw, NC 28425  
910-259-1000

<http://www.chloridesys.com/chloride/>



640a. Exit Signs, LED – vandal resistant

**Chloride Systems; SC Series Cast Aluminum LED with vandal resistant lens and tamper proof hardware**

Chloride Systems  
272 W. Stag Park Service Road  
Burgaw, NC 28425  
910-259-1000

[www.lightingproducts.philips.com](http://www.lightingproducts.philips.com)

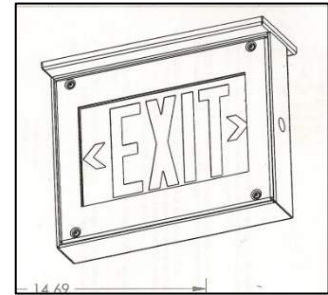


640b. Exit signs, lighted – vandal-resistant

**Kenall – Mighty Mac; MMEX Series with full length mounting canopy**

Kenall Manufacturing  
1020 Lakeside Drive,  
Gurnee, IL 60031  
847.360.8200

[www.kenall.com](http://www.kenall.com)



642. Exit signs - photoluminescent

**Access Products Inc.; Photoluminescent Exit Sign, Model EX424246-100G**

Access Products Inc.  
241 Main Street, Suite 100  
Buffalo, NY 14203  
888-679-4022

<http://www.us.ecoglo.com/>

650a. Wireless Duress Alarm

**Pinpoint, Inc.; Instant Alarm 5000**

Pinpoint, Inc.  
2100 Southbridge Parkway, Suite 650  
Birmingham, AL 35209  
205-414-7541

<http://www.pinpointinc.com/>

650f. Wireless Duress Alarm

**Vocera; B3000 Communication Badge**

Vocera  
525 Race Street  
San Jose, CA 95126  
800-331-6359

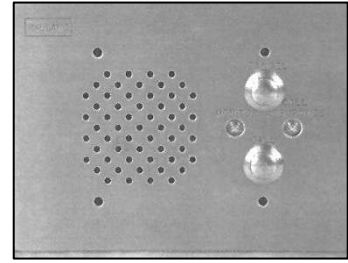
[www.vocera.com](http://www.vocera.com)



653. Nurse Call System – Vandal Resistant

**Rauland – Borg Corp; Responder Health Care Communications System Model HSS401 – High Security Staff Duty Station**

3450 West Oakton Street  
Skokie, IL 60076  
847-679-0900  
[www.rauland.com](http://www.rauland.com)



655a. Stainless Steel Wall Phones

**Allen Tel Products, Inc.; Model GB306V-14 (with key pad)**

Allen Tel Products, Inc.  
30 TVS Drive  
Henderson, NV 89014  
702-855-5700  
[www.allentel.com](http://www.allentel.com)



655b. Stainless Steel Wall Phones

**TWAcomm.com; Ceeco Stainless Steel Wall Phone Model #SW-321-X**

TWAcomm.com  
Oceanview Promenade  
101 Main Street, 3<sup>rd</sup> Floor  
Huntington Beach, CA 92648  
1-877-892-2666  
[www.twacomm.com](http://www.twacomm.com)



655c. Stainless Steel Wall Phones

**G-Tel Enterprises; CS400 Armored Courtesy Phone**

G-Tel Enterprises  
16840 Clay Road  
Houston, TX 77084  
800-884-4835  
<http://www.payphone.com/>



660. Outdoor furniture

**Norix; Hilltop Outdoor Furniture**

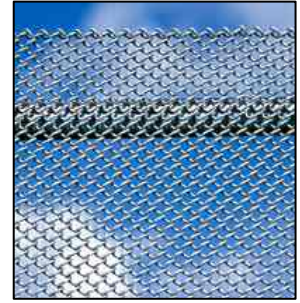
Norix Group, Inc.  
1000 Atlantic Drive  
West Chicago, IL 60185  
1-800-234-4900  
[www.norix.com](http://www.norix.com)



675a. Security Fencing

***Fence Factory; Miniature Mesh***

Fence Factory  
1606 Los Angeles Ave.  
Ventura, CA 93004  
1-800-613-3623  
[www.fencefactory.com](http://www.fencefactory.com)



675b. Security Fencing

***Riverdale Mills, Wire Wall High Security Fencing - Maximum Security***

Riverdale Mills  
130 Riverdale Street; PO Box 200  
Northbridge, MA 01534  
1-800-762-6374  
[www.wirewall.com](http://www.wirewall.com)



675c. Security Fencing

***Metalco Fence and Railing Systems – Steel Fence Systems***

Metalco Fence and Railing Systems  
586 Territorial Drive  
Bolingbrook, IL 60440  
800-708-2526  
<http://www.fence-system.com/>



675d. Security Fencing

***Britplas - Safevent Fencing***

Britplas  
Unit 18 Kingsland Grange  
Woolston  
Warrington  
WA1 4RW  
+44-1925-824317  
[www.britplas.com](http://www.britplas.com)



## ABOUT THE AUTHORS

**James M. Hunt, AIA, NCARB**, is a practicing architect and facility management professional with over 40 years of experience. He is a registered Architect, holds a certificate from the National Council of Architectural Registration, and began his career practicing architecture for several major health care projects. He then served as director of facilities management for the Menninger Clinic for 20 years. In addition to managing their main campus, he also consulted on behavioral health care unit remodeling projects for their Clinical Network program, which involved work in eight states including both coasts and the Midwest. During this time he was a founding member of the Health Care Council of the International Facility Management Association. He held several offices in the council, including chair. He was featured in a cover story of *Facility Design and Management* magazine and continues to publish articles and speak at major conferences. He is president of Behavioral Health Facility Consulting, LLC. (BHFC), an organization that has worked with behavioral health facilities and their designers in 26 states and Canada on improving patient and staff safety. He is also a principal and co-founder of Behavioral Healthcare Architecture Group which has offices in Topeka and New York. This firm specializes in creating healing environments for psychiatric and addiction facilities. He can be reached at 2342 SE Alamar Rd., Topeka, KS 66605 or [jim@bhfc LLC.com](mailto:jim@bhfc LLC.com).

**David M. Sine, DrBE, CSP, ARM, CPHRM**, has had over a 25-year career in safety, risk management, human factors, and organizational consulting. He has been the state Safety Director of two eastern states, the Senior Staff Engineer for The Joint Commission, and a Senior Consultant for the American Hospital Association. Founding partner and one time contributing editor for *Briefings on Hospital Safety*, co-author of *Quality Improvement Techniques for Hospital Safety*, one time Vice Chair of the board of Brackenridge Hospital in Austin, Texas, Mr. Sine is certified by the Joint Board of the American Board of Industrial Hygiene and Certified Safety Professionals and as a Certified Professional Healthcare Risk Manager by ASHRM. He has been a health care risk management consultant since 1980 and has conducted more than 1,300 Joint Commission compliance assessment surveys. He serves as a member of the NFPA 101 Life Safety Code Subcommittee on Health Care Occupancies, The Joint Commission Committee on Healthcare Safety, and acts as a risk management advisor to the National Association of Psychiatric Health Systems. Mr. Sine served in the corporate offices of the Tenet HealthSystem in Dallas as Director of Risk Assessment and Loss Prevention and Vice President of Occupational Health and Safety. Mr. Sine continues to write and lecture extensively on health care policy, governance, quality improvement, and risk management as President of SafetyLogic Systems in Austin, TX. He can be reached at [dsine9@gmail.com](mailto:dsine9@gmail.com).

## ABOUT FGI

The Facility Guidelines Institute is a not-for-profit corporation founded in 1998 to provide leadership and continuity to the *Guidelines* revision process. FGI functions as the coordinating entity for development of the *Guidelines* series of documents using a multidisciplinary, consensus-based process and for provision of ancillary services that encourage and improve their application and use. FGI invests revenue from sales of the *Guidelines* documents to fund the activities of the next revision cycle and research that can inform the *Guidelines* development process. For more information, visit [www.fgiguideines.org](http://www.fgiguideines.org) or contact the Facility Guidelines Institute at [info@fgiguideines.org](mailto:info@fgiguideines.org).

## DEFINITIONS / RESOURCES

***Americans with Disabilities Act (ADA).*** The *Americans with Disabilities Act* gives civil rights protections to individuals with disabilities similar to those provided to individuals on the basis of race, color, sex, national origin, age, and religion. It guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications. See [www.ada.gov/](http://www.ada.gov/).

***Guidelines for Design and Construction of Hospitals and Outpatient Facilities – 2014 edition.*** This book, published by the Facility Guidelines Institute, includes chapters on psychiatric hospitals and outpatient psychiatric centers. For information on purchasing the FGI *Guidelines*, visit: <http://fgiguideines.org/fgistore.php>

***Health Insurance Portability and Accountability Act of 1996 (HIPAA).*** The Office for Civil Rights within the U.S. Department of Health and Human Services (HHS) enforces the HIPAA Privacy Rule, which protects the privacy of individually identifiable health information; the HIPAA Security Rule, which sets national standards for the security of electronic protected health information; and the confidentiality provisions of the Patient Safety Rule, which protect identifiable information being used to analyze patient safety events and improve patient safety. See <http://www.hhs.gov/ocr/privacy/>.

**The Joint Commission.** See [www.jointcommission.org](http://www.jointcommission.org) for their standards.

**National Fire Protection Association (NFPA).** Publishes NFPA 101: *Life Safety Code*®, 2012 edition, which is available at [http://www.nfpa.org/catalog/product.asp?pid=10109&order\\_src=A291](http://www.nfpa.org/catalog/product.asp?pid=10109&order_src=A291). For more on NFPA or links to new publications, see [www.NFPA.org](http://www.NFPA.org).

**National Institute of Corrections.** See <http://www.nicic.org/>.

## LIST OF MANUFACTURERS

Access Products, <http://www.us.ecoglo.com/>  
Accurate, [www accuratelockandhardware.com](http://www accuratelockandhardware.com)  
Ace Security, [www.smashandgrab.com](http://www.smashandgrab.com)  
Allen Tel Products, [www.allentel.com](http://www.allentel.com)  
Alro Plastics, <http://www.myAlro.com>  
American Innovation, <http://www.americaninnovationproducts.com/>  
American Spec, <http://www.americanspecialties.com/>  
American Standard, [www.americanstandard-us.com/](http://www.americanstandard-us.com/)  
Anemostat, <http://www.anemostat-hvac.com>  
Archer Manufacturing, <http://www.vandalproof.org/>  
Armstrong Flooring, <http://www.armstrong.com>  
Armstrong Hot Water Group, <http://armstronginternational.com>  
Arsco, <http://www.arscomfg.com/>  
Avonite, <http://www.avonitesurfaces.com>  
AZ Partsmaster, <http://www.azpartsmaster.com/>  
Behavioral Safety Products, [www.besafepro.com](http://www.besafepro.com)  
Best Access Systems, [www.bestaccess.com/media/catalogs/BehavioralHealthcare.pdf](http://www.bestaccess.com/media/catalogs/BehavioralHealthcare.pdf)  
Best Bath, [www.best-bath.com](http://www.best-bath.com)  
Big John, [www.bigjohn toiletseat.com](http://www.bigjohn toiletseat.com)  
Blockhouse, <http://www.blockhouse.com/>  
Bradley, <http://www.bradleycorp.com>  
Brey-Krause, [www.breykrause.com](http://www.breykrause.com)  
Britplas, [www.britplas.com](http://www.britplas.com)  
Carnes, [www.carnes.com](http://www.carnes.com)  
Cascade, <http://www.cascadesh.com/>  
Ceco, <http://www.cecodoor.com>  
CHG, [www.chgbeds.com](http://www.chgbeds.com)  
Chloride, <http://www.chloridesys.com/chloride/>  
CompX, [www.compx.com](http://www.compx.com)  
Cooper, [www.cooperindustries.com](http://www.cooperindustries.com)  
Cortech, [www.cortechusa.com](http://www.cortechusa.com)  
Crane, <http://www.cranepumbing.com>  
CS Acrovyn, <http://www.c-sgroup.com/>  
Curries, <http://www.curries.com>  
Custom Design Frameworks, <http://www.customdesignframeworks.com>  
Dano group, <http://www.danogroup.com>  
Derby, <http://www.derbyindustries.com/>  
Designplan, [www.designplan.com](http://www.designplan.com)  
Dex-O-Tex, <http://www.dexotex.com>  
DHSI, <http://www.dhsi-seal.com>  
Door Control Services, [http://www.doorcontrolsusa.com/pages/suicide-door alarm](http://www.doorcontrolsusa.com/pages/suicide-door%20alarm)  
Door Switch, <http://thedoorswitch.com/>  
Draper, Inc., [www.draperinc.com](http://www.draperinc.com)  
Dur-A-Flex, <http://www.dur-a-flex.com>  
DynaLock Corp, <http://www.dynalock.com>  
Eggrock, [www.eggrock.com](http://www.eggrock.com)  
Eljer, <http://www.eljer.com/>

Fence Factory, <http://www.fencefactory.com>  
 Flexco, <http://www.flexcofloors.com/>  
 Flxsigns, [www.290signs.com](http://www.290signs.com)  
 Global, [www.security-glazing.com](http://www.security-glazing.com)  
 G-Tel, <http://www.payphone.com/>  
 Hafele, <http://www.hafele.com/us/index.htm>  
 Hager, <http://www.hagerco.com/Product-Listing.aspx?CatID=152&SubCatID=189>  
 Hill-Rom Harbor Glen, [www.hill-rom.com](http://www.hill-rom.com)  
 Hospital Systems Inc., [www.HospitalSystems.com](http://www.HospitalSystems.com)  
 Hubbell, [www.hubbell-wiring.com](http://www.hubbell-wiring.com)  
 IE; Blinds, [www.ieblinds.com](http://www.ieblinds.com)  
 Intersan, [www.intersanus.com](http://www.intersanus.com)  
 Ives, <http://us.allegion.com>  
 J. L. Industries, <http://www.jlindustries.com>  
 Johnsonite, <http://www.roppe.com>  
 Kane Mfg., <http://www.kanescreens.com/>  
 Kees, [www.kees.com](http://www.kees.com)  
 Kele, Inc., <http://www.kele.com/home.aspx>  
 Kenall, [www.kenall.com](http://www.kenall.com)  
 Kennon Products, <http://www.suicideproofing.com/>  
 Kirlin, [www.kirlinlighting.com](http://www.kirlinlighting.com)  
 L. C. Doane, <http://www.lcdoane.com>  
 LCN, <http://us.allegion.com/brands/lcn/Pages/default.aspx>  
 Lees Carpet, <http://www.leescarpets.com>  
 Lonseal, <http://lonseal.com>  
 Luminaire, [www.luminairelighting.com](http://www.luminairelighting.com)  
 Manko Windows, [www.mankowindows.com](http://www.mankowindows.com)  
 Marathon, <http://www.flexcofloors.com/>  
 McMaster-Carr, <http://www.mcmaster.com>  
 Metalco, <http://www.fence-system.com/>  
 Moduform, [www.mycorrectionalfurniture.com](http://www.mycorrectionalfurniture.com)  
 Modular Services, <http://headwalls.com>  
 Mulberry, <http://www.mulberrymetal.com/>  
 National Gypsum, <http://www.nationalgypsum.com>  
 Nemschoff, <http://www.nemschoff.com/>  
 Norix, <http://www.norix.com>  
 Northwest Specialty Hdw. <http://www.northwestsh.com/>  
 Norva Plastics, [www.norvaplastics.com](http://www.norvaplastics.com)  
 NPW USA, [www.npw-usa.com](http://www.npw-usa.com)  
 Odd Ball, <http://www.oddballindustries.com>  
 Oldcastle, [www.oldcastlebe.com](http://www.oldcastlebe.com)  
 Pabco Gypsum, [www.quietrock.com](http://www.quietrock.com)  
 Padded Surfaces, <http://paddedsurfaces.com/CAD.html>  
 Pecora, [www.pecora.com](http://www.pecora.com)  
 Pemko, <http://www.pemko.com/>  
 Pinpoint, <http://www.pinpointinc.com/>  
 Re\*cesso Lights, <http://recessolighting.com/>  
 Riverdale Mills, <http://www.wirewall.com>  
 Rockwood, [www.rockwoodmfg.com](http://www.rockwoodmfg.com)

Roppe, <http://www.roppe.com>  
 Sabic, [www.sabic.com](http://www.sabic.com)  
 Saniflow, <http://www.saniflo.com/>  
 Sani-liner, <http://www.wisconsinconverting.com>  
 Sargent Lock, [www.sargentlock.com](http://www.sargentlock.com)  
 Schlage, <http://us.allegion.com/IRSTDocs/Brochure/106510.pdf>  
 Scotchshield, <http://solutions.3m.com/>  
 Securitech, <http://www.securitech.com>  
 Sheffield, [www.sheffieldplastics.com](http://www.sheffieldplastics.com)  
 Sizewise, <http://www.sizewise.net>  
 Sloan, <http://www.sloanvalve.com>  
 Spec, <http://www.specfurniture.com/>  
 Stanley Hdw., [www.stanleyworks.com](http://www.stanleyworks.com)  
 Stanley Security, <http://www.stanleysecuritysolutions.com>  
 Sto-ex, <http://www.sto-ex.com>  
 Stryker, <https://www.stryker.com/en-us/products/PatientHandlingEMSandEvacuationEquipment/index.htm>  
 Sugatsune, <http://www.sugatsune.com/>  
 Surebond, [www.surebond.com](http://www.surebond.com)  
 Tamperproof Screws, <http://www.tamperproof.com>  
 This End Up, [www.thisendup.com](http://www.thisendup.com)  
 3M, [http://solutions.3m.com/wps/portal/3M/en\\_US/Window\\_Film/Solutions/?WT.mc\\_id=www.3m.com/windowfilm](http://solutions.3m.com/wps/portal/3M/en_US/Window_Film/Solutions/?WT.mc_id=www.3m.com/windowfilm)  
 Titus, [www.titus-hvac.com](http://www.titus-hvac.com)  
 Total Door, [www.total-door.com](http://www.total-door.com)  
 Total Lock and Security, [www.totallock.com](http://www.totallock.com)  
 Townsteel, <http://www.townsteel.com/>  
 Truebro, <http://www.truebro.com/plumbing/truebro/lavshield>  
 Truth Hdw., <http://www.truth.com>  
 TWA Comm., <http://www.twacomm.com>  
 2/90 Sign Systems, [www.290signs.com](http://www.290signs.com)  
 Tyco, [http://www.tyco-fire.com/index.php?P=show&id=TFP651\\_08\\_2013&B=&BK=product&SB=S6](http://www.tyco-fire.com/index.php?P=show&id=TFP651_08_2013&B=&BK=product&SB=S6)  
 Unichel, <http://www.unicelarchitectural.com/en/index.php>  
 USG Sheetrock, <http://www.usg.com/content/usgcom/en.html>  
 Versus, <http://www.versustech.com/>  
 Vistamatic, <http://www.vistamaticvisionpanels.com/>  
 Wallgate, [www.wallgate.com/products.php?product=wcs](http://www.wallgate.com/products.php?product=wcs)  
 Watermark, <http://www.watermarksolidsurface.com/product-category/all-shower-systems/5>  
 Wausau Windows, [www.wausauwindow.com](http://www.wausauwindow.com)  
 Webb Shade, [www.webbshade.com](http://www.webbshade.com)  
 Weizel Security, <http://www.securingshospitals.com/>  
 Whitehall, [www.whitehallmfg.com](http://www.whitehallmfg.com)  
 Willoughby, <http://www.willoughby-ind.com>  
 Zurn, [www.zurn.com](http://www.zurn.com)