

READ ENTIRE GUIDELINE BEFORE YOU BEGIN INSTALLATION OF SMARTCELLS FOR USE AS AN UNDERLAYMENT TO VINYL OR CARPET

This guide supplies information as a customer service, and is based on SATECH's engineering tests and field experiences. It is intended for installers with professional experience to be used at their discretion and risks. SATECH, Inc. does not guarantee results, and assumes no liability in connection with these installation instructions.

Prior to beginning, make certain you have received all of the items ordered.

SmartCells is a compliant flooring that is designed to compress under pressure.

- SmartCells is NOT designed to support heavy points loads or rolling loads -
- SmartCells is NOT designed to support cabinetry or millwork

CAUTION: Moving heavy rolling loads, greater than 30 pounds per wheel on a 1" wide x 4" diameter wheel or smaller, may damage the SmartCells flooring and void the warranty.

DISCLAIMER: The information and recommendations contained herein are offered as a service to our customers and are not intended to relieve the user from responsibility. The information and recommendations provided are believed by SATECH to be accurate at the time of preparation, or obtained by sources believed to be reliable. SATECH makes no warranty concerning their accuracy, and will not be liable for claims relating to any use regardless of whether it is claimed that the information or recommendations are inaccurate, incomplete or otherwise misleading.

THINGS TO KNOW REGARDING SMARTCELLS FLOORING

- SmartCells flooring tiles are not recommended for use on stairs
- SmartCells flooring tiles are not recommended to go over existing carpeted surfaces or carpet padding.
- SATECH, Inc. recommends chair pads under ALL rolling chairs being used on the SmartCells flooring. If chair mats are not used, damage to the SmartCells pad may occur. Damage from chairs and other furniture is not covered under the SmartCells Limited Warranty.
- When the SmartCells flooring has been under continual point load pressure for extended periods of time, a divot may occur, and the flooring may not return to its original dimension or appearance. SATECH, Inc. recommends chair mats and load spreaders for all static loads on SmartCells flooring.
- SATECH, Inc. cannot accept returns of previously installed materials.
- Failure to follow these instructions may result in the voiding of warranty

For additional information or details, please visit our website at:
www.smartcellsusa.com, or call Toll Free 888 728-3241

SmartCells® LIMITED Warranty

SATECH warrants to the original purchaser that new SATECH products will be free from defects in material under normal use, for the warranty period of 8 years. If SmartCells products are to be used as an underlayment with a carpet or vinyl covering, SATECH will match the carpet or vinyl manufacturer's warranty if greater than 8 years.

Warranty period begins on installation date and must be registered within 90 days of this date.

REFERENCE GUIDE:

SmartCells Tiles -

36" x 36" x 1" (per sq ft) - EPDM SmartCells rubber tiles to be used under sheet vinyl or carpet tiles (approximate weight: 27 lbs per tile)

Reducers -

18" reducer (per ln ft) is used to reduce 1" to 0" under floor covering; reduces 1" SmartCells height to 1/16" over 18" (consists of a wedge with two layers)

12" reducer (per ln ft) is used to reduce 1" to 0" under floor covering; reduces 1" SmartCells height to 1/16" over 12" (consists of a wedge with two layers)

Stiffeners -

A Stiffener insert is used under 1" SmartCells is used to provide a more rigid zone by preventing the buckling of the cells. Stiffeners are 6"x6" and may be cut in half for a 3" x 6" piece. Placed under the SmartCells tiles at the location where SmartCells flooring tiles abutt rigid transitions or adjacent rigid flooring areas, to provide a gradual load transition from a rigid surface to SmartCells full cushioning.

Tape PVC 3 -

3 inch wide by 108 foot long smooth PVC tape to be placed over SmartCell tile seams to adhere adjacent tiles together prior to applying adhesive for vinyl or carpet covering; each roll covers the seams of 162 square foot area of SmartCells tiles.

SIGtape -

39.4 inches wide or 19.7 inches wide rolls - Double-sided adhesive sheet (262 or 131 sq ft per roll). Placed over SmartCells flooring to adhere sheet vinyl to SmartCells tiles (may be used for carpet tiles if PSA liquid adhesive is not available).

LOCTITE 4902 -

For applications of adhering adjoining tiles together instead of PVC3; use a continuous bead along the tiles side edge or spot glue every few inches. (20 gram bottle typically used for 100 sq ft of flooring).

Tape DB -

Double-sided adhesive tape (2" x 75 ft) - Use to tape under reducers and transitions to existing floor surfaces and to put a double row under the perimeter of all SmartCells flooring applications. Use at least two strips of tape under transitions, to adhere transitions to the existing floor at points of entrance and egress. Also use to adhere together various layers of transition or reducer ramps to build the wedge up to the desired height.

Contractors Checklist

For the most current installation details visit: www.smartcellsusa.com

- Check local building code requirements and standards
- Confirm intended use for product
- Follow all safety precautions
- Use gloves and safety glasses
- Use extreme caution with cutting tools
- Follow the instructions printed on this installation guide
- Doors may need to be removed and trimmed to adjust clearance height over SmartCells flooring. (If the door is unable to be trimmed, contact SATECH for a transition recommendation to enable the door to swing inwards without interfering with the SmartCells tiles).

Tools and supplies list

- Utility knife, with plenty of new blades
- 4 foot heavy metal straight edge
- Speed square or framing square
- Tape measure
- Pen (black or blue ink)
- Sandpaper (50 grit)
- Chalk line
- Clean rags or cloths
- Paper Towels
- Acetone
- Safety glasses
- Work gloves

Site Testing and Conditioning

- SmartCells flooring and all materials should acclimatize to HVAC controlled room conditions prior to installation for a minimum of 48 hours.
- Temperature for acclimatization should be between 65F (18C) and 85F (29C).

Substrate Inspection and Preparation

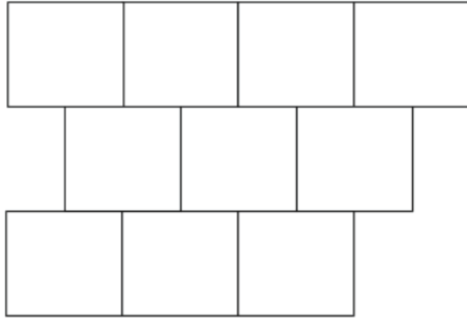
- SmartCells tiles are best installed over a rigid surface such as hardwood, vinyl tile, sheet vinyl, laminate flooring, or finished concrete.
- Floor should be smooth and level. Fill all depressions and cracks with the appropriate filler. Imperfections greater than 1/32" must be removed or they may telegraph through to the flooring surface.
- Sweep or vacuum the floor before installing SmartCells.
- Floor must be dry, free of dust, dirt, oil, grease, paint, wax, or any debris that may interfere with the SmartCells flooring.
- SmartCells tiles should not be glued to the floor.
- Sealing of concrete floors is recommended.
- It is not recommended to install SmartCells Flooring tiles over carpet.
- Ensure that all doors that swing inwards will clear the bottom of the door after SmartCells and floor covering are installed.

SmartCell Tiles Layout

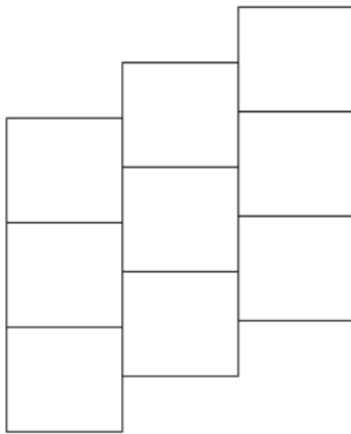
- SmartCells flooring tiles are NOT designed to support heavy, point, or rolling loads and should be installed after all millwork, cabinetry and heavy items have been placed in the room area.
- Remove all base-boards prior to installation.
- Identify the longest unobstructed "line" in the room to be used as a starting line guide for the first row of SmartCells tiles.
- Using complete (non-cut) tiles, create a straight-line of tiles, abutting to the line guide and filling in under toe-kicks and abutting walls leaving a 1/16" gap between the wall and the SmartCells tiles.
- Subsequent rows of SmartCells should be laid in an "Ashlar" or "brick" style pattern adjacent to the first row, using an 18" recommended seam offset for each adjacent row but no less than 6" seam offset between adjacent tile rows.

- Return to remaining uncovered areas to fill in under counters and cabinets using cut remnants when possible.
- Make sure not to crowd or stretch your SmartCells flooring tiles during installation, avoiding gaps exceeding 1/16", and avoiding compressed edges which cause "peaking".
- A rigid build up should be used under heavy wall-based furniture or fixtures such as refrigerators, or toilets, the height matching the height of the SmartCells. Floor coverings then installed continuously over the SmartCells and the adjacent rigid build up.
- SmartCells Flooring tiles are non-directional.





Ashlar Offset, Brick or Horizontal Layout 18 inch Offset



Ashlar Offset, Vertical Layout 18 inch Offset

Ashlar Formats

SmartCells Flooring tiles are 36" X 36"

In the Ashlar install format, each row of SmartCells tiles are shifted 18", either in a brick pattern or vertically.

While we recommend the 2 step offset pattern there could be instances where a 3 or 4 step offset would be preferred. The contractor should determine the best offset for the installation of SmartCells flooring tiles.

18" offset - 2 step (shown)

12" offset - 3 step

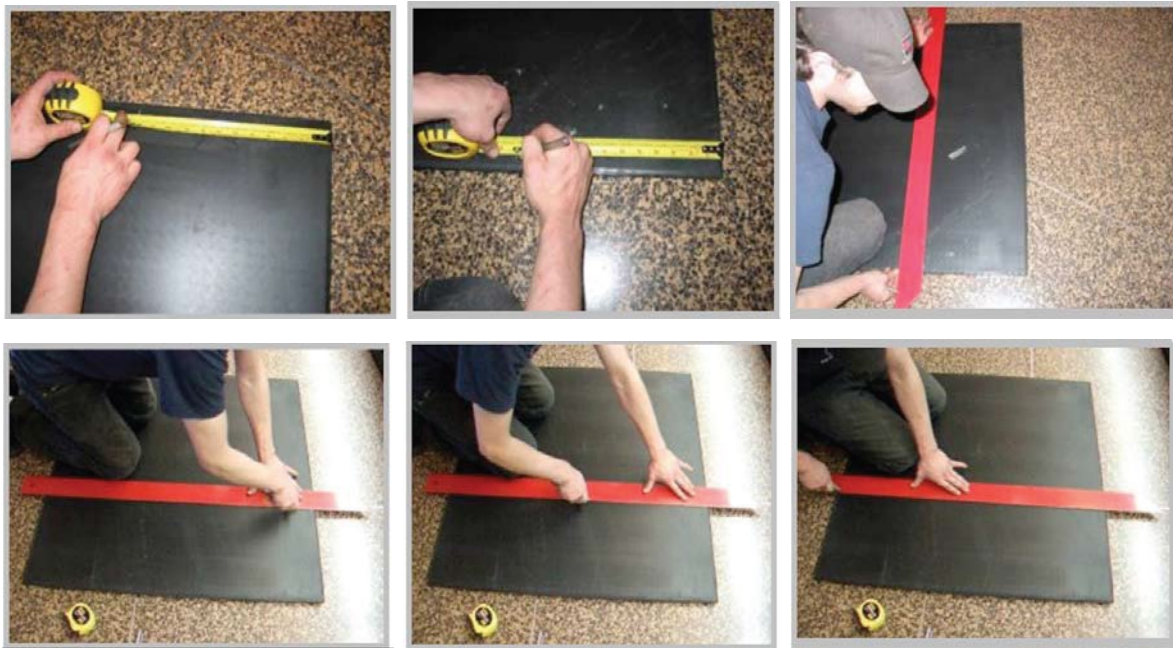
9" offset - 4 step



"Peaking" or "humps" may occur if the SmartCells tiles are installed too tightly.

Techniques for Cutting SmartCells

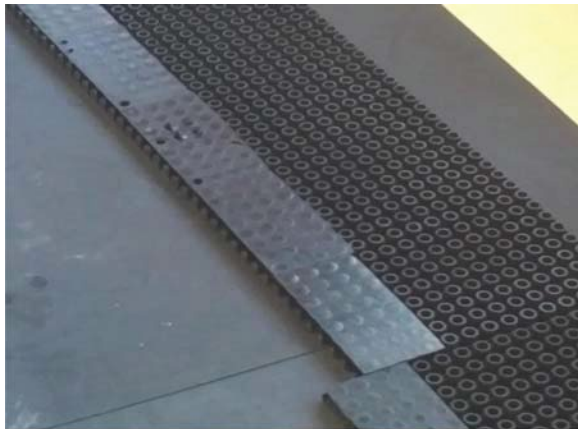
- SmartCells is a soft, elastic material, therefore special care is required when cutting to ensure smooth, straight cuts.
- Measure with a tape measure the desired distance to be cut and mark it with an ink pen on the smooth side of the tile.
- Do not assume that the pads are perfectly square or edges perfectly parallel, therefore mark the same distance on the other side of the pad and place a metal straight edge at the two marked points.
- Ensure that you are using a sharp utility knife blade (blades should be changed frequently, recommended after every 10-15 cuts) and pull the blade towards you along the straight edge, applying gentle downward pressure.
- Do not attempt to cut through the material with one pass of the knife. Reposition the blade again in the same cut line for another pass of the knife. Repeat this 2-4 times until the material is cut all the way through.
- Do not move, pull or distort the rubber pad during this process, otherwise the line will not be straight and multiple passes of the knife blade will not align in the same cut.
- Never cut SmartCells on top of installed flooring. Damage to existing floor may result. Cut SmartCells on a rigid surface where potential cut through damage to underneath surface is not a concern; such as a sheet of plywood.
- Save remnant pieces to be utilized as filler in other areas.





Application of SmartCells stiffeners to SmartCells tiles

- SmartCells Stiffeners are utilized in locations where SmartCells tiles abutt transitions, and in locations where SmartCells compression is not desired
- At locations where SmartCells tiles abutt a transition, place the SmartCell Stiffener under the SmartCells tiles so that both material edges are parallel to one another. Stiffeners can be used in 6" widths or 3" widths based on the judgment of the installer
- SmartCells Stiffeners are also utilized around the perimeter of the bed space where 1" thick self-leveling underlayment is installed for bed support



Adhesives

- SmartCells tile flooring is NOT designed to be adhered to the floor.
- It is required to use double-sided tape to adhere the SmartCells flooring tiles **with** the SmartCells stiffeners installed and the transitions (ramps) to the substrate floor at transition points of entrance or egress.
- A double row of double-sided tape should be installed under SmartCells tiles around the entire perimeter of the room, approximately 1" inside the outer edge of the tiles.

Taping SmartCells tile seams to prepare for carpet or vinyl overlay

- Once the SmartCells tiles have been positioned on the floor, snug with no gaps between the tile seams, the floor is ready for topically taping the seams.
- Begin to tape the tile seams of greatest continuous length.
- Place PVC 3" tape roll end over the seam formed by adjacent tiles. Be certain that the tiles remain in close contact with each other without any gaps or openings. One person is to secure or hold the end of the tape at the beginning of the seam, as the second person unrolls the tape above the seam, not allowing the tape to touch the SmartCells tiles. Once the roll of tape has extended to the distance of the entire length of the seam, the tape is pulled taut, forming a straight line, and is lowered over the seam, maintaining the seam in the middle of the tape, and making contact with the tile surface.
- Beginning at one end of the seam, secure the tape to the tiles, making certain there are no air bubbles, or creases in the taped seam. Bubbles or creases may telegraph through the vinyl overlay.
- Continue the same taping process with all parallel seams.
- Once parallel seams have been adhered with tape, begin to tape the perpendicular seams, following the same process of the tape installation.
- Once all seams are taped, the floor is ready for the sheet adhesive in preparation to receive the vinyl overlay.



Transitions from existing flooring to SmartCell Tiles Height

- Transitions from the existing flooring to the 1" in height of the new SmartCells flooring can be resolved by using a prefab rubber/vinyl sloped reducer piece (RED), or by troweling on a non-shrink grout or thin set liquid underlayment to create the transition desired wedge. The finished floor covering is continuously installed over the tiles and down the ramp to the existing surrounding floor covering.
- A "0" transition is recommended by heat welding the finished floor covering at the toe of the slope to the adjacent floor covering if possible.
- Use of improper and or inadequately installed transition treatments may result in edge failure. Selection and installation of these products is the responsibility of the installation contractor.



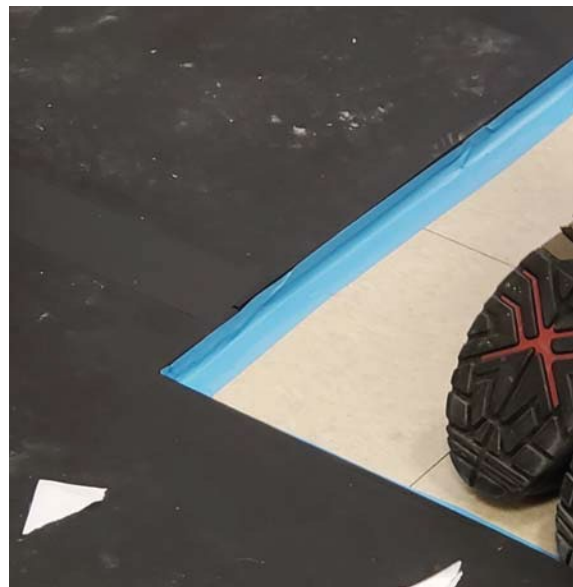
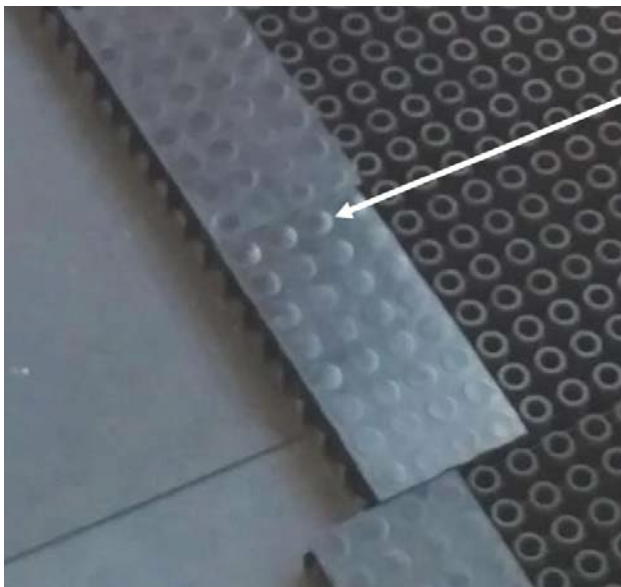
Stiffened-zone Underlayment Solution for Hospital Beds

The rectangular shape of a stiffened zone under the bed location is identified and the SmartCells tiles are removed from the stiffened zone to create a "well" for self-leveling cement.

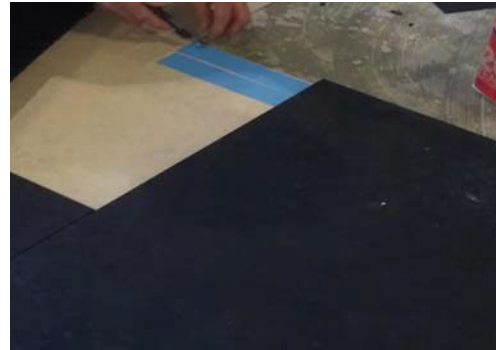
- SmartCells tiles are laid in the entire room. Against the wall where a bed is to be located, an area of SmartCells is cut out and removed, approximately 42" width by 90" length. (This area can vary based on the wheel spread of the hospital bed).



- The perimeter edges of the remaining SmartCells tiles are then reinforced with SmartCells stiffeners (essentially a plug for the tubular structure of the SmartCells tiles) at the perimeter of the newly formed “well”.
- These stiffeners snap into place and can be cut to suit the size required.



- At the edge of the bed “well”, SmartCells tiles, with installed SmartCells stiffeners, are secured to the floor with double-sided tape applied to the floor.
- The backing of tape is removed and tiles and stiffeners are secured in place.
- Once the perimeter is secured, tape is applied to the vertical edge of the SmartCells tiles that form the well. The well is now sealed and ready for the self-leveling cement.



- Ardex Self-Leveling Underlayment is recommended, has been tested and approved for use with SmartCells EPDM rubber tiles in clinical/hospital environments.



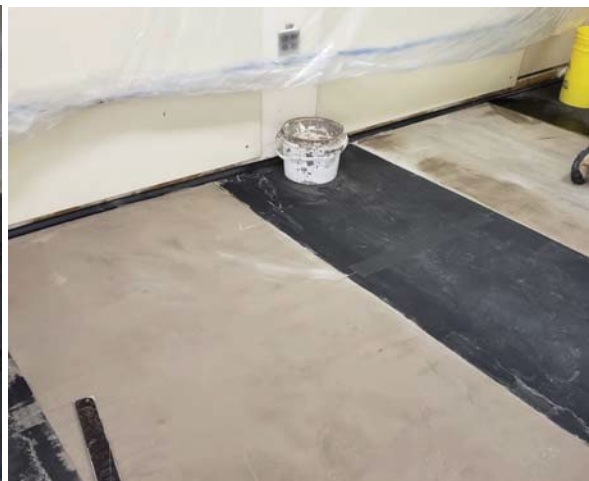
- The Ardex lightweight self-leveling underlayment compound is mixed and poured in the bed “well” formed by the SmartCells tiles and stiffeners.
- The bed “well” is filled in with the first application slightly below the top of the SmartCells tiles, and allowed to cure/dry.
- A skimmed top coat layer may be applied over the top of the self-leveling underlayment to insure a smooth and flush finish surface that will not telegraph through the vinyl flooring to be installed.



- Appropriate drying time is allowed for the self-leveling material to dry prior to the Sigtape sheet adhesive to be applied.



(Single bed room)



(Double bed room)

- Sigtape sheet adhesive is applied over the entire floor of SmartCells flooring and stiffened-zone bed “well”, in preparation for vinyl floor covering.

Application of Sigtape sheet adhesive

- Once SmartCells tile seams are taped with 3-inch PVC tape, clean the entire SmartCells flooring surface with clean cloths lightly dampened with acetone in preparation for Sigtape double-sided sheet adhesive.
- The SmartCells surface is to be dry and clean from all debris prior to application of Sigtape.
- Sigtape double-sided adhesive is used to cover the entire SmartCells flooring including reduction ramps to adhere the vinyl or carpet overlay.
- During installation of Sigtape, be certain to avoid any overlap of Sigtape, or bubbles or tape creases in the application.
- After the Sigtape is installed and before removing the top release layer be sure and sweep the top of the Sigtape to remove all debris from the surface.
- The top white backing layer of Sigtape is removed after the sheet vinyl is dry “cut in” during the sheet vinyl installation process and produces an adhesive bond to the SmartCells tiles. Sigtape is also to be used over the exposed self-leveling underlayment slab created under the bed. The Sigtape style system is the only approved adhesive means for sheet vinyl over SmartCells. Carpet tile may be adhered using 100% spread roller-applied acrylic-based PSA adhesive, designed for vinyl-backed carpet tiles.





- Sheet vinyl floor covering is installed over the Sigtape for the completion of the room.



Vinyl seams are heat welded. Chemical welded vinyl is not recommended with SmartCells tiles.



Finished rooms where bed “wells” or bed placement is identified.



SmartCells tiles and vinyl flooring installed in the bathroom; under the wall mounted toilet, sink, and abutting the shower/tub.

- Green tape may be added for hospital final approval (then removed), to indicate the exact location of the stiffened-zone bed “wells”.



The completed room is returned to clinical use after the new vinyl floor covering is installed over SmartCells Fall Protection underlayment system



Load Spreading Interventions for Heavy Furniture/Equipment

Rolling loads over SmartCells flooring

The force required to roll objects on SmartCells products is dependent upon the size of the wheels or casters, the weight of the object being rolled, and the type of floor covering placed over the SmartCells tiles. Heavily weighted objects may “settle” into the SmartCells. The initial force to move a settled object will be higher than sustained forces to keep the object moving.

Wheeled objects that weigh less than 150 pounds, with wheel sizes equal to or greater than 1” wide by 4” diameter, can generally be rolled without difficulty. Smaller wheels or greater weights may require two people to move the object without difficulty. Rolling loads greater than 300 pounds are not recommended.

It is recommended that beds and heavy objects use “load spreaders” under each wheel or floor contact point. During the SmartCells wall to wall installation, “stiffened zones” located under the bed can be implemented to ease initial push-pull forces when temporarily moving the bed for cleaning or for other purposes. Rooms where beds are moved frequently during a day, or during a week, may not be a suitable application for SmartCells fall protection floors.

Approved Finished Floor Coverings over SmartCells

SmartCells tiles are used as an underlayment for carpet tile or sheet vinyl. However, some finished flooring materials are not compatible with SmartCells tiles. Wood planks or cementitious stone **are not approved** for installation over SmartCells tiles. Please contact SATECH, Inc. if you have questions about a specific surface to be installed over SmartCells.

Vinyl Recommended Specifications:

- 2mm (or greater) thickness sheet goods
- Dimensional stability layer and heterogeneous construction
- Heat weldable, not chemical weldable
- 2 or 4 meters wide (4 meters wide reduces seams)
- Sigaway style double-sided adhesive (2602510 AlfaWay Extra)
- Prior experience with ALTRO Smooth Woods and FORBO Eternal

Carpet Tile Specifications:

- Carpet tile, not rolled carpet
- Vinyl backing, “non-brittle” with the ability to bend back onto self without breaking
- Prior experience with:
 - Interface GlasBac or GlasBac RE (GlasBac RE preferred)
 - FORBO Carpet Tile
- Carpet Tile Adhesives - Use a full spread acrylic-based Pressure Sensitive Adhesives (PSA) for adhering carpet tile over SmartCells Tiles
- Prior experience with:
 - Mohawk Enpress
 - Taylor 2027
 - ECO 810

Note: High heel shoes are not recommended on SmartCells surfaces.