

# SmartCells Cushioned Flooring by SATECH, Inc. - Master Guide Specification

## SECTION 09-62-00 Specialty Flooring

### CUSHIONED FLOORING SYSTEM

*Note to specifiers. This is a guide specification. Edit carefully for your current project. In case of questions, contact: SATECH, Inc., Chehalis, WA 360-748-8711 or [info@satechinc.com](mailto:info@satechinc.com)*

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. Applications
  - a. Cushioned Flooring for fatigue relief of standing / walking workers (e.g. behind ticket counters at airports or in pharmacies)
  - b. Cushioned surface to reduce fall-related injuries (e.g. child play areas or senior-care facilities for seniors who are at risk of falling).
- B. Staging – SmartCells fall protection or anti-fatigue floors are typically installed last after the installation of case work but before installation of cove base. Where applicable, it is also advised before SmartCells installation to move-in any heavy equipment or furniture that will sit upon the subfloor surface and not upon the SmartCells surface.

*Note: All SmartCells applications are for indoor use except when using SmartCells unfinished EPDM tiles; these tiles may be used outside buildings in uncontrolled climate conditions.*

##### 1.2 QUALITY ASSURANCE

- A. Comply with governing codes and regulations
- B. Applicator Qualifications: Application shall be performed by an applicator with a minimum of five (5) years of successful fabrication and installation of cushioned flooring of similar size and scope
- C. Meet or exceed the Durometer Hardness requirements of ASTM D2240
- D. Meet or exceed the Strength and Flexibility requirements of ASTM D412
- E. Meet or exceed the Slip Resistance requirements of ASTM C1028-96
- F. Meet or exceed the Fire Rating requirements of ASTM E648

##### 1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's printed description of materials, Color/Treatment Options, Installation Instructions, Care guide and Warranty Information
- B. Samples: Submit one (1) Large 10"x10" samples(sections) of product tiles and one (1) Transition samples

## 1.4 WARRANTY

- A. Manufacturer Warranty: Provide manufacturer's eight (8) year limited warranty to be free from defects in material and workmanship, under normal use and service. When SmartCells is provided underneath a finished vinyl or carpet tile surface then the SmartCells warranty may be adjusted by the company to match the warranty of the finished floor surface.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Provide Cushioned Flooring manufactured by: SATECH, Inc. , PO Box 1264, Chehalis, WA 98532; Telephone: (360) 748-8711, Fax: (360) 748-8822, email: [info@satechinc.com](mailto:info@satechinc.com), websites: [www.SmartCellsUSA.com](http://www.SmartCellsUSA.com) [www.cushionedfloors.com](http://www.cushionedfloors.com), [www.pharmacyfloor.com](http://www.pharmacyfloor.com)

### 2.2 MATERIALS

- A. Cushioned Flooring, product identifier: PLTFRM
- i. Features
    - a. Beveled top edge profile for POLY-coated finished surface applications or may be used for under carpet tile
    - b. Channeled top edge profile for under sheet vinyl applications or for under carpet tile
  - ii. Product Properties
    - a. Size: 36 inches square +/- 1/16 inch
    - b. Thickness: 0.95 inches
    - c. Weight: 2.9 – 3.1 lbs/sq. ft.
    - d. Thermal Coefficient of Expansion:  $42.8 \times 10^{-6}$  inches/inch °F
    - e. Chemical Resistance for standard EPDM & SBR formulations: Water – Excellent, Acids – Fair-Good, Alkali – Fair, Animal & Vegetable Oils – Fair, Alcohols – Good, Oil & Gasoline – Poor, Aliphatic Hydrocarbons – Poor, Aromatic Hydrocarbons – Poor. NOTE: SATECH offers both ESD and Grease-resistant (Nitrile) rubber formulations. A more detailed list of compatible/non-compatible chemical examples available upon request from SATECH.
  - iii. Specifications:
    - a. Durometer: Shore, type A, durometer: 48 +/- 5 point (ASTM D2240)
    - b. Flexibility: 300% modulus: 400 +/- 200 psi (ASTM D412)
    - c. Tensile Strength: 400-1000 psi (ASTM D412)
    - d. Slip Resistance (ASTM C1028-96) *edit the following list for your current project*
      - 1. Unfinished Tile Surface: Dry > 1.0, Wet > 1.0
      - 2. Poly Coated Tile Surface (no embedded flecks): Dry .88, Wet >30

3. Poly Coated Tile Surface w/ embedded flecks: TBD
- e. Fire Rating (ASTM E648) *edit the following list for your current project*
  1. Unfinished Cushioned Flooring Tile Surface: (material must be preheated before ignition can occur)
  2. POLY Coated Surface: Class 2
  3. CARPET TILE Surface: Class 1
  4. SHEET VINYL Surface: Class 1

iv. LEED

- a. Recycled Material (LEEDS Section 4.1) – Upon request, at increased cost/lead time over standard PLTFRM, black SBR/EPDM anti-fatigue and fall protection flooring tiles can be formulated to include 10% post-consumer and/or pre-consumer recycled content such that they qualify for 1 LEEDS point under LEEDS Section 4.1.
- b. Indoor Environmental Quality (Section 4.3 / 2.2.3) – Black EPDM SmartCells Tiles (non-poly coated) as used in anti-fatigue or fall protection cushioning applications meets VOC emission requirements with credit provided for:
  1. USGBC LEED v3 (2009) for Commercial Interiors, EQ Credit 4.3 Low-Emitting Materials – Flooring Systems, Option 2
  2. Collaborative for High Performance Schools (CHPS) EQ Credit 2.2.3 Flooring Systems as defined in CHPS Best Practices Manual, 2009 Criteria.
  5. CRI Green Label Plus Meets 14-day emission factor criteria and qualifies for: USGBC LEED v3 (2009) for Commercial Interiors, EQ Credit 4.3 Low-Emitting Materials – Flooring Systems, Option 1.

v. Surface Options

- a. Unfinished, ‘flat’ sheen appearance -- as-molded EPDM or SBR rubber surface (typically used behind airline ticket counters, baggage handling areas, TSA work areas, manufacturing production lines, etc.). Solid color options: black, brown, gray, green, blue & tan. Surface has a ‘tiled’ appearance with an Ashlar pattern.
- b. SILK Finish, ‘flat’ sheen appearance (SBR, ESD and Nitrile formulations only) – surface is modified at the SATECH factory to achieve a reduced friction surface. Solid color options: black, brown, gray, green, blue & tan. Surface has a ‘tiled’ appearance with an Ashlar pattern.
- c. POLY Finish – surface is coated with a clear poly urethane coating at the SATECH factory to achieve a ‘satin’ appearance (SBR rubber only). Solid color options: black, brown, gray, green, blue & tan. The poly coating can be flecked with contrasting colored epoxy chips to provide a color/texture contrast over the solid color base. Surface has a ‘tiled’ appearance with an Ashlar pattern..
- d. CARPET TILE – surface is covered at the customer site with compatible/approved carpet tiles. Contact SATECH for approved Carpet Tiles.

- e. SHEET VINYL – surface is covered at the customer site with compatible/approved sheet vinyl. Contact SATECH for approved Sheet Vinyl products. The SmartCells rubber cushion is black EPDM rubber. Standard applications use cove base.

## B. ACCESSORIES

### i. Tapes & Adhesives:

- a. SmartCells tile edge glue instant adhesive: CA PLUS FS 500 CPS. Available from SATECH in 2 Oz application bottles.
- b. Double-sided tape for attaching ramp, transitions and reducers to the floor: POLYKEN 105c.
- c. Adhesive for Carpet Tile: Full spread acrylic-based, pressure-sensitive adhesive: Enpress from Mohawk Group.
- d. Adhesive for Sheet Vinyl: Sigaway, full-surface, textile re-enforced double sided self-stick adhesive in rolls.

### ii. Caulking / Sealants

Sealant for sealing unfinished SmartCells, coated SmartCells and Vinyl Covering top surfaces to walls and vertical surfaces: Clear Big Stretch D10240 manufactured by Sashco for general water resistant applications or E6100 Adhesive, non-sag formula, mfg by Eclectic Products for water proof applications.

### iii. Transitions / Reducers

- a. Under Carpet Tile and under Sheet Vinyl reducers.
  - 1. 12” wide reducers or sub-floor levelers: Two layers of ½” x 12-to-0” wide reducers from Johnsonite or Roppe reduces from 1” high to 0”.
  - 2. 18” wide reducers or sub-floor levelers: Two layers of ½” x 18-to-0” wide reducers from Roppe reduces from 1” high to 0”.
- b. Exposed Transitions:
  - 1. 3.5” wide SmartCells Rubber Ramp: transitions from 1” to 1/8”, can be used as a “snap-on” ramp to SmartCells tiles. For use with coated or unfinished SmartCells tiles. Color options: Black, Brown, Green, Gray, Tan, and Blue.
  - 2. 6” wide SATECH ramp: TRN6, Black only, for use with Carpet Tile or Sheet Vinyl covered SmartCells; includes “L” lip at top; transitions from 0” to 1”.
  - 3. 12” wide transition: TRN12, Black only, for use with Carpet Tile or Sheet Vinyl covered SmartCells; includes “L” lip at top; transitions from 0” to 1”.
  - 4. 18” wide transition: TRN18, Black only, for use with Carpet Tile or Sheet Vinyl covered SmartCells; includes “L” lip at top; transitions from 0” to 1”.

- i. Connectors - SmartCells connectors may be used to connect SmartCells tiles together without edge gluing. When SmartCells connectors are used the cushioning system will not result in a sealed surface.

- iv. Shower Drains – For situations where shower drains are integrated into the bathroom to accommodate a shower, SATECH recommends a standard water-tight ceramic tile floor first be installed and then to place removable SATECH drain-through, slip-resistant, shower fall protection tiles over the ceramic tile surface. The SmartCells shower tiles may be removed and pressure-washed/cleaned under on a periodic basis. At the threshold between a shower-bathroom and a bedroom area, where a 1” SmartCells fall protection floor is installed (with either a carpet tile finish or sheet vinyl finish), then a solid 1”x 1”x 1” (approximate size – fit/finish to match flooring levels on-site) piece of oak or other solid trim is mounted and sealed to the floor separating the wet area from the dry area. E-6100 may be used to seal the solid trim piece to the floor to prevent fluid migration into the bedroom area.

## 2.3 PRODUCT SUBSTITUTIONS – No substitutions permitted

# PART 3 - EXECUTION

## 3.1 DELIVERY, STORAGE & HANDLING

- A. Delivery: Product delivered on wood pallets (36” to 42” square) with appropriate labels. Full pallets typically weigh approximately 1100 lbs.
- B. Storage: Materials to be stored in covered space out of the sunlight and elements. 48 hours prior to installation, materials to be moved into climate controlled space, equivalent to the environment where the product will be used.

## 3.2 EXAMINATION

- A. Substrate surface should be clean, water tight, and smooth without abrupt changes in elevation. Chips or dents in the substrate surface greater than ½” in diameter may telegraph through to the surface. The Cushioned Floor surface will reflect general substrate unevenness. Provisions for leveling the substrate surface may be necessary but is not as critical as it is for the glue down of thin sheet flooring or floor tiles.

## 3.3 INSTALLATION

- A. Comply with Manufacturer’s installation instructions.
- C. Installation by Manufacturer Certified Installers.

# REFERENCES

- A. ASTM D2240 Standard Test Method for Rubber Property – Durometer Hardness
- B. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

C.ASTM D297 Standard Test Methods for Rubber Products-Chemical Analysis

D. ASTM E648 Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source

E. ASTM C1028-96 Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method

F. LEED US Green Building Council Leadership in Energy and Environmental Design