

PART 1 - GENERAL**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes elevated snowmelt paver system consisting of the following:
1. Hex-Tray™ Snowmelt Trays.
 2. Hex-Tray™ Snowmelt Foam Insulation.
 3. Hex-Tray™ Snowmelt Heat Transfer Plate.
 4. **SELECT ONE:** HYDRONIC Heating (PEX Tubing ½" or 5/8" OD) *or* ELECTRIC Heating Cable (Mineral Insulated MI Cable).
 5. Porcelain Pavers.
 6. Hybrid Pedestal System™.
 7. Supplementary pedestal support system components and accessories.
- B. Related Requirements:
1. Division 02 - Section 02780 Unit Pavers.
 2. Division 07 - Section 077200 Roof Accessories.
 3. Division 07 - Section 071416 Cold Fluid-Applied Waterproofing.
 4. Division 07 - Section 07540 Bituminous Sheet Waterproofing.
 5. Division 07 - Section 075419 Polyvinyl-Chloride (PVC) Roofing.
 6. Division 07 - Section 075423 Thermoplastic Polyolefin (TPO) Roofing.
 7. Division 07 - Section 07760 Roof Pavers.
 8. Division 07 - Section 07620 Roof related Metal Work.
 9. Division 22 - Section 220500 Heat Tracing for Plumbing Piping
 10. Division 23 - Section 238300 Radiant Heating and Cooling Units.
 11. Division 26 - Section 260600 Electrical.
 12. Division 32 - Section 321400 Unit Paving

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
1. ASTM E 108 - Fire Testing (Hex-Tray™ & Porcelain Pavers)
 2. ASTM D 635 - Fire Testing-Burn Rate (Hybrid Pedestals)
 3. ASTM D 1929 - Fire Testing-Ignition Temp (Hybrid Pedestals)
 4. ASTM C 293 - Load Testing (Hex-Tray™ & Porcelain Pavers)
 5. ASTM E 303-93 - Slip Resistance Testing (Porcelain Pavers)

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate the work of this Section with the respective trades responsible for installing interfacing hydronic heating system, and adjoining work for proper sequence of installation, and ensure that the work performed hereunder is acceptable to such trades for the installation of their work.
- B. Sequencing - **HYDRONIC:** Coordinate schedule and sequencing of construction to prevent delay of installation. Sequence work for interface with installation of hydronic heating system. General sequence of paver installation is as follows.

1. Lay-out of pedestals and hex-tray coordinated with hydronic system zoning. Coordinate with Division 23 - HVAC.
 2. Installation of hex tray.
 3. Installation of hydronic system under Division 23 - HVAC.
 4. Installation of pre-die-cut heat transfer plates.
 5. Installation of pavers, secured for wind uplift directly to trays using Chem-Link® M1 adhesive.
- C. Sequencing - **ELECTRIC**: Coordinate schedule and sequencing of construction to prevent delay of installation. Sequence work for interface with installation of electric heating cable system. General sequence of paver installation is as follows.
1. Lay-out of pedestals and hex-tray coordinated with electric heating cable system zoning. Coordinate with Division 26 – Electrical.
 2. Installation of hex tray.
 3. Installation of electric heating cable system under Division 26 – Electrical.
 4. Installation of pre-die-cut heat transfer plates.
 5. Installation of pavers, secured for wind uplift directly to trays using Chem-Link® M1 adhesive.

1.5 ACTION SUBMITTALS

- A. Submit under provisions of Section 013300 – Submittal Procedures.
- B. Product Data: For each type of product and system indicated.
1. Include manufacturer's specifications for materials, finishes, construction details, installation instructions, and recommendations for maintenance.
- C. Shop Drawings: Submitted by contractor showing all components required for the Hex-Tray™ Snowmelt System, porcelain pavers and pedestals requirements. Shop drawings shall include plan drawings showing layout of all Hex-Tray™ Snowmelt System areas and detail drawings showing how the various components of the system fit together. Include manufacturer's literature completely describing all components of the Hex-Tray™ Snowmelt & pedestal systems and giving detailed installation recommendations and instructions.
- D. Samples:
1. Hex-Tray™ Snowmelt System: Manufacturers' standard size, 24 by 24 inches.
 2. Porcelain Pavers: Manufacturers' standard size, 12 by 12 inches.
 3. Pedestals: Submit sample of each pedestal component.
 5. Heating Element: **HYDRONIC** or **ELECTRIC**
 4. PVC Pipe: Submit 12-inch long sample of PVC pipe.
- E. Delegated Design Submittal: For support system installation, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For Hex-Tray™ Snowmelt System and support system to include in operation and maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials that match products installed and that are

packaged with protective covering for storage and identified with labels describing contents. Include inventory list of items delivered.

1. Hex-Tray™ Snowmelt System: Full-size units in quantity equal to 5 percent of quantity installed.
2. Porcelain Pavers: Full-size units in quantity equal to 5 percent of quantity installed for each color and size. Include manufacturer-furnished paver lift-up tool.
3. Pedestal Supports: Units in quantity equal to 5 percent of quantity installed for each type and size. Include manufacturer-furnished adjustment tool.
4. Deliver materials to location determined by Owner.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All products covered under this Section shall be produced by a single manufacturer unless otherwise specified with a minimum of fifteen (15) years proven production experience.
- B. Installer Qualifications: Installer shall have a minimum of three (3) years proven construction experience and be capable of estimating & building from blueprint plans and details, determining elevations, in addition to proper material handling. All Work must comply with Tile Tech, Inc. installation application procedures for pedestal mounted Snowmelt System as specified herein.
- C. Special Consideration: The installer and or subcontractor must assume the responsibility for and take into consideration (1) the structural capability and adequacy of the structure to carry the dead and live load weight(s) involved, and (2) that the density of any insulation is satisfactory to resist crushing and damaging the waterproofing membrane.

1.9 MOCKUPS

- A. Build mockups to verify selections made under Sample submittals and to set quality standards for materials and execution.
 1. Build mockup in size and location indicated on Drawings, or if not indicated, no fewer than four Hex-Tray™ Snowmelt System and nine pedestal supports.
 2. Acceptance of mockups does not constitute acceptance of deviations from the Contract Documents contained in mockups unless Architect specifically accepts such deviations in writing.
 3. Subject to compliance with requirements, accepted mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. In accordance with provisions of Section 01300.
- B. Protect products during shipping, handling, and storage to prevent staining, chipping, deterioration of components, or other damage. Store unused material in original packaging.

1.11 PROJECT CONDITIONS

- A. Tile Tech Pedestal System specified are to be used with pedestrian traffic only & all four (4) sides of a deck system must restrain and contain the Hex-Tray™ panels with perimeter blocking or walls. Hex-Tray™ panels must not be allowed to move laterally.

- B. All membrane waterproofing and protection board surfaces to receive pedestals must be broom clean, frost free, and free of dirt, oil or any rough foreign matter, which may impair the waterproofing / roofing manufacturers guarantee or protection requirements.
- C. The substrate that is to receive pedestals must have slope and provide positive and adequate drainage in accordance with good building practice and applicable building codes.
- D. Decks over Roofing and Waterproofing:
 - 1. If high density closed cell extruded 60psi polystyrene insulation is installed on top of the membrane in a protected membrane system, Tile Tech Pedestals may be installed directly on top of this type of insulation.
 - 2. Do not use Tile Tech Pedestals over any insulation less than 60psi or with low density polystyrene (bead board) insulation.
- E. Decks on Grade:
 - 1. Any substrate soil that is to receive pedestals shall be adequately compacted and have positive drainage slope. A "walkway gravel" base ie: ¼" Minus should be installed and compacted at pedestal locations.
 - 2. A wall or perimeter containment on all open sides is required. Install structural perimeter containment that restrains the entire decking system.
- F. Heavy Objects on Decks:
Installation or anticipated installation of additional items on top of the deck such as planters, hot tubs, sculptures, or industrial equipment must be supported directly by additional pedestals that are in addition to the main deck paver/tile and or tray pedestal system. Failure to adequately support the additional weight of any such features or items may cause significant damage to the deck, underlying structure, or waterproofing.

1.12 WARRANTIES / GUARANTEES

- A. Tile Tech's Hex-Tray™ Snowmelt System, Porcelain Pavers and pedestals shall remain free from defects for a period of Five (5).
- B. The contractor shall warrant that his work will remain free from defects of labor and materials used in conjunction with his work in accordance with the general conditions for this project or a maximum of three (3) years.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. The Hex-Tray™ Snowmelt System, Porcelain Pavers & Pedestal Systems specified herein are based upon products manufactured by:
Tile Tech Inc, 888-380-5575 Phone: (213) 380-5560 Fax: (213) 380-5561
E-mail: sales@tiletechpavers.com Website: www.tiletechpavers.com
- B. Substitutions: None permitted.

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 4000 "Quality Requirements," to design paver support and perimeter containment systems.

B. Hex-Tray™ Snowmelt System

1. Maximum system pressure shall not exceed 40 PSI.
2. Maximum system supply temperature shall not exceed 140°F.
3. Tray shall have a minimum 1" thickness of rigid EPS or XPS foam insulation installed into the trays.
4. System shall weigh approximately 1.5 lbs. per square foot including fluid and insulation.
5. Trays must lock together using hex lock disk washer and 1-½ inch long black corrosion resistant screws.
6. For wind uplift porcelain pavers will adhere to the trays using Chem-Link™ M1 adhesive at 8 locations on the trays.

C. Pedestal Supports: Capable of withstanding effects of gravity loads and the following loads and stresses, within limits and under conditions indicated:

1. Floors: Uniform load of 125 lbf/sq. ft. or a concentrated load of 2000 lbf, whichever produces greater stress.
2. All Roof Zones (Corner, Perimeter, and Field-of-Roof) Uplift Pressures: As indicated on Drawings.

D. Perimeter Containment System: Capable of resisting lateral forces in paver support system without displacement exceeding 1/8 inch.**2.2 MATERIALS****A. Porcelain Pavers:** An impervious vitreous paver with a water-absorption rate of 0.5 percent or less in accordance with ASTM C373 test method; abrasion, freeze/thaw, chemical, and stain resistant; intended for exterior use with paver support system.

1. Finish: Cement, Cool-Roof™, Earth-Tone, Seashell, Slate, Stone, Terrazzo, Travertine, Wood-Plank, Wood-Rustic Series.
2. Color: Standard range manufactured by Tile Tech Inc.
3. Size: Standard 23.4 x 23.4 x 3/4 inches
4. Weight: 9lbs per Sqft.

B. Hex-Tray™ Snowmelt System:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Hex-Tray™ Snowmelt System by Tile Tech, Inc.
2. Honeycomb grid structural tray with tubing tracks / channels.
3. Foam Insulation Panel.
4. Aluminum Heat Transfer plate.
5. Size: Standard 23.5 x 23.5 x 1-1/2 inches
6. Weight: 1.25lbs per Sqft.

C. Pedestals Supports:

1. Stak-Cap™ Pedestals: PVC Pipe & Stack Adjustable
 - a. Stack or use SDR35 PVC pipe to accommodate various HEIGHT adjustments of ½" to 2-½" .#
 - b. Each cap provides maximum of ½" of HEIGHT and 1% SLOPE. Rotate and stack one cap relative to another to accommodate SLOPE adjustments from 0% to 5%.
 - c. Base diameter of 6-inch and top diameter of 5-¼-inch and is ½-inch high.
 - d. Made of high impact and flame resistant ABS plastic.

- e. Use of Buffer Pads under Stak-Cap™ Pedestals is MANDATORY.
2. Uni-Just™ Pedestals: PVC Pipe & Screw Adjustable
 - a. Assembly consists of 5 parts: Uni-Base™, Uni-Collar™, Uni-Insert™, Uni-Cap™ & Buffer Pads.
 - b. Use SDR35 PVC pipe to accommodate various HEIGHT adjustments from 2-½" to 52". Additional precise height adjustment of up to 1-½" with the use of Uni-Insert™ which can screw up or down while loaded. Additional heights beyond 24" can be accomplished subject to consultation with manufacturer and approval by manufacturer.
 - c. Self-leveling and can tilt in any direction to a level plane to accommodate SLOPE adjustments from 0% to 4%.
 - d. Base diameter of 7.25-inch with bearing surface area of thirty eight (42) square inches.
 - e. Made of 100% recycled and flame resistant High Density Polypropylene.
 - f. Use of Buffer Pads under Uni-Just™ Pedestals is MANDATORY.
 3. Uni-Shims™: 1/8-inch & 1/16-inch Thick
 - a. Can be used whole or broken into halves or quarters and can be stacked up to 2 high.
 - b. Used on top or under Stak-Cap™ or Uni-Just™ Pedestals for fine leveling of pedestals and or individual IPE Deck Tiles.
 - c. Made of high impact and flame resistant ABS plastic.
 4. Hex Lock Disk & 1-½ inch long black corrosion resistant deck screw (User supplied)
 - a. Once level, used to lock down the 4 tray corners to the pedestals and ensure a safe, secure and level surface.
- D. Other Components: Lateral Bracing**
1. Bracing System:
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide Tile Tech, Inc.; Lateral Bracing System or equal for heights over 24 inches.
- E. Other Components: Installer or User Supplied**
1. Pedestal Pipe: 4-inch diameter **SDR35 PVC** Sewer Pipe
 - a. Used with Uni-Just™ Pedestals and is cut to required height.
 - b. Dimensions: 4.215-inch outside diameter & 3.890-inch inside diameter.
 - c. Meet ASTM D-3034 and F-679.
 - d. NOT supplied with pedestal components by Tile Tech, Inc.
 2. Decking Screw
 - a. 1-½ inch long black corrosion resistant deck screw used to secure hex lock disk and 4 corners of trays to pedestal system.
 - b. NOT supplied with pedestal components by Tile Tech, Inc.
 3. **HYDRONIC** Heating: PEX Tubing (½" or 5/8" OD).
 - a. NOT supplied with pedestal components by Tile Tech, Inc.
 4. **ELECTRIC** Heating: Mineral Insulated (MI) Heat Trace Cable.

- a. NOT supplied with pedestal components by Tile Tech, Inc.
5. Chem-Link™ M1 Roofing Adhesive.
 - a. Used to adhere porcelain pavers directly to trays if wind uplift is required.
 - b. NOT supplied with pedestal components by Tile Tech, Inc.
6. Protection Course:
 - a. Protection board (required over insulated BUR systems, and when specified for use over bituminous asphalt-based waterproofing): W.R. Meadows "Vibraflex" or equal, minimum 3/8- inch thick asphaltic composition protection board.
 - b. Insulation (when specified): Dow Styrofoam "Highload 100" or equal, minimum compressive strength of 100psi recommended for foam plastic insulation placed beneath Pedestal System to prevent damage to the waterproofing membrane.
 - c. NOT supplied with pedestal components by Tile Tech.

2.3 PERIMETER CONTAINMENT AND SUPPORT

- A. The complete assembly of insulation (if used), protection board (if used), drainage mat (if used), pedestals and IPE Deck Tiles must be restrained at the perimeter of the deck area.
- B. Perimeter parapet walls, concrete dividers or other perimeter restraint must be capable of resisting lateral forces (including seismic and wind). Cumulative movement in excess of 1/8 inch will void the Tile Tech IPE Deck Tiles & Pedestal System warranty.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Prior to starting work inspect the substrate to ensure that it has been properly prepared to accept the Tile Tech Pedestal System. The substrate and or surface shall be clean and free of any projections and debris which may impair the performance of the pedestal and or the deck system. Verify all elevations, required pedestal heights and deck dimensions. Commencement of work shall imply acceptance of surfaces & deck conditions.
- B. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.

3.2 PREPARATION

- A. The substrate surface that will receive the Pedestal System must be well compacted (on Grade) or structurally capable of carrying the dead and live loads anticipated.
 1. Insulation OVER the membrane: (Option 1) Insulation and/or protection board (if specified) must be applied over the waterproofing substrate and/or specified drainage mat. Install the system according to the membrane manufacturer's recommendations and specifications.
 2. Insulation UNDER membrane: (Option 2) Insulation required to be installed within a roofing system below deck supports must meet the roofing membrane manufacturers' specifications and must have a minimum core density of 60psi.
 3. Protection Board: (for asphalt type systems used over waterproofing) Full coverage 1/8- inch asphaltic composition protection board is recommended. When protection is specified only under the pedestal cut protection board pads to extend beyond the outside perimeter of the pedestal system base or buffer pad by a minimum of TWO (2)

- inch.
4. Drainage Mat: (when desired or specified) Install drainage mat according to the manufacturers recommendations to avoid crushing.

3.3 INSTALLATION

- A. Install in accordance with Tile Tech, Inc. and other contributing manufacturer's instructions. Installation requirements vary for each individual project site. Decking pavers, tiles and or trays used, pattern, grid layout, starting point, and finished elevation should be shown on plan view shop drawings, which have been prepared and approved by the designer, installing contractor and/or owner.
- B. **Grid Layout and Elevations:**
 1. Accurately set pedestal supports in locations coordinated with approved Porcelain Pavers & Hex-Tray™ Snowmelt System layout. Once the starting point and the finished elevation of the deck surface have been determined, the "Top of Pedestal Elevation" (finished elevation less Hex-Tray™ & porcelain paver thickness) is established and marked around the perimeter using a transit water level or laser leveling device.
 2. Precise measurements should be taken and deck area should be accurately defined. Mark off and 'square up' all outside edges with control lines using "snapped" chalk lines. Mark two (2) lines that are perpendicular to each other across the deck area. Continue to mark a grid of lines in both directions marking the location of each pedestal. Use the control lines as references to periodically check and assure a square layout during installation.
 3. A pedestal must be placed where each measured grid line meets the perimeter. Remove two (2) spacer tabs in line with one another atop each pedestal system placed around the perimeter. Remove all four (4) spacer tabs at corners.
 4. Adjust each pedestal height to the "Top of Pedestal Elevation" marked on the perimeter. Position the pedestal as close to the edge of the perimeter as possible, with the two remaining spacer tabs aligned with the grid line. Using the elevation marked on the perimeter, stretch a mason's line along and slightly ahead of the second row of pedestals. A laser leveling device may also be used for this purpose.
 5. On larger decks, it is recommended that Tile Tech Pedestal System be pre-assembled and pre-set to the proper elevation and placed in position prior to the installation of decking pavers, tiles and or trays.
 6. Adjust paver support heights prior to, and following, installation of the Hex-Tray™ snowmelt system. As the pedestals located along the grid lines are loaded with Hex-Tray™, fine vertical height adjustment can be made by inserting and rotating, from the top, a T-handle key in to the Uni-Insert™ of the pedestal assembly. Clockwise rotation of the Uni-Insert™ will raise the bearing surface and the deck. Counter-clockwise rotation will lower the top bearing surface and deck.
 7. Always maintain adequate thread engagement. Tile Tech Pedestal Uni-Insert™ contains a locking tab that will not allow the screw to extend past its maximum extension.

Never use if the locking tab is broken. If the height required goes beyond the Uni-Insert™ limit re-cut PVC pipe to the correct height and re-assemble the pedestal using the correct size pipe.

8. Slight irregularities in decking paver, tile and or trays thickness can be compensated for by using one (1) to two (2) shim segments. Place on top of the pedestal, under the corner(s) of the decking paver, tile and or trays. Use no more than two (2) shims on top of the pedestal and always adhere quartered (1/4) wedges with construction adhesive.
9. Stak-Cap™ Pedestal can be used for limited and or fixed height requirements. Complete deck and grid layout as instructed above. Stack no more than five (5) fixed height Stak-Cap™ Pedestals together and place in lieu of Uni-Just™ Pedestals where needed. Spacer tabs can be removed to accommodate perimeter and corner support locations.

C. Slope and Height Compensation:

1. Stak-Cap™ Pedestals can provide limited slope and height compensation to maintain a level decking surface over sloping substrates and is accomplished using a combination of the following:
 - a. Stack and rotate one cap in relation to another to change slope and add height. Each cap will add ½-inch of height and provide 1% slope. Stack no more than 5 caps for total height of 2-1/2" and total slope of 5%.
2. Uni-Just™ Pedestals can provide both slope and height compensation to maintain a level decking surface over sloping substrates and is accomplished using a combination of the following:
 - a. PVC Pipe cut to varying lengths to compensate for GENERAL height requirements.
 - b. SCREW extension for PRECISE height adjustment.
 - c. Self-Leveling cap pivots and tilts in any direction for slope compensation from 0% to 4%.
3. BASE SLOPE PLATES™ can be used under the pedestal bases to allow for slope compensation from 0% to 16%. Each Base Slope Plat has 2% slope and total of 8 units can be stacked and rotated for maximum slop adjustment of 16%. Use of Buffer Pad under Base Slop Plate is MANDATORY.
4. Tile Tech Pedestals are designed to be rotated for final precise adjustment when they are fully loaded IF no lock disks or spacers are used. Pedestals should be leveled in each succeeding row as the installation proceeds. Final height adjustment or maintenance is easily made by simply using a T-handle Key that allows you to adjust the pedestals without removing pavers or tiles. T-handle Key is inserted between the four paver corners to engage Uni-Insert™ portion and is adjusted clockwise or counter clockwise to level as needed.

D. Hex-Tray™ and Pedestal Installation:

1. Install in accordance with manufacturer's written instructions and accepted Shop Drawings. Accurately set pedestal supports in locations coordinated with approved Hex-Tray™ Snowmelt and pedestal system layout.

- a. DO NOT WALK ON THE TRAYS as not to crush the 8 spacer tabs built on the trays until porcelain pavers are installed.
 - b. The Hex-Tray and the hex-foam insulation are pre-assembled and held together with included plastic foam screw.
 - c. The pedestals grid is laid out using chalk lines and pedestals are assembled and tuned to the correct heights using string lines and laser level.
 - d. Using carpenter's level make final in-place level adjustments using manufacturer's furnished tool to adjust pedestal support heights. Uni-Shim can be used for fine adjustment is necessary.
 - e. Lay out tray units to avoid less than half-width units at perimeter or other terminations. Cut tray to fit at termination points and walls and can be cut parallel or perpendicular to the direction of the tubing / cable channels or tracks using regular table saw.
 - f. The Hex-Tray/Foam assembly is then placed on top of pedestals and after 3 unites are installed the Hex-Lock Disk washer are inserted into the curf-cut corners of the 3 trays and the 4th tray is installed.
 - g. Once level, screw down the Hex-Lock Disk washer with 1-1/2" long black corrosion resistant deck screw, locking down the 4 tray corners to the pedestal and ensure a safe, secure and level surface.
 - h. Trays can also be screwed together at side to side for additional stability when needed.
 - i. The aluminum heat transfer plate is installed on top of the Hex-Tray and can be cut back at wall terminations to expose the Hex-Tray U-bends to allow loop back of heating element. Flat, self-tapping screws can be used to hold the heat plate to the trays. For Wind-uplift use Pre-die-cut manufacturer's aluminum heat transfer plate to secure pavers directly to trays for wind uplift at 4 corners and middle edges.
 - j. **HYDRONIC** PEX tubing (**provided under Division 23 – HVAC**) is laid in the channels/tracks and run the full length of area to be heated and returned to a common connection manifold. Provide aluminum tape to secure cable or tubing in place.
 - k. **ELECTRICAL** heating cable (**provided under Division 26 – Electrical**) is laid in the channels/tracks and run the full length of area to be heated and returned to a common electrical connection point. Provide aluminum tape to secure cable or tubing in place.
- E. Porcelain Pavers Installation:
1. Install porcelain pavers over Hex-Tray™ & pedestal support system in accordance with manufacturer's written instructions and accepted Shop Drawings. Align joint patterns parallel in each direction.
 - a. Install porcelain pavers using paver lift-up tool to carefully position and install pavers on top of Hex-Tray system and center using the spacer tabs built on the trays.
 - b. Set porcelain pavers in place using placement methods that result in stable installation free from rocking, using sound Hex-Tray™ with no edge or surface damage.

3.4 PERIMETER CONTAINMENT

- A. Any area of the pedestal deck that is not restrained by a parapet or foundation wall must be 'boxed-in' and contained. The tray panels will move if all sides are not adequately restrained. Perimeter framing and edging boards located at the outside of the deck perimeter must be installed to provide restraint. No movement should be allowed at the perimeter of the deck system greater than one tab width.

3.5 FIELD QUALITY CONTROL

- A. Inspect often during installation to assure that grid spacer lines are being maintained in a straight and consistent pattern and that Hex-Trays are level and not rocking. Unless otherwise specified in writing to allow for expansion, inspect to assure that all tray spacing between trays and at perimeter walls does not exceed a tab width. Particular attention should be made to assure that all pedestrian entry or access points to the deck are level and that the deck surface tiles are not randomly raised or uneven creating a tripping or safety hazard. Confirm that deck pedestal height excess of twenty four (24) inches have been braced using Lateral Bracing System in accordance with Tile Tech, Inc. written instructions.

B. Construction Tolerances

1. Variation of level across width of each roof Hex-Tray™: 1/16 inch, maximum.
2. Variation from level for paved areas: Do not exceed 1/4 inch in 10 ft., when measured at any location and in any direction.
3. Variation in joint width: Do not vary joint thickness more than one-fourth of nominal joint width.
4. Variation in plane at joints (Lipping): Do not exceed 1/16-inch difference between planes of adjacent units.
5. Variation in line of edge at joints (Lipping): Do not exceed 1/16-inch difference between edges of adjacent units, where edge line continues across joint.

3.6 MAINTENANCE AND CARE

- A. The deck owner must perform routine maintenance of the deck. Check for rocking trays and adjust pedestal or shim immediately. Pedestals can settle and may have to be realigned. Failure to do so can cause a tripping hazard.
- B. Remove and replace loose, cracked, or otherwise damaged Hex-Trays™ that do not match adjoining units or pattern indicated on Drawings.
- C. Periodically check spacer tabs and immediately replace broken tabs to limit deck movement. Make sure the edge restraint stays intact and structurally sound.
- D. Provide final protection and maintain synthetic turf rooftop turf system without damage or deterioration at time of Substantial Completion.

END OF SECTION 07760
HEX-STRAY™ SNOWMELT SYSTEM