PART 1 GENERAL

1.01 SECTION INCLUDES

A. Adjustable Deck Pedestals

B. Fixed Height Deck Pedestals

C. Low Height Deck Pedestals

D. Deck Pedestals Accessories

1.02 REFERENCES

A. US Green Building Council.

B. ASTM D1238 - Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.

C. ASTM D792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement ASTM D638 - Standard Test Method for Tensile Properties of Plastics

D. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.

E. ASTM D648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

F. ASTM C 1028 - Method for Measuring Coefficient of Friction

G. ASTM E108 - Standard Test Methods for Fire Tests of Roof Coverings

1.03 DESIGN / PERFORMANCE REQUIREMENTS

A. Provide a complete self-supporting deck support system as indicated on the Drawings.

B. System to be used with applications having pedestrian traffic only and with all four sides of a deck system designed to restrain and contain decking panels with perimeter blocking or walls. Lateral movement of the system greater than 1/8 inch is unacceptable. Vehicular traffic or equipment including but not limited to snow removal equipment, ATV's, forklifts, or any motorized vehicles are not permitted.

C. Consult the Pedestal Support System Manufacturer and the Project Engineer if the following conditions are anticipated:
   1. When spacer tab condition or design requires spacing between decking tiles or concrete pavers other than the standard spacing required by the manufacturer.
   2. When considering use for other than a raised decks (e.g. interior floors, stairs, etc.).
   3. When the required pedestal height exceeds the safe limits as determined by the Manufacturer.
   4. When pedestal load capacity exceeds the maximum listed.
   5. When anticipating installation of any items with excess weight on top of the deck.
   6. When using Deck Supports pedestals on grade (soil).
   7. When greater pedestal load capacity is required.

D. Deck surfacing tiles or pavers shall be designed to sit above waterproofing, integral flashing and or counter flashing. Use protective wall covering in locations where the perimeter of the deck may come into contact with the flashing material

E. Design all decks not exceed the design capacity of the pedestal.

F. Substrate immediately below the pedestals shall be designed to provide positive drainage.

G. For decks over roofing substrates, roof systems must meet local building code and be in accordance with the NRCA recommended good construction practices. Only roofing manufacturer approved systems shall be used.

H. Decks over roofing and waterproofing:
   1. Pedestal Installation: Pedestals must be installed on surfaces with a minimum 40 psi bearing capacity.
   2. Pedestals must be supported by a surface that provides a minimum 40 psi bearing capacity.

I. Roof top applications:
   1. Roof Type 1 - Insulation installed below Roof Membranes: Systems using rigid insulation boards typically manufactured of polyisocyanurate, perlite, or wood fiberboard materials with a density of 20 psi. These systems shall be supported to create an adequate bearing surface as follows:
      a. Thin Cap Bearing Protective Layer thin dense low-foamed isocyanurate insulation that provides the necessary pedestal support for the pedestal system.
      b. Bison Model FIB (Floating Insulation Base) Pedestal Base with an enlarged base that supports the pedestal to distribute the anticipated loaded weight of a pedestal over an enlarged area.
      c. Insulation above the Membrane: Provide a 1.5 inch thick minimum layer of dense, closed cell 40 psi minimum extruded cell polystyrene insulation board above the roof system to provide support for the pedestal system.

1.04 SUBMITTALS

A. Submit under provisions of Section 013300 - SUBMITTALS.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation instructions.
   4. Cleaning and maintenance instructions.

C. Shop Drawings: Submit shop drawings showing all components required for the paver and pedestal requirements. Include plan drawings showing layout of all paver areas and detail drawings showing how the various components of the system fit together. Include manufacturer's literature completely describing all components of the paver pedestal system with detailed installation recommendations and instructions.

D. Structural Analysis: Provide confirmation of the structural capability and adequacy of the structure to carry the dead and live load weight(s) required, and that the density of any insulation is satisfactory to resist crushing and damaging the waterproofing membrane.

E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches square, representing actual product, color, and patterns.

F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic cleaning, adjustment and maintenance of components.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum of 10 years experience manufacturing deck supports and tile systems.

B. Installer Qualifications: Installer must have a minimum of 2 years proven construction experience for projects of a similar type and scale. All Work must comply with the manufacturer's installation instructions and procedures for deck support work specified herein.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging with labels intact and legible until ready for installation.

B. Protect products during shipment, storage and construction against damage. Store a minimum of 4 inches off the ground in a dry location and cover with polyethylene to protect from contact with materials that would cause staining or discoloration.

1.07 WARRANTY

A. Provide the manufacturers 3-year limited warranty.

B. Provide the installers written 3-year labor and materials warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: MRP Supports (Eterno), which is located at: 3310 N. Benzing Road, Orchard Park, N.Y. 14127.; Toll Free Tel: 1-800-828-8424.

B. Requests for substitutions will be considered in accordance with provisions of Section 016100 - BASIC PRODUCT REQUIREMENTS.

2.02 SCREWJACK DECK SUPPORT SYSTEM

A. Screwjack Adjustable Deck Support System:
   1. Material: Mineral Filled High Density Copolymer Polypropylene. Contains 20% Post-industrial recycled material.

B. Screwjack Deck Pedestals:
   1. Weight Bearing Capacity: 1000 lbs per pedestal.
   2. Adjustable Height Range: 0 to 16 inches (0 mm - 305 mm)

C. Pedestals: Bearing Surface Area: 48 square inches (310 sq. cm).
   1. Rotating Base: 7-7/8 inch (200 mm) diameter by 3/16 inch (4.7 mm) wall thickness. Bearing Surface Area 48 square inches (310 sq. cm.).
   2. Top Unit Model: 5-7/8 inch (150 mm) diameter by 5/32 inch (4 mm) thick plate with a 29 square inch (187 sq. cm.) bearing surface area.
   3. Model: C4 Coupler: Adds up to 4 inches of height.

4. Pedestal Model SE0: 1-1/4 inches to 1 1/2 inches.
5. Pedestal Model SE1: 1-1/2 inches to 2 inches.
6. Pedestal Model SE2: 2 inches to 3 inches.
7. Pedestal Model SE3: 3 inches to 4-3/4 inches.
8. Pedestal Model SE4: 4-3/4 inches to 6-3/4 inches.
9. Pedestal Model SE5: 6 3/4 inches to 8 1/2 inches.
10. Pedestal Model SE6: 5 1/2 inches to 9 inches.

D. Fixed Height Pedestal Supports:
   1. Model EH-12: Fixed Height 1/2 inch tall. Bearing Surface 17.75 inches.
   2. Model EH-20: Fixed Height 3/4 inch tall. Bearing Surface 17.75 inches.

E. Shims:
   1. Model: LGH2 Flexible Shim 1/16 inch.
      a. Use no more than 4 shims. If using only 1/4 segment, adhere it to the pedestal with construction adhesive.
      b. Material: Sanaprene.
   2. Model: LGH3 Rigid Poly Shims 1/8 inch.
      a. Use no more than 2 shims. If using only 1/4 segment, adhere it to the pedestal with construction adhesive.
      b. Material: Mineral Filled High Density Copolymer Polypropylene.
      c. Contains 20% Post-industrial recycled material

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Substrate must be clean and free of projections and debris that could impair the performance of the pedestals or the total deck system

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Clean surfaces thoroughly prior to installation.

C. Establish accurate lines, levels and pattern.

D. Verify that substrate to receive the deck supports is structurally capable of carrying the dead and live loads anticipated.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. For roof top applications provide the support required for each pedestal to create an adequate bearing surface using the method specified. Locate on the grid of each pedestal and where each measured grid line meets the perimeter.

C. For on grade applications provide the support required for each pedestal to create an adequate bearing surface using the method specified. Locate on the grid of each pedestal and where each measured grid line meets the perimeter.

D. Adjust each deck support to a "top of pedestal" elevation marked around the perimeter.

E. Place deck supports along the grid lines. On larger decks, pedestals should be pre-sorted and pre-set to the proper elevation and placed in position prior to the installation of pavers or tiles.

F. As the deck supports are placed and loaded with pavers or tiles, fine vertical adjustment can be made by rotating the base or bottom of the deck support. Clockwise rotation of the pedestal base will raise the bearing surface and the deck. Counter- clockwise rotation will lower the top bearing surface.

G. Pedestals have built in height limit indicator ' bumps'. When pedestal is fully extended, height limit indicator "bumps" will be felt and heard, indicating the maximum height of the pedestal. Do not extend pedestal beyond the height limit indicators. Always maintain adequate thread engagement. Never over extend any pedestal.

H. Use shims to compensate for slight irregularities in decking panel thickness. Place on top of the pedestal, under the corner(s) of the decking tile or paver. Use no more than 2 shims on top of the pedestal and always adhere 1/4 wedges with construction adhesive.

I. Stackable Fixed Height Pedestals: Complete deck and grid layout as required. Stack no more than 4 fixed height pedestals together and place in lieu of adjustable pedestals where needed. Spacer tabs can be removed to accommodate perimeter and corner support locations.

J. V Series Slope Compensation:
   1. Use integrated base leveler disks to compensate for up to 1/2 inch per foot slope. Additional slope compensation can be added by placing two additional LD4 disks under the pedestal base to compensate for up to 1 inch per foot of slope.
   2. Place the thickest edge of the disk (located on the edge by a small finger tab) at the down slope side of the deck support, one disk compensates for 1/4 inch per foot of slope. Using two to four disks, rotate one in relation to the other to create a level deck support.
   3. Shims may be used in multiples, whole or segmented, and placed under the base to level the deck support.
   4. All shims under a pedestal must be adhered to each other or the pedestal (NOT to the roofing membrane) with construction adhesive. Shim no more than 1/8 inch (3 mm) beneath each pedestal.
   5. On top of a pedestal: Use no more than 2 shims.

K. Slope Compensation:
   1. Shims may be used in multiples, whole or segmented, and placed under the base to level the deck support.
   2. Under a pedestal: All shims under a pedestal must be adhered with construction adhesive to each other - never to the membrane. Shim no more than 1/8 inch (3mm) beneath each pedestal.
   3. On top of a pedestal: Use no more than 2 shims.

L. Deck Support Placement And Final Adjustment:
   1. Deck supports and deck surface panels shall be placed in accordance with the pedestal manufacturers written instructions. Use of paver lifters, is recommended.
   2. Pedestals are designed to be rotated for final slight adjustment when pedestals are fully loaded. Deck supports should be leveled in each succeeding row as the installation proceeds.

3. Final height adjustment or maintenance is easily made by rotating the base in a clockwise or counter-clockwise direction to raise or lower the deck surface material.
4. Additional sections of shims may be used and should be available for regular maintenance. Shims may be used in multiples, whole or segmented, and placed under the base or on top the pedestal to level the deck support.
5. On top of pedestal use construction adhesive to adhere sections of shims. Construction adhesive is not required when using whole shims on top of a pedestal.
6. Beneath a pedestal use a small amount of construction adhesive to adhere sections of shims and/or whole shims to each other or to the pedestal. Unless specified to do so, DO NOT use construction adhesive to adhere pedestal or shims to insulation, roofing or waterproofing membrane.

M. Perimeter Containment:
1. Any area of a deck that is not restrained by a parapet or foundation wall must be ' boxed-in' and contained. Deck panels will move if all sides are not adequately restrained.
2. Perimeter containment located at the outside of the deck must be installed to provide restraint. No movement should be allowed at the perimeter of the deck system greater than 1/8 inch.

3.04 FIELD QUALITY CONTROL

A. Inspect frequently during installation to assure that grid spacer lines are being maintained in a straight and consistent pattern and that deck panels or pavers are level and not rocking.

B. Confirm that deck pedestal height does not exceed the specified height for the V Series:

C. Inspect to assure that all paver spacing between tiles and at perimeter containment does not exceed a 1/8 inch. 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.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

3.06 CLEANING AND ADJUSTING

A. Tile Cleaning: Clean wood tiles at the completions of the installation using methods and materials recommended by the tile manufacturer.

B. Instruct the Owner about performing routine maintenance of the deck. Check for rocking pavers and adjust or shim immediately. Substrates can settle and pedestals may have to be readjusted. Failure to do so can cause a tripping hazard. Periodically check spacer tabs and immediately replace broken tabs to limit deck movement. Make sure the edge restraint stays intact and structurally sound.

3.07 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION