



Versadjust V Series Specification
SECTION 07760 DECK PEDESTALS

The Versadjust, adjustable V-Series line reaches heights from 2 ¼ inches to 36 inches, has a 1250 pound weight bearing capacity FS:3 and contains built in slope compensation from 0 – one half inch per foot slope. Precise spacer tabs allow for deck drainage, and the screw-to-adjust height setting assures a perfectly straight and level deck. Quick Clip Coupler® (patent pending) increases the speed and efficiency installing pedestals at heights over 9 inches. Accessories are available to compensate for additional slope and accommodate heights from 1/8 inch to 2 ¼ inches. Use Versadjust Pedestals with Bison Brace System for Excess Height Installations from 24" -36" in height or for installations requiring additional stability. The Bison Versadjust pedestal has a broad footprint that provides stability, is impervious to freeze thaw cycles, and offers a range of heights suited to almost any application. Made in the USA.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER **** Delete items below not required for project.

Adjustable Deck Pedestals.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER **** Delete any sections below not relevant to this project; add others as required.

Section 04220 - Concrete Unit Masonry.

Section 04400 - Stone Assemblies.

Section 04410 - Dry-Placed Stone.

Section 06150 - Wood Decking.

Section 06500 - Structural Plastic Decking.

Section 06730 - Composite Decking.

Section 07500 - Membrane Roofing.

Section 07720 - Roof Walkways.

Section 07760 - Roof Pavers.

Section 09690 - Access Flooring.

Section 02780 - Unit Pavers.

1.3 REFERENCES

**** NOTE TO SPECIFIER **** Delete references from the list below that are not actually required by the text of the edited section.

ASTM D 1238-04 – Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.

ASTM D 792-00 – Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement

ASTM D 638-03 – Standard Test Method for Tensile Properties of Plastics

ASTM D 256-06 – Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.

ASTM D 648-06 – Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.

1.4 SUBMITTALS

Submit under provisions of Section 01300.

Product Data: Manufacturer's data sheets on each product to be used, including:

A. Preparation instructions and recommendations.

B. Storage and handling requirements and recommendations.

C. Installation methods.

D. Shop Drawings: Submit shop drawings detailing the installation methods. Coordinate placement with locations noted on the Contract Drawings.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.

B. Installer Qualifications:

1. The deck support system installer must have a minimum of two (2) years proven construction experience, be capable of estimating and building from blueprint plans and details, determine elevations, and properly handle materials. All Work must comply with the Bison installation application procedures for deck support work specified herein.

**** NOTE TO SPECIFIER **** Retain the next paragraph only if the Pedestal system is installed over a roofing or waterproofing membrane. Delete if not required.

C. Special Considerations

1. The contractor assumes the responsibility for and must take into consideration the structural capability and adequacy of the structure to carry the dead and live load weight(s) involved, and that the density of any insulation is satisfactory to resist crushing and damaging the waterproofing membrane.

**** NOTE TO SPECIFIER **** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect. *.(if applicable)*
 - 3. Refinish mock-up area as required to produce acceptable work.
- 1.6 DELIVERY, STORAGE, AND HANDLING
 - A. Deliver and store Bison Deck Supports and system components with labels intact and legible.
 - B. Inspect all delivered materials to insure they are undamaged and in good condition.
 - C. Store and dispose of solvent-based materials such as construction adhesive, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- 1.7 PROJECT CONDITIONS
 - A. There are no pedestal installation temperature restriction guidelines other than the practical considerations of working in any unsafe condition or inclement weather.
 - B. Deck supports specified are to be for used with pedestrian traffic only.
 - C. Perimeter Walls and Containment
 - D. Pedestrian decks must be restrained by perimeter blocking or walls on all sides. Lateral movement greater than 1/8" is unacceptable and will be subject to rejection.
 - E. It is recommended that the deck surfacing tiles or pavers sit above the waterproofing integral flashing and or counter flashing. In situations where the perimeter of the deck comes into contact with the flashing material, protective wall covering should be specified if deemed necessary by specifier.
 - F. Heavy Roof Top Features. Flat bottom features such as planters, heavy benches, water features, hot tubs, etc. always require individual support that is in addition to the deck pedestal system.
 - 1. A minimum of one additional pedestal support must be installed for every 500 lbs. (or portion thereof) of static loading. These additional support pedestals must be installed directly under the decking and evenly spaced immediately below the feature locations. One additional pedestal must be placed under corner of any rectangular feature.
 - 2. When installing Bison Cubes, additional support may be needed under the center and corners of the cubes depending on the size and anticipated weight loads.
 - 3. Features supported by legs or feet are not advised or considered unacceptable because of the consequences of point loading.
 - 4. Any feature that creates vibration must be provided for in special consultation and written agreement with Bison. Cell phone towers, heavy planters and other similar features require their own separate curb designed by an architect or engineer.
 - G. All decks shall be designed to not exceed the design capacity of the pedestal.
 - H. The substrate immediately below the pedestals shall provide positive drainage.
 - I. In the case of 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.
 - J. For applications over roofing and waterproofing membranes Bison Innovative Products recommends that a 12" x 12" piece of the same type of membrane be installed as a separate protection slip sheet underneath each pedestal.

**** NOTE TO SPECIFIER **** Retain the next paragraph only if the Pedestal system is installed over a roofing or waterproofing membrane. Delete if not required.

- K. Decks over roofing and waterproofing
- L. Bison Pedestal Installation: Bison pedestals must be installed on surfaces with a minimum 40 psi bearing capacity.
- M. Bison Pedestal Installation: Bison pedestals must be supported by a surface that provides a minimum
- N. 40 psi bearing capacity. There are alternate ways to accomplish the non- invasive and required support.
- O. Roof top applications : Two basic types of roof systems are commonly found in the US and Canada for retrofit and new roofing. Roof systems that specify insulation below the waterproofing layer, and roof systems that have extruded insulation above the waterproofing membrane.
 - 1. Roof Type 1 – Common Insulation installed below Roof Membranes.
 - a. Currently the most typical and common roofing systems specify roofing membranes be installed over common rigid insulation boards that are typically manufactured from poly-isocyanurate, perlite, or wood fiber-board materials. These typical systems incorporate 20 psi density insulations that need additional support to create an adequate bearing surface. That is typically accomplished in one of three ways.
 - 1) Incorporate one of the thin Cap Bearing Protective Layer Insulation specifications that call for a very thin protective layer to be installed on top of the common 20 psi insulation. Such a cap type insulation product is commonly formed as a thin dense low-foamed isocyanurate layer, and provides the necessary pedestal support.
 - 2) Bison Model FIB Pedestal Base: Install an enlarged base that supports the pedestal to distribute the anticipated loaded weight of a pedestal over an enlarged area. Bison manufactures the Floating Insulation Base (Model FIB) for this purpose. Model FIB is specifically designed to be directly installed over Type 1 roof systems that incorporate 20 psi common insulation boards.
 - 3) Insulation above the Membrane: Install a 1.5" thick (min.) layer of dense, closed cell 40 psi (min.) extruded cell poly-styrene insulation board above the common roofing system that has buried insulation to provide support for the pedestal system.
 - 2. Roof Type 2 – Closed Cell Insulation Protecting Roof Membrane Systems.
 - a. Inverted Roof Membrane Systems that incorporate 40 + psi density closed cell extruded poly-styrene insulation on top of the roofing membrane are the second type. The dense extruded polystyrene is capable of bearing Bison pedestal weights. Before the ballast rock is installed, deck system pedestals can be installed directly on the insulation. Varying densities and thicknesses of extruded polystyrene are commonly used, and substantial ballasting is required.
 - b. Bison pedestals can be installed directly on top of gravel removed 40 psi, or greater, extruded closed cell polystyrene insulation with 1.5" thickness or greater.
- P. 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 (breeze) should be installed and compacted at Bison Deck Support locations.
2. Bison Floating Foundation Bases (FFB) must be used beneath all on-grade Bison Deck Support decks. Level the surface and install directly on grade as a base.
3. A wall or perimeter containment on all open sides is required. Install structural perimeter containment that restrains the entire decking system.

1.8 WARRANTY

- A. At project closeout and upon request, Bison Deck Supports can provide to the Owner or Owners Representative, an executed copy of the manufacturer's standard document outlining the terms, conditions and limitations of their limited warranty against manufacturing defect for a period of three (3) years.
- The Contractor warrants 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 minimum of three (3) years.
- It is the responsibility of the Contractor installing the product listed in this section to coordinate warranty requirements with any related sections or adjacent Work. Notify the Architect immediately of any potential lapses or limitations in warranty coverage.
- For use with pedestrian traffic only – Never use Bison Deck Supports to support decks that have wheeled, motorized or equipment traffic.
- Decks should be restrained on all sides and not have lateral movement in excess of 1/8".

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Bison Innovative Products; 2395 West 4th Avenue, Denver, CO 80223. Toll Free 800-333-4234. Phone 303-892-0400. Fax 303-825-5988. Email: Sales@BisonIP.com. Web: www.BisonIP.com.

**** NOTE TO SPECIFIER **** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 APPLICATIONS/SCOPE

Furnish and install a complete adjustable deck support system with a maximum cavity height of up to:

- A. Versadjust Pedestals maximum cavity height 24 inches (610 mm).
- B. Versadjust Pedestals with Bison Brace System for excess height installations in the range of 24-36 inches.
- C. Deck supports are not designed for supporting decks that carry vehicular traffic or equipment including but not limited to snow removal equipment, ATV's, forklifts, or any motorized vehicles.

Consult the Manufacturer and the Project Engineer regarding the following:

- D. When spacer tab condition or design requires spacing between decking tiles or concrete pavers other than the standard spacing required by the manufacturer.
- E. When considering use for other than a raised decks (e.g. interior floors, stairs, etc.).
- F. When the required pedestal height exceeds the safe limits as determined by the Manufacturer.
- G. When pedestal load capacity exceeds the maximum listed.
- H. When anticipating installation of any items with excess weight on top of the deck.
- I. When using Bison Deck Supports pedestals on grade (soil).
- J. When greater pedestal load capacity is required.

2.3 VERSADJUST DECK PEDESTALS

Typical Height Range 2 ¼" -36 inches, Weight Bearing 1250 lbs/pedestal FS:3
V-Series Pedestals Made in the USA

Adjustable Pedestals:

**** NOTE TO SPECIFIER **** Select Required size(s) from the next seven options.

- A. Model: V1 – 18 2¼" – 2 ¾" (57mm – 70mm) with 1/8 inch tab
- B. Model: V1 – 316 2¼" – 2 ¾" (57mm – 70mm) with 3/16 inch tab
- C. Model: V2 - 18 2¾" - 3¾" (70mm – 95mm) with 1/8 inch tab
- D. Model: V2 - 316 2¾" - 3¾" (70mm – 95mm) with 3/16 inch tab
- E. Model: V3 – 18 3¾" - 5¾" (95mm – 146mm) with 1/8 inch tab
- F. Model: V3 – 316 3¾" - 5¾" (95mm – 146mm) with 3/16 inch tab
- G. Model: V4 – 18 5¾" - 9" (146mm – 229mm) with 1/8 inch tab
- H. Model: V4 – 316 5¾" - 9" (146mm – 229mm) with 3/16 inch tab
- I. Model: VC2– Coupler adds between 0" to 4" inches (0mm-102mm)
- J. Model: V4 + VC2 9 inches to 13 inches (229mm – 330mm).
- K. Model: V4 + VC2 + VC2 13 inches to 17 inches (330mm - 432mm)
- L. Model: V4 + VC2 + VC2 + VC2 17 inches to 21 inches (432mm - 533mm)
- M. Model: V4 + VC2 + VC2 + VC2 21 inches to MAXIMUM HEIGHT 24 inches (533mm - 610mm)
- N. If over 24" use Couplers in conjunction with Bison Brace system. Base Model: Includes 2 adjusting base leveler disks
 1. Diameter: 8" inches (203 mm) diameter x 3/16 inch (4.75mm) top wall thickness.
 2. Bearing Surface Area: 50.24 square inches (1276 sq. mm)
 3. Six (6) - 1/4 inch (6mm) diameter holes for drainage and / or mechanical attachment.
 4. Top Unit: 5/32" inch (4mm) thick plate with a 42.39" square inch (736.6 sq. mm.) bearing surface area.
 5. Spacer Tabs uniform spacing between pavers:
 6. VT18 1/8 inch (3.175 mm) tab thickness.
 7. VT316 3/16 inch (4.5mm) tab thickness.
 8. Load Capacity: Maximum 1250 lbs (567 kg) per pedestal with a Safety Factor of 3 (FS:3).
 9. Material: Mineral Filled High Density Copolymer Polypropylene.
 - a. Contains 20% Post-industrial recycled material.

**** NOTE TO SPECIFIER **** Delete the next paragraph if Low Height Pedestal Supports are not required. Retain only model(s) specified from the available options.

- Low Height Pedestal Supports: (Note: NO slope compensation is included with these models)
- O. Model: Fixed Height VT18 or VT316 1/8 inch (3.175mm) tall,
1. Integral Spacer Tabs: Specify 1/8 inch or 3/16 inch
2. Material: Mineral Filled High Density Copolymer Polypropylene.
a. Contains 20% Post-industrial recycled material.
3. Bearing Surface 17.75 square inches.
- P. Model: HD25-18 Stackable (4 Max) 1/4 inch (6.4mm) tall, with integral 1/8" Spacer Tabs
Q. Model: HD25-316 Stackable (4 Max) 1/4 inch (6.4mm) tall, with integral 3/16" Spacer Tabs
R. Model: HD50-18 Stackable (4 Max) 1/2 inch (13mm) tall, with 1/8" integral Spacer Tabs
S. Model: HD50-316 Stackable (4 Max) 1/2 inch (13mm) tall, with 3/16" integral Spacer Tabs
T. Model: HD75-18 Stackable (4 Max) 3/4 inch (19mm) tall, with 1/8" integral Spacer Tabs
U. Model: HD75-316 Stackable (4 Max) 3/4 inch (19mm) tall, with 3/16" integral Spacer Tabs
1. Material: Mineral Filled High Density Copolymer Polypropylene.
a. Contains 20% Post-industrial recycled material.
2. Bearing Surface Area: 37.68" sq inches (9032 sq mm).
- V. Model: Adjustable LO: 1 1/4 inches to 2 inches (32mm - 51mm).
1. Rotating Base:
a. Size: 7 7/8 inch (200mm) diameter x 3/16 inch (4.75mm) top wall thickness.
b. Bearing Surface Area: 48 square inches (310 sq. cm.).
c. Four (4) - 1/4 inch (6mm) diameter holes for drainage and / or mechanical attachment.
- W. Top Unit: 5/32 inch (4mm) thick plate with a 29 square inch (187 sq. cm.) bearing surface area
1. Material: Mineral Filled High Density Copolymer Polypropylene.
a. Contains 20% Post-industrial recycled material.

**** NOTE TO SPECIFIER **** Delete the next paragraph if Leveler Disks are not required. Retain only model(s) specified from the two available options.

- Base Leveler Disks:
- X. Model: LD4 - Placed beneath pedestals to compensate for slopes up to 1 inch per foot.
1. Slope: 1/4 inch per foot each. Two additional LD4 units may be added.
 2. V Series Pedestals include two (2) Model VB Integral Base Leveler Disks.
 3. All other pedestals may stack up to four LD4's under one pedestal for up to 1 inch of slope compensation.
 4. Dimensions: Center point thickness 3/8 inch (9.5mm).
 5. Material: Mineral Filled High Density Copolymer Polypropylene.
 6. Contains 20% Post-industrial recycled material.

**** NOTE TO SPECIFIER **** Delete the next paragraph if Shims are not required. Retain only model(s) specified from the two available options.

- Shims:
- Y. Model: B11 Flexible Shim 1/16 inch
1. Use no more than 4 shims. If using only 1/4 segment, adhere it to the pedestal with construction adhesive.
2. Material: (1.5mm) Sanaprene.
- Z. Model: PS1 Rigid Poly Shims 1/8 inch (3.175mm)
1. Use no more than 2 shims. If using only 1/4 segment, adhere it to the pedestal with construction adhesive.
2. Material: Mineral Filled High Density Copolymer Polypropylene.
3. Contains 20% Post-industrial recycled material
- AA. Model: BB-Wedge
1. Spacing Wedge
2. Material: Mineral Filled High Density Copolymer Polypropylene.
3. Contains 20% Post-industrial recycled material.
4.

**** NOTE TO SPECIFIER **** Delete the next paragraph if Base Pads are not required. Retain only model(s) specified from the available options.

- Base Pads:
- BB. Model FFB: Pedestal base pad for on grade use, provides a large 12 inch by 12 inch x 1/4 inch (305mm x 305mm x 6 mm) base bearing surface for on grade installations.
- CC. Model FIB: Pedestal base pad for use on roofing and waterproofing installations over low density insulation, provides a large 12 inch by 12 inch x 11/16 inches (305mm x 305mm x 17.5mm) base bearing surface.
1. Material: Mineral Filled High Density Copolymer Polypropylene. FIB also contains galvanized metal pad.
2. Contains 20% Post-industrial recycled material.
- Joist Top:
- DD. Model JT: Pedestal Accessory to construct joist and plank decks. Accommodates 2 x and 4 by joists.
1. Adds 3/16" (4.5mm) in height. Creates a base bearing surface for joist installation.
2. Material: Polypropylene

Bison Brace System:
Required for Installations 24"-36" in height or for applications requiring additional stability.

**** NOTE TO SPECIFIER **** Select Required size(s) from the next seven options.

- EE. Model: BB-C – Bison Brace Collar, Fits Model V3 & V4 only
- FF. Model: BB-S – Short Brace Kit
 - 1. For 16"-22" wide Deck Tiles
 - 2. Kit contains 2 each 8" long brace pieces, Screw & Nut
- GG. Model: BB-L Long Brace Kit
 - 1. For 22"-36" wide Deck Tiles
 - 2. Kit contains 2 each 16" long brace pieces, Screw & Nut
- HH. Model: BB-Pegs
 - 1. Individual pegs to be inserted into Versadjust Pedestal Base
- II. Model: BB-P
 - 1. Pegs pre-inserted into Versadjust Pedestal Base at the factory
 - 2. Add to any Versadjust Pedestal Model – for example specify: V4 + BB-P
 - 3. Material: Mineral Filled High Density Copolymer Polypropylene.
 - 4. Contains 20% Post-industrial recycled material.

**** NOTE TO SPECIFIER **** Delete the next paragraph if Bison Wood Tiles and Fastening Kit are not required. Retain only model(s) specified from the available options.

2.4 BISON WOOD TILES:

Weight Bearing Capacity 1,250 lbs./ per tile FS:3

- A. Model: WT-IPE-24RIBBED Ipê Wood Tile
 - 1. Dimensions: 23 7/8" x 23 7/8" x 1.69" nominal
 - 2. Weight per tile: 24 lbs Weight per square foot: 6 lbs.
 - 3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
 - 4. Color: Brown Note: Tiles are a natural product and have variations in color and grain.
 - 5. Surface: Ribbed
- B. Model: WT-IPE-24SMOOTH Ipê Wood Tile
 - 1. Dimensions: 23 7/8" x 23 7/8" x 1.69" nominal
 - 2. Weight per tile: 24 lbs Weight per square foot: 6 lbs.
 - 3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
 - 4. Color: Brown Note: Tiles are a natural product and have variations in color and grain.
 - 5. Surface: Smooth
- C. Model: WT-IPE-48 Ipê Wood Tile
 - 1. Dimensions: 47 7/8" x 23 7/8" x 1.69" nominal
 - 2. Weight per tile: 48 lbs Weight per square foot: 6 lbs.
 - 3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
 - 4. Color: Brown (Note: Tiles are a natural product and have variations in color and grain.)
 - 5. Surface: Ribbed, Smooth by Special Order
- D. Model: WT-FSC-MAS -24 Massaranduba Wood Tile (FSC Certified SCS-COC-002585)
 - 1. Dimensions: 23 7/8" x 23 7/8" x 1.69" nominal
 - 2. Weight per tile: 24 lbs Weight per square foot: 6 lbs..
 - 3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
 - 4. Color: Reddish Brown (Note: Tiles are a natural product and have variations in color and grain.)
 - 5. Surface: Ribbed
- E. Model: WT-FSC-IPE -24 Ipê Wood Tile (FSC Certified SCS-COC-002585)
 - 1. Dimensions: 23 7/8" x 23 7/8" x 1.69" nominal
 - 2. Weight per tile: 25 lbs Weight per square foot: 6.25 lbs.
 - 3. Fire Rating: Class A – meets & exceeds ASTM E108-07a Spread of Flame Test
 - 4. Color: Reddish Brown (Note: Tiles are a natural product and have variations in color and grain.)
 - 5. Surface: Smooth
- F. Model: FS-1 Fastening Kit for Bison Wood Tile Wood Tile Fastening Kit:
 - 1. Model: FS1 Fastening Kit REQUIRED for use with Bison Pedestals and Bison Wood Tiles ONLY.
 - 2. Fastens Wood tiles to the pedestals without penetrating or damaging wood.
 - 3. Material: Mineral Filled High Density Copolymer Polypropylene. FIB also contains galvanized metal pad.
 - 4. Contains 20% Post-industrial recycled material.
 - 5. FS1 Screw
- G. Care & Maintenance of Wood Tiles:
 - 1. Bison Wood Tiles are a natural material and can absorb or loose moisture in different climates.
 - 2. Wood Characteristics: Bison Wood Tiles are made of Ipê and Massanduba hardwoods which contain a rich variety of graining and coloration and are exceptionally dense and resistant to insects. The natural shading, coloration and graining variations add to the architectural character and overall visual appeal of the finished product.
 - 3. Storage: Keep product out of direct sunlight until it is ready to be installed. Wood tiles should not be stored tightly wrapped in plastic. Bison wood tiles will adjust to the climate where they are installed and may have or develop some slight cracking or checking.
 - 4. General Safety Precautions when working with Bison Wood Tiles: Wear safety glasses with side shields when handling, cutting, sanding, or grinding this material. Use a face shield for processes that may generate excessive dusts and splinters. Wear puncture resistant work gloves, such as leather when handling. Respirators must be worn if the ambient concentration of airborne contaminants exceeds prescribed exposure limits. Dust masks may be worn to avoid the inhalation of nuisance dust. Dust masks are not adequate protection in environments above the occupational exposure limit. Cutting, Grinding, or Sanding should be done outdoors or in a well-ventilated area. Refer to product MSDS for more information.
 - 5. Cutting: Carbide or diamond tipped blades are highly recommended. Bison wood tiles have a very high density and a slower feed rate is recommended when cutting tiles. In order to minimize checking (small cracks) the installer must seal any cut ends with Anchorseal® or other equivalent product. Apply sealer with a foam brush to the cut ends only, being very careful to not

- get any on the top surface of the wood. Reassembly: To reassemble tiles after cutting, the installer must pre-drill holes from the bottom, using a carbide drill bit designed to extract stock during drilling. Exercise caution to not drill through the top surface. In addition, use only stainless steel screws which are durable and provide maximum fastening power.
6. Fastening: Bison strongly recommends the use of Bison Deck Supports and the FS1 Fastening Kit* (*patent pending) when installing Bison Wood Tiles. The Bison pedestal/wood tile system installs quickly and securely and allows for removal later if required. The FS1 Fastening Kit, available exclusively from Bison, fastens wood tiles to the pedestals without penetrating or damaging the wood.
 7. Cleaning & Sealing: If desired, Bison Wood Tiles can be periodically cleaned and sealed. Wood stabilizers or sealants can help mitigate the loss of moisture on the top of the boards and minimize checking and splitting. The installer can lightly wax the ends of the wood if desired. *Note: small checks and splits are normal and a natural part of the wood.* The following manufacturers offer cleaning and sealing products specifically designed for use with exotic hardwoods: Cabots, Penofin, Messmers. *Important: Bison Innovative Products recommends that you test any cleaners or sealants in an inconspicuous area first before applying them to the installed deck.*
 8. Sanding: If you plan to seal your deck and desire a more uniform appearance, a light sanding is highly recommended. Use 80 grit sandpaper to lightly sand the wood tiles and thus reduce the appearance of any minor marks, scratches or surface imperfections. After sanding, sweep the tiles and use water to rinse away any remaining dust and allow to dry thoroughly before applying sealer. Exercise caution when sanding wood with the scuff resistant surface. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.* Maintaining Tile Color: To better maintain the rich coloration of the tiles, you can apply a penetrating oil finish with UV blocker. These products offer UV protection as well as mold and mildew protection. Before applying any finish, first clean and remove any residue from the wood tile as described above. After your initial coat is applied, an annual maintenance coat will help keep the coloration vibrant for years to come. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.*
 9. Natural Aging: Left to weather naturally and, depending on climatic conditions, Bison wood tiles will develop a silvery-gray patina. If you prefer this look, Bison recommends that a coat of wood stabilizer be applied after installation. Some products provide UV protection, allowing your wood tiles to acclimate more uniformly as weather and environmental conditions season the deck. *Note: each board has unique characteristics and will weather at different rates. The amount of direct and indirect sunlight, temperature, humidity, moisture and other local conditions will factor into the time and shading of the deck.*
 10. Periodic Cleaning: Commercial Cleaning Products: Bison recommends using a deck cleaning product which safely cleans the wood and also kills mold spores. The deck tiles are ready to re-seal once they are cleaned. *Important: Always test any product you apply in an inconspicuous place to make sure it performs as you expect.*
 11. Pressure Washing: You may also use a pressure washer to remove built-up dirt, mold or mildew from your wood tiles. Caution: use the lowest PSI for the species of wood you are cleaning. A maximum of 1200 PSI is suggested for Bison Wood Tiles. Bison also recommends using a professional deck cleaning contractor. *Important: Test an inconspicuous area first and be careful to use the wand in even strokes to avoid lap marks.*

2.5 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Verify all elevations, required pedestal heights and deck dimensions before commencing work.

2.6 PREPARATION

- A. Establish accurate lines, levels and pattern.
- B. The substrate surface that will receive the deck supports must be well compacted (on grade) and structurally capable of carrying the dead and live loads anticipated.
- C. The substrate must be clean and free of projections and debris that could impair the performance of the pedestals or the total deck system.

**** NOTE TO SPECIFIER **** Delete the next paragraph if Pedestals are not installed in conjunction with roof systems.

**** NOTE TO SPECIFIER **** Retain the next paragraph only if an IRMA (PRMA) configuration is specified.

- D. Decks over roofing and waterproofing: verify that installation conforms to section 1.7H of this specification.
- E. Decks on Grade: verify that installation conforms to section 1.7I of this specification.
- F. Installation requirements vary for each individual project site. Deck materials 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.
- G. Once a starting point and the finished elevation of the deck surface have been determined, the support system elevation (finished elevation minus deck material thickness) is established and marked around the perimeter using a transit "torpedo" water level or laser leveling device.
- H. Precise measurements should be taken and deck area should be accurately defined. Mark off and square all outside edges with control lines (chalk lines or spray paint). Install 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. To assure a square layout, use the control lines as references to periodically check the layout during installation.

2.7 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. If required, place a Floating Insulation Base (FIB) board or Floating Foundation Base (FFB) in the location on the grid of each pedestal.
- C. Next, a deck support must be placed where each measured grid line meets the perimeter. Remove two (2) spacer tabs in line with one another on top of each deck support placed around the perimeter. Remove all four (4) spacer tabs at corners.
- D. Adjust each deck support to a "top of pedestal" elevation marked around the perimeter. Normally the deck support is positioned as close to the perimeter as possible, with the two remaining spacer tabs aligned with the grid line. Using the "top of pedestal" elevation

marked on the perimeter, stretch a mason's line along and slightly ahead of the second row of deck supports. A laser leveling device may also be used for this purpose.

- E. On larger decks, it is recommended that pedestals 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 located along the grid lines are 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. Bison 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. Do not exceed maximum height listed on pedestal, use the next size pedestal. A VC2 coupler must be added to the V4 model to achieve greater heights. Always maintain adequate thread engagement. Never over extend any pedestal.
- H. Slight irregularities in decking panel thickness can be compensated for by using one to two shim segments. Place on top of the pedestal, under the corner(s) of the decking tile or paver. Use no more than two (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 instructed above. Stack no more than four (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. The V Series has integrated base leveler disks that 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. Under a pedestal: 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 (3mm) beneath each pedestal.
 - 5. On top of a pedestal: Use no more than 2 shims.
 - 6. Versadjust Series Pedestal Bracing with Bison Brace
 - 7. Excess Height: Required for added Stability for Installations 24"-36" in height
 - 8. For Installations requiring additional stability.
 - 9. One level of Bison Brace Collars must be installed at the mid-point height of the pedestal column. Once the standard height is established (i.e. 18" for 36" overall height) that same level of Collar placement must be maintained. NOTE: Final adjustment for top of deck height must be made prior to setting the standard height for the Brace Collars.
 - 10. BB – S Short Bison Brace
 - 11. Install around the outside perimeter of a walk deck where pedestals are installed where less than the typical 24" spacing occurs and shorter arms are required.
 - 12. BB – L Long Bison Brace
 - 13. Install in the interior area of a walk deck where pedestals and 23 - 7/8" x 23 - 7/8" surfacing panels are installed providing uniform 24" spacing.
 - 14. Install Bison Braces by placing the two-hole brace ends over the self-locking pegs on Collar or base, fit brace arms together making sure all brace teeth are firmly interlocked and secure with Screw and Wing Nut. Braces should be installed as tightly as possible to create a rigid bracing system between each vertical pedestal column.
 - 15. Two Bison Brace arms extend outward from each corner pedestal in perpendicular rows. This results in a series of braces attached to Collars (BB – C) in each horizontal direction from one side of the deck to the other and from one end to the other.
 - 16. Once the horizontal perpendicular run(s) of Bison Braces are properly installed at the correct height(s), the deck surfacing panels may be installed as the decking system progresses.

2.8 DECK SUPPORT PLACEMENT AND FINAL ADJUSTMENT

- A. Deck supports and the deck surface panels must be placed as the manufacturer directs in these written instructions. Use of labor saving devices, such as paver lifters, is encouraged, especially on large jobs.
- B. 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. Final height adjustment or maintenance is easily made by simply rotating the base in a clockwise or counter-clockwise direction to raise or lower the deck surface material.
- C. 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.
- D. 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.
- E. 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.

2.9 PERIMETER CONTAINMENT

- A. Any area of a deck that is not restrained by a parapet or foundation wall must be 'boxed-in' and contained. The deck panels will move if all sides are not adequately restrained. 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" .

2.10 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 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. 24 inches (610mm) maximum pedestal height unless using the Bison Brace System.
- D. Unless otherwise specified in writing to allow for expansion, inspect to assure that all paver spacing between tiles and at perimeter containment does not exceed a 1/8" . 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.

2.11 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

2.12 IMMEDIATELY FOLLOWING INSTALLATION

- A. The Owner, or the Owner's Agent, shall carefully inspect the deck system to be positive that:

1. The new deck system is adequately blocked on all sides to contain the surface decking and related components.
2. There is no more than 1/8" spacing between any deck panels and at all sides of the deck perimeter.
3. There is no ballasting rock used to fill in any perimeter voids.
4. There is no 'rocking' of deck panels as foot traffic is applied to the surface decking.
5. All required spacer tabs are in place and visible.

2.13 ROUTINE MAINTENANCE AND CARE

A. Installer and/or Architect has a duty to instruct the deck 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.

END OF SECTION

	Model No.	Description	Height Range	Max Height
	 V1-18 V1-316	Adjustable Pedestal* <small>(Select 1/8" or 3/16" Tab Size)</small>	2 1/4" - 2 3/4"	2 3/4"
	 V2-18 V2-316	Adjustable Pedestal* <small>(Select 1/8" or 3/16" Tab Size)</small>	2 3/4" - 3 3/4"	3 3/4"
	 V3-18 V3-316	Adjustable Pedestal* <small>(Select 1/8" or 3/16" Tab Size)</small>	3 3/4" - 5 3/4"	5 3/4"
	 V4-18 V4-316	Adjustable Pedestal* <small>(Select 1/8" or 3/16" Tab Size)</small>	5 3/4" - 9"	9"
	 VC2	Quick Clip Coupler	Insert VC2 into V4 Base or other VC2s Adds 4" each	Utilize up to 4 VC2's to reach 24" Must use Bison Brace for 24"-36" in height
Tabs	 VT18 VT316	Tab	1/8" wide 3/16" wide	
	 VT18 VT316	Use for Ultra Low Support <small>(Select 1/8" or 3/16" Tab Size)</small>	1/8"	1/8"
	 HD25-18 HD25-316 HD50-18 HD50-316 HD75-18 HD75-316	Fixed Height Stackable Pedestals <small>(Select 1/8" or 3/16" Tab Size)</small>	1/4" 1/2" 3/4"	Stack up to 4
	 LO-18 LO-316	Low Height Adjustable Pedestal <small>(Select 1/8" or 3/16" Tab Size)</small>	1 1/4" - 2"	2"
	 B11	Flexible Shim	1/16"	1/16"
	 PS1	Rigid Shim	1/8"	1/8"
Accessories	 LD4	Base Leveler	1/4"-1" per foot slope Add up to 2 more with Versadjust	3/8" center thickness
	 FS1	Wood Tile Fastening Kit	Secure Bison Wood Tiles to pedestal system.	
	 BB Wedge	Bison Wedge Spacers	adds 3/16" in width nominal	
	 JT	Joist Top <small>(Works with 2"x and 4"x Lumber)</small>	adds 3/16" in height	
	 FIB	Floating Insulation Base	12" x 12" x 11/16" For use over roofing systems with less than 40 psi bearing capacity	
	 FFB	Floating Foundation Base	12" x 12" x 1/4" For use on grade (soil) under each pedestal.	

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