



SECTION 32 28 70
SITE FURNISHINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Planters.

1.2 RELATED SECTIONS

- A. Section 02874 - Site Benches.

1.3 REFERENCES

- A. ADA - Americans with disabilities act requirements.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - Preparation instructions and recommendations.
 - 1. Storage and handling requirements and recommendations.
 - 2. Installation methods.
- C. Shop Drawings: Complete details of layout and assembly, showing sizes and part identification, fasteners, anchors, and fittings.
- D. Selection Samples: Color selections shall be made from the manufacturer's brochure representing manufacturer's full range of available colors and patterns.
- E. Manufacturer's warranties.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products in this section will be supplied by a single manufacturer.
- B. Installer Qualifications: The installer must have a minimum of two 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 procedures for work specified herein assembling and installing site furnishings.
- C. Special Considerations: The contractor assumes the responsibility for and must take into consideration the structural capability and adequacy of the structure below 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.
- 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, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

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- A. Do not deliver to job site until conditions are ready for installation.
- B. Immediately upon receipt inspect all delivered materials to ensure they are undamaged and in good condition. Claims for damages must be made to Driver PRIOR to accepting delivery. Note any visual damage to containers or packaging material on the Freight Bill delivery receipt before the Driver leaves. If items are damaged, indicate damage on receipt and refuse those items.
- C. Remove all packaging from Cubes. Bison recommends storing Cubes inside and carefully protected until installation. Do not leave products tightly wrapped as condensation could build up between the shrink wrap and planter, foam and planter, cardboard and planter or any combination of materials and could stain and/or begin to remove finishes.

1.7 PROJECT CONDITIONS

- A. There are no installation temperature restriction guidelines other than the practical considerations of working in any unsafe condition or inclement weather.
- B. Bison Cubes specified for use on pedestals are to be used with pedestrian decks only.
- C. Bison recommends the use of planter liners.
- D. Bison recommends the use of drainage trays for Cubes that are placed on top of the decking surface.

Rooftop Applications using Bison Deck Supports

- A. Bison Cubes specified for use on pedestals must be restrained by perimeter blocking or walls on all sides. Lateral movement greater than 1/8" max is unacceptable and will be rejected.
- B. The total weights of dead and live loads must be calculated and dispersed evenly over the number of pedestals needed to carry the expected weight. To avoid point loading, the use of planters or architectural features with 'feet' is not allowed. Failure to adequately support the additional weight of any such features or items may cause significant damage to the deck, underlying structure, or waterproofing system.
- C. 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. A minimum of one additional pedestal support must be installed in the middle of each cube and for every 500 lbs. (or portion thereof) of static loading. Any feature that creates vibration must be provided for in special consultation and written agreement with Bison.
- D. Container Fill:
 - a. Do not use soil weighing in excess of 25-50lbs / cubic foot.
 - b. The bottom of extra-large and tall planters can be filled with lightweight filler. Consult your landscape professional for more information on fillers that work with the desired plantings.
- E. The substrate immediately below the Cubes and Pedestals shall provide positive drainage.
- F. 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.

On Grade Applications

- A. Bison recommends the use of drainage trays.
- B. Do not place Bison Cubes in locations that have ponding water. Long term submersion in water can harm the Cubes.

1.8 WARRANTY

At project closeout and upon request, Bison Innovative Products 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 cor 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.

1.9 SCOPE

APPLICATIONS/SCOPE

Furnish and install Bison Cube Planters for use on grade without pedestal support.

Furnish and install Bison Cube Planters that integrate with Bison adjustable pedestal system.

Consult the Manufacturer and the Project Engineer regarding the following:

1. When spacer tab condition or design requires spacing between decking tiles or Cubes other than the standard spacing required by the manufacturer.
2. When the required pedestal height exceeds the safe limits as determined by the Manufacturer.
3. When cube or pedestal load capacity exceeds the maximum listed.
4. When anticipating installation of any items with excess weight on top of the deck.
5. When using Bison Pedestals on grade (soil).
6. When greater pedestal load capacity is required.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Bison Innovative Products, 1975 West 13th Ave, Denver, CO 80204, T)303-892-0400,

F) 303-825-5988 www.BisonIP.com, contact us at sales@BisonIP.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 BISON CUBE PLANTERS WITH OPTIONAL IPÊ TOPS

Made in the USA, Bison Cubes integrate with Bison Decks. Metal cubes contain recycled content.

- A. Aluminum Planter
 1. **Bison Aluminum Powder Coated Cube** **CUBE-PC242420**
 - a. Length/Width/Height: 23.875 inches x 23.875 inches x 20 inches (606mm x 606mm x 508mm).
 - b. Weight: 24 lbs (11kg).
 - c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
 - d. Recycled content: 47%-66% recycled raw material content.
 - e. Drainage: Standard Drainage holes and Irrigation Sleeve included.
 - f. Drainage Fittings: by special order. Contact Bison for more information.
 - g. Mounting:
 - 1) Free standing.
 - 2) On Bison Pedestals: Place corner of cube onto Bison Pedestal system as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.
 - h. Metal Finish and Colors: Powder coated.
 - 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.



- 2) As selected by the Architect from manufacturer's 7 standard colors.
- 3) Custom color as selected by the Architect.

2. **Bison Aluminum Powder Coated Cube** **CUBE-PC242436**
 - a. Length/Width/Height: 23.875 inches x 23.875 inches x 36 inches (606mm x 606mm x 914mm).
 - b. Weight: 39 lbs (18kg).
 - c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
 - d. Recycled content: 47%-66% recycled raw material content.
 - e. Drainage: Standard Drainage holes and Irrigation Sleeve included.
 - f. Drainage Fittings: by special order. Contact Bison for more information.
 - g. Mounting:
 - 1) Free standing.
 - 2) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.
 - h. Metal Finish and Colors: Powder coated.
 - 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.
 - 2) As selected by the Architect from manufacturer's 7 standard colors.
 - 3) Custom color as selected by the Architect.
3. **Bison Aluminum Powder Coated Cube** **CUBE-PC482420**
 - a. Length/Width/Height: 47.875 inches x 23.875 inches x 20 inches (1216mm x 606mm x 508mm).
 - b. Weight: 39 lbs (18kg).
 - c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
 - d. Recycled content: 47%-66% recycled raw material content.
 - e. Drainage: Standard Drainage holes and Irrigation Fittings included.
 - f. Drainage Fittings: by special order. Contact Bison for more information.
 - g. Mounting:
 - 1) Free standing.
 - 2) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.
 - h. Metal Finish and Colors: Powder coated.
 - 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.
 - 2) As selected by the Architect from manufacturer's 7 standard colors.
 - 3) Custom color as selected by the Architect.
4. **Bison Aluminum Powder Coated Cube** **CUBE-PC482436**
 - a. Length/Width/Height: 47.875 inches x 23.875 inches x 36 inches (1216mm x 606mm x 914mm).
 - b. Weight: 60 lbs. (27kg).
 - c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
 - d. Recycled content: 47%-66% recycled raw material content.
 - e. Drainage: Standard Drainage holes and Irrigation Sleeve included.
 - f. Drainage Fittings: by special order. Contact Bison for more information.
 - g. Mounting:
 - 1) Free standing.
 - 2) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation



instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.

- h. Metal Finish and Colors: Custom Finish replicates zinc.
 - 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.
 - 2) As selected by the Architect from manufacturer's 7 standard colors.
 - 3) Custom color as selected by the Architect.
5. **Bison Aluminum Zinc Finish Cube** **CUBE-PC242420-ZINC**
- a. Length/Width/Height: 23.875 inches x 23.875 inches x 20 inches (606mm x 606mm x 508mm).
 - b. Weight: 24 lbs (11kg)
 - c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
 - d. Recycled content: 47%-66% recycled raw material content.
 - e. Drainage: Standard Drainage holes and Irrigation Sleeve included.
 - f. Drainage Fittings: by special order. Contact Bison for more information.
 - g. Mounting:
 - 1) Free standing.
 - 2) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.
 - h. Metal Finish and Colors: Custom Finish replicates zinc.
 - 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.
6. **Bison Aluminum Zinc Finish Cube** **CUBE-PC242436-ZINC**
- a. Length/Width/Height: 23.875 inches x 23.875 inches x 36 inches (606mm x 606mm x 914mm).
 - b. Weight: 39 lbs (18kg).
 - c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
 - d. Recycled content: 47%-66% recycled raw material content.
 - e. Drainage: Standard Drainage holes and Irrigation Sleeve included.
 - f. Drainage Fittings: by special order. Contact Bison for more information.
 - g. Mounting:
 - 1) Free standing.
 - 2) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.
 - h. Metal Finish and Colors: Custom Finish replicates zinc.
 - 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.
7. **Bison Aluminum Zinc Finish Cube** **CUBE-PC482420-ZINC**
- a. Length/Width/Height: 47.875 inches x 23.875 inches x 20 inches (1216mm x 606mm x 508mm).
 - b. Weight: 39 lbs (18kg).
 - c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
 - d. Recycled content: 47%-66% recycled raw material content.
 - e. Drainage: Standard Drainage holes and Irrigation Fittings included.
 - f. Drainage Fittings: by special order. Contact Bison for more information.
 - g. Mounting:
 - 1) Free standing.
 - 2) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of

- pedestals to support anticipated weights.
- h. Metal Finish and Colors: Custom Finish replicates zinc.
- 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.
8. **Bison Aluminum Zinc Finish Cube** **CUBE-PC482436 -ZINC**
- a. Length/Width/Height: 47.875 inches x 23.875 inches x 36 inches (1216mm x 606mm x 914mm).
- b. Weight: 60 lbs. (27kg).
- c. Construction: 0.90 Marine Grade Aluminum (3/32 inches thick).
- d. Recycled content: 47%-66% recycled raw material content.
- e. Drainage: Standard Drainage holes and Irrigation Sleeve included.
- f. Drainage Fittings: by special order. Contact Bison for more information.
- g. Mounting:
- 1) Free standing.
- 2) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.
- h. Metal Finish and Colors: Powder coated.
- 1) Low VOC Finishes, meets EPA reference Test Method 24, ASTM D2369 for determination for volatile content.
9. **Bison Ipê Cube** **CUBE-IPE242417**
- a. Width/Length/Height: 23.875 inches x 23.875 inches x 17.5 inches (606mm x 606mm x 445mm)
- b. Weight: 64 lbs (29kg)
- c. Construction: Ipê Hardwood
- d. Liner: Specify unlined or lined.
- e. Drainage: Standard Drainage holes included
- f. Drainage Fittings: by special order. Contact Bison for more information.
- g. Important Considerations: Do not use the following plants with Ipê Wood Cubes: Bamboo or plants known to have aggressive root systems.
- h. Mounting:
- 1) Use FS1 Fastening Kit
- 2) Free standing.
- 3) On Bison Pedestals: Place corner of cube onto a Bison Pedestal as directed in installation instructions. In addition, place one or more pedestals in the center or along the sides of pedestals to support anticipated weights.
- i. Finish: Natural Wood
- 1) Wood stabilizers sealants can preserve color, help mitigate the loss of moisture in the wood and minimize checking and splitting.
- 2) Note: small checks and splits are normal and a natural part of the wood.
10. **Wood Tile Fastening Kit:** **Model: FS1**
- Fastening Kit for use with Bison Pedestals and Bison Wood Tiles and Ipê Wood Cubes ONLY.
- a. Fastens Wood Cube to the pedestals without penetrating or damaging wood.
- b. Materials: FS1 Washer (Patent Pending) and FS1 Pedestal Screw
11. **Bison Ipê Cube Top** **TOP-IPE2424**
- a. Width/Length Height: 23.875 inches x 23.875 inches x .75 inches (606mm x 606mm x 19mm).

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- b. Weight: 23 lbs (11kg).
- c. Construction: Ipê Hardwood
- d. Note: When using Cube Tops, interior storage is protected from the weather, not watertight.
- e. Specify **TOP-IPE2424-W** if used for Ipe Cube or **TOP-IPE2424 -M** for Metal Cube
- f. Mounting:
 - 1) Place on top of cube
- g. Finish: Natural Wood
 - 1) Wood stabilizers sealants can preserve color, help mitigate the loss of moisture in the wood and minimize checking and splitting.
 - 2) Note: small checks and splits are normal and a natural part of the wood.

12. Bison Ipê Cube Top

TOP-IPE2448

- a. Width/Length Height: 47.875 inches x 23.875 inches x .75 inches (1216mm x 606mm x 19mm).
- b. Weight: 48 lbs (22kg).
- c. Construction: Ipê Hardwood
- d. Note: When using Cube Tops, interior storage is protected from the weather, not watertight.
- e. Specify **TOP-IPE2448-W** if used for Ipe Cube or **TOP-IPE2448-M** for Metal Cube
- f. Mounting:
 - 1) Place on top of cube
- g. Finish: Natural Wood
 - 1) Wood stabilizers sealants can preserve color, help mitigate the loss of moisture in the wood and minimize checking and splitting.
 - 2) Note: small checks and splits are normal and a natural part of the wood.

PART 3 EXECUTION

3.1 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. For pedestal applications, verify all elevations, required pedestal heights and deck dimensions before commencing work.

3.2 PREPARATION

For Installation on Pedestals:

Establish accurate lines, levels and visual pattern.

The substrate surface that will receive the pedestals and cubes must be well compacted if on grade and structurally capable of carrying the dead and live loads anticipated if over occupied space.

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

Decks over roofing and waterproofing: verify that installation conforms to section 1.7(H) of this specification.

Decks on Grade: verify that installation conforms to section 1.7(I) of this specification.

Installation requirements vary for each individual project site. Deck materials used, pattern, grid layout 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.

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.

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.

3.3 INSTALLATION

For Use as Planters:

1. Place landscape fabric on the bottom of the containers to prevent soil from falling through drainage holes.
2. Container Fill:
 - a. Do not use soil weighing in excess of 25-50lbs / cubic foot.
 - b. The bottom of extra-large and tall planters can be filled with lightweight filler. Consult your landscape professional for more information on fillers that work with the desired plantings.

For Use as Storage:

1. Storage provided by Bison Cubes with Ipê tops is weather resistant not watertight.

Surface Mounting: Place Cube on level, structurally sound surface

On Pedestals: Refer to Bison Innovative Products Pedestal Specifications for complete installation instructions.

3. Pedestals should support each corner of the Cube and along the sides and in the center underneath the cube at 2 ft intervals on larger cubes.
4. If needed, install additional pedestals under Cubes to support anticipated dead and live loads. Contact Bison for information regarding center support of Aluminum Cubes.
5. Install in accordance with Bison Innovative Products and other contributing manufacturer's installation instructions.

3.4 PEDESTAL PERIMETER CONTAINMENT

Any area of a deck that is not restrained by a parapet or foundation wall must be ‘boxed-in’ and contained. The deck and cubes 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 1/8 inch.

3.5 FIELD QUALITY CONTROL

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.

Confirm that deck pedestal height does not exceed the maximum specified height.



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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 1/8 inch. Particular attention should be made to ensure 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.

3.6 PROTECTION

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

3.7 IMMEDIATELY FOLLOWING INSTALLATION












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 inch 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.

3.8 ROUTINE MAINTENANCE AND CARE

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. Pedestals can settle and may have to be realigned. 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

Aluminum Powder Coated Finish	Aluminum: Zinc Finish	Ipê Wood: Natural Wood Finish
		
CUBE PC242420 24" L x 24" W x 20" H NOTE: Specify Color	CUBE PC242420-ZINC 24" L x 24" W x 20" H	CUBE IPE242417 24" L x 24" W x 17.5" H
CUBE PC242436 24" L x 24" W x 36" H NOTE: Specify Color	CUBE PC242436-ZINC 24" L x 24" W x 36" H	Ipê Wood TOP: Natural Wood Finish
CUBE PC482420 48" L x 24" W x 20" H NOTE: Specify Color	CUBE PC482420-ZINC 48" L x 24" W x 20" H	
CUBE PC482436 48" L x 24" W x 36" H NOTE: Specify Color	CUBE PC482436-ZINC 48" L x 24" W x 36" H	TOP IPE2424 Single Top 24" L x 24" W x .75" H NOTE: Specify for Wood Cube or Metal Cube
 Bronze  Charcoal  Black  White 	 Oxidized Zinc	 TOP IPE2448 Double Ipê Cube Top 48" L x 24" W x .75" H NOTE: Specify for Wood Cube or Metal Cube
<p>Custom Materials: Stainless and Weathered Steel cubes are available by special order – contact Sales@BisonIP.com</p> <p>Custom Sizes: Custom sizes are available – contact Sales@BisonIP.com</p> <p>Color: Please note all colors printed herein are representations only. Please contact Bison for actual color samples. Custom colors are available – contact Sales@BisonIP.com</p>		

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