



SECTION 06 73 00

RICE HUSK PVC HYBRID DECKING

**** NOTE TO SPECIFIER **** iDecking Revolution; hybrid decking.

This section is based on the products of iDecking, which is located at:
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[\[Click Here\]](#) for additional information.

iDecking is manufactured by iDecking Revolution, a manufacturer of rice husk hybrid decking and siding. iDecking Revolution is an innovative leader in the hybrid decking and siding industry with distribution across Europe, Asia and now the United States. The representations below are for guidance purposes only and should not be relied upon as a representation of any kind by iDecking Revolution. Installation is the sole responsibility of the installer and not iDecking Revolution.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Rice Husks and PVC hybrid decking and aluminum sleeper systems finished with stain and sealers for exterior applications.

1.2 RELATED SECTIONS

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

- A. Section 03300 - Cast-in-Place Concrete: Bearing support.
- B. Section 04200 - Unit Masonry: Bearing support.
- C. Section 06100 - Rough Carpentry: Bearing support.
- D. Section 07100 - Damp proofing and Waterproofing: Vapor barrier and waterproofing applications under the decking.
- E. Section 09900 - Painting and Coating: Field finishing.
- F. Section 02200 - Aggregate Base Courses: Aggregate crushed rock bearing surface.
- G. Section 03133 - Concrete Paving: Slab on Grade bearing surface.

1.3 REFERENCES

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

A. ASTM International (ASTM):

- 1. ASTM E 84-09 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM D 1413-2007e1 - Standard Test Method for Wood Preservatives by Laboratory Soil Block Cultures
 - 3. ASTM F 1679-04 - Standard Test Method for Using a Variable Incidence Tribometer (VIT)
 - 4. ASTM D 2565-99 (2008), Standard practice for Xenon=Arc Exposure of Plastics Intended for Outdoor Applications.
 - 5. ASTM D790-07 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - 6. ASTM D1761-06 - Standard Test Methods for Mechanical Fasteners in Wood
 - 7. ASTM D2017-05 - Standard Test Method of Accelerated Laboratory Test of Natural Decay Resistance of Woods
 - 8. ASTM D3345-08 - Standard Test Method for Laboratory Evaluation of Wood and Other Cellulosic Materials for Resistance to Termites
 - 9. ASTM D4060-14 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
 - 10. ASTM D6109-05 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber and Related Products
 - 11. ASTM D6341-14a - Standard Test Method for Determination of the Linear Coefficient of Thermal Expansion of Plastic Lumber and Plastic Lumber Shapes Between -30 and 140°F (-34.4 and 60°C)
 - 12. ASTM D7031-04 - Standard Guide for Evaluating Mechanical and Physical Properties of Wood-Plastic Composite Products
 - 13. ASTM D7032-08 - Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite Deck Boards and Guardrail Systems (Guards and Handrails)
 - 14. ASTM E330-02 - Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
- B. AWPA E1-09, Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.
- C. AWPA E10-11 Standard Method of Testing Wood Preservatives by Laboratory Soil Block Cultures.
- D. ANSI/AWC NDS-2012 - National Design Specification (NDS) for Wood Construction

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- 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 methods.

**** NOTE TO SPECIFIER ** Delete if not required.**

- C. LEED Reports:
 - 1. Submit documentation to verify iDecking products meet LEED requirements to Project LEED Administrator and other project team members as requested.
 - 2. Innovation in Design submittal to USGBC to be executed during pre-design. USGBC is the final decision making body for Credit attainment.

- D. Shop Drawings: Indicate substrate deck framing system, loads and cambers, bearing details, and framed openings.

**** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.**

- E. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
 - 1. Samples of Rice Husk and PVC Decking Exposed to View: Submit samples, 5.5 inches by 12 inches (140 mm by 305 mm) in size illustrating surface texture, stain, and finish.
- F. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
 - 1. Samples of Rice Husk and PVC Decking Exposed to View: Submit two samples, 5.5 inches by 12 inches (140 mm by 305 mm) in size illustrating specified surface texture, stain, and finish.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum ten years of code compliant products for 10 years.
- B. Material Disclosures Required:
 - 1. Health Product Declaration
- C. Installer Qualifications: Minimum 2 year experience installing similar products.

**** NOTE TO SPECIFIER ** Delete if not required.**

- D. LEED Prerequisites and Credits: LEED for New Construction, Version 3 (2009).
 - 1. SS Credit 7.1: Heat Island Effect Non-Roof.
 - a. Decking can qualify as a non-roof strategy for reducing the urban heat island effect due to the qualifying Solar Reflectance Index value of certain colors of the AquaSurTec stains.
 - b. To meet the credit requirements, 50% of hardscaped areas of the developed area must have an SRI value of 29 or better, including walkways and covered parking areas.
 - 2. MR Credit 6: Rapidly Renewable Materials, 1 point.
 - a. iDecking is made from 50% rice husks, and 50% by volume of the mixture of the proprietary Formula.
 - b. Rice husks are plants harvested within a 3 years cycle.
 - c. iDecking products can contribute toward the 2.5% threshold of total value of rapidly renewable materials used in the project, based on cost.
 - 3. ID/MR Credit 1: Rapidly Renewable Materials 5%, 1 point.
 - a. iDecking products have a high percentage of rapidly renewable materials providing projects teams the opportunity for exemplary performance in material selection.
 - 4. ID/MR Credit 2: Building Product Disclosure and Optimization - Material Ingredients, 1 point.
 - a. Option 1: Material Ingredient Reporting: iDecking products come with a Health Product Declaration.

**** 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.

E. **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.
3. Refinish mock-up area as required to produce acceptable work.

D. **Shop Drawings:** Indicate substrate deck framing system, loads and cambers, bearing details, and framed openings.

1.6 PRE-INSTALLATION MEETINGS

A. Convene minimum two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store in ventilated areas with constant minimum temperature of 60 degrees F (16 degrees C) and maximum relative humidity of 55 percent.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.10 WARRANTY

A. Manufacturer shall provide a five years manufacturer warranty for commercial applications or fifteen years manufacture warranty for residential applications on materials. iDecking warrants the products shall be free from defects in workmanship and materials that (1) occur as a direct result of the manufacturing process, (2) occur during the warranty period and (3) have structural damage or fungal decay.

PART 2 PRODUCTS

**** NOTE TO SPECIFIER **** The representations below are for guidance purposes only and should not be relied upon as a representation of any kind by iDecking. Installation is the sole responsibility of the installer and not iDecking.

2.1 MANUFACTURERS

A. **Acceptable Manufacturer:** iDecking International Limited, which is located at: Suite 1005 , 10/F Albion Plaza, 2-6 Granville Road, TST, Hong Kong;
Web: www.idecksystems.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.

**** NOTE TO SPECIFIER **** iDecking surpasses natural hardwood in many respects. It is resistant to weather, pests and fungal decay, and will not splinter, swell or crack. At the same time, iDecking requires minimal maintenance, is slip resistant and available in diverse shapes and colors. All these characteristics make iDecking especially suitable for areas exposed to weather or humidity and maritime applications.



ECO FRIENDLY
MADE WITH
RICE HUSK

2.2 MATERIALS

A. Materials: iDeckKing products contain rice husks, a bio-based wood substitute made of an agricultural waste product. iDeckKing is made of a proprietary blend of rice husks, that would otherwise become landfill waste, and non-flexible pvc.

1. Properties:

- a. Bending Strength: 4,724 psi per ASTM D 790.
- b. Bending E-Modulus: 538,500 psi per ASTM D 790.
- c. Wind Uplift Resistance: 358 psf
- d. Tensile Strength: 3,182 psi per ISO 527.
- e. Tensile E-Modulus: 339,490 psi per ISO 527.

- f. Screw Withdrawal: 1,312 lbf.
 - 1) Screw extension stability according to ASTM E 330.
 - a) Axial extraction force: 610,576 psi (4202 N/sq.mm).
 - b) Axial extraction resistance: 40,998 psi (280 N/sq.mm).

- g. Coefficient of Linear Thermal Expansion (ASTM D6341): in/in/°F 1.9019E-05 or mm/mm/°C 3.4234E-05
- h. Density (Approximate): 1.42 g/cm³
- i. Moisture Effect: Product does not absorb moisture.
- j. Fungal Decay Resistance (AWPA E 10-11): No attack by test fungi, highest durability class 1.
- k. Termite Resistance Rating (AWPA E1-13): 9.9 (out of 10.0)

**** NOTE TO SPECIFIER ** This is very durable and is comparable to the high durability class of wood; e.g. robinia.**

l. Weathering (ASTM D 2565): No cracks, blisters or other visible changes after 2000 hours of Xenon Arc exposure

m. Emissions:

- 1) LGA Tested (Passed).
- 2) Formaldehyde emission: <0.01 ppm.
- 3) PCP (pentachlorophenol): <8 x 10⁻⁶ oz. lb.
- 4) TeCP (tetrachlorophenol): <8 x 10⁻⁶ oz. lb.
- 5) DEHP (Diethylhexylphtalate): ND (<10mg/kg)
- 6) BBP (Benzylbutylphtalate): ND (<5mg/kg)
- 7) DBP (Di-n-butylphtalate): ND (<10mg/kg)
- 8) PBB (sum of Polybrominated Biphenyl): ND (<20mg/kg)
- 9) PAH (Polycyclic aromatic hydrocarbons) skin contact under 30 sec. total: 10 mg/kg.
- 10) Benzo(a)pyrene: 10 mg/kg.
- 11) Cadmium: ND (<2 mg/kg)
- 12) Lead: 8mg/Kg
- 13) Mercury: ND (<2mg/kg)

2. Rapidly Renewable Materials: 50 percent.

B. Decking:

**** NOTE TO SPECIFIER ** Delete profiles not required..**

1. Deck Profile: DURO Natural

- a. Size: 1 inch (25 mm) thick, 5-1/2 inches (140 mm) wide hollow core board with internal ribs.
- b. Texture: Sanded on the surface side;
 - 1) Smooth Surface – Easy Click
 - 2) Smooth Surface – Easy Change
 - 3) Grooved Surface – Easy Click
 - 4) Grooved Surface – Easy Change

2. DURO Step Profile

- a. Size: 2 inch (52mm) x 2.3 inch (59mm)
Easy Click system only

3. End Plates, Perimeter Boards:

- a. Size: 1 inch (25 mm) thick, 2-3/4 inches (70 mm) wide solid board.
- b. Texture: Sanded.

4. Fascia Board, Perimeter Boards:

- a. Size: 1/3 inch (10 mm) thick, 3-3/4 inch (95 mm) wide solid board
- b. Texture: Sanded

2.3 ACCESSORIES

A. Substructure Frame:

1. Easy Click Aluminum Rails – Clip A:
 - a. Size: 1 inch (25 mm) thick, 2-1/2 inches (62 mm)
2. Easy Click Aluminum Rails – Clip B:
 - a. Size: 1 inch (25 mm) thick, 2-1/2 inches (62 mm)
3. Easy Change Aluminum Rails
 - a. Size: 1 inch (25mm) thick, 2 inches (50 mm)

B. Fasteners and Anchors:

1. Fasteners are integral to the Aluminum Rail system. Comply with manufacturer's installation guides.
2. Start Clip (EasyChange system only)

2.4 FINISH

**** NOTE TO SPECIFIER **** All iDeckKing products must be stained and sealed in order to prevent unwanted staining. iDeckKing highly recommends the following manufacturer and their proprietary products for supplying the stains and sealers to be used on iDeckKing material. Use of non-approved water borne or oil based stain is not recommended and may violate the product warranty.

A. Stain and Sealer:

1. Manufacturer: AquaSurTech.
2. Color and Gloss: As selected by Architect from manufacturer's standard colors.
3. Color and Gloss: _____.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrate conditions before beginning installation; verify dimensions and acceptability of substrate.

1. Determine substrate was installed to accommodate all loads imposed upon it by the iDeckKing Fiber Reinforced Decking and components supplied by other parties.
- B. Do not proceed with installation until unacceptable conditions have been corrected.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Coordinate placement of bearing items.
- B. Apply one coat of bituminous paint to concealed surfaces that will be in contact with cementitious or dissimilar materials.
- C. Do not install materials until site pre-finishing is complete and dry.

3.3 INSTALLATION BOARD-DECKING

**** NOTE TO SPECIFIER **** Confirm that the drawing details reflect the manufacturer's assembly recommendations. Install sleepers, decking, trim and accessories per manufacturer's recommendations.

- A. Apply finish stain to individual decking planks and trim either before or after installation.
- B. Install decking perpendicular to framing members, with ends staggered over minimum 1-1/2 inches (38 mm) minimum firm bearing.
- C. Always take into account the expansion/contraction of iDeckKing material and plan gaps at board abutment joints, termination points, and trim locations accordingly. Comply with manufacturer's installation guidelines.
- D. Secure with manufacturer's proprietary fastener system. Refer to iDeckKing Installation Instructions for appropriate proprietary Aluminum Rail System for the design and field conditions.
1. Easy Click
 2. Easy Change
- E. Cut decking to accommodate roof drain and flange.
- F. Framing and decking shall be installed using the manufacturer's recommended joist spacing for the specific decking product being installed. If the decking is to be installed at any angle with respect to the framing substructure the maximum joist spacing must be reduced to maintain joist spacing along the length of the decking boards.
- G. Touch-up prefinished stained surfaces that are disfigured. Unsightly touch-up wall requires removal and replacement of affected decking
- H. Sand work smooth with 24-36 grit sandpaper for color uniformity prior to staining.

3.4 CLEANING

- A. Clean installation per manufacturer recommendations.
- B. Provide Owner with two copies of cleaning and maintenance instructions.

3.5 PROTECTION

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

END OF SECTION