

PREMIUM 24"x24" HARDWOOD DECK TILE INSTALLATION INSTRUCTIONS

Build for the future with premium hardwood decking. Known for durability and strength, premium hardwood decking can withstand heavy foot traffic, harsh weather conditions, and exposure to the elements without showing signs of wear or damage. Whether you choose Ipe, Cumaru, or Itauba, you'll build with decking material that offers a natural, elegant look and enhances the aesthetic appeal of any property.

Allow the wood to age to a natural, silvery-gray, or use a sealer to maintain the original color. More resistant to pests, rot, and decay than other types of wood, premium sustainable hardwoods require less maintenance over time.

Made of 100% hardwood, our Ipe, Cumaru, or Itauba, our hardwood decktiles are more environmentally friendly than other decking materials, such as composite decking, which can contain plastic or other synthetic materials.

Features:

- Cost-effective solution for hot tub/spa surrounds, patios, rooftop and conventional decks
- Easy installation with pressure fit pin connection technology or traditional framing
- Class 1 durability rating (25+ years in-ground contact)
- ASTM E84 Class A fire rating and Cal Fire Wildland Urban Interface approval
- Engineered for minimum 100 psf live load
- Withstands wind uplift forces to 175mph as rated for central Dade County Florida
- Smooth deck surface to maximize shoe surface area contact/minimize cleaning
- Made of the same high quality natural material of boardwalks and commercial decks across the US
- Pest Resistant
- Rot Resistant

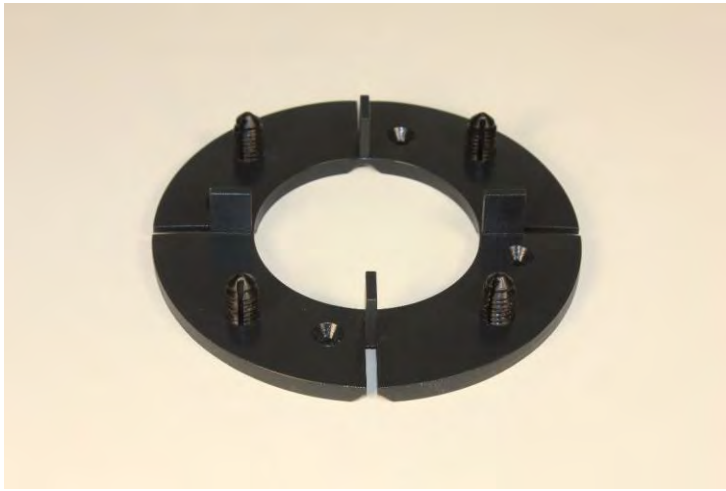
Install:

Our Hardwood Deck Tiles can be installed using various methodologies.

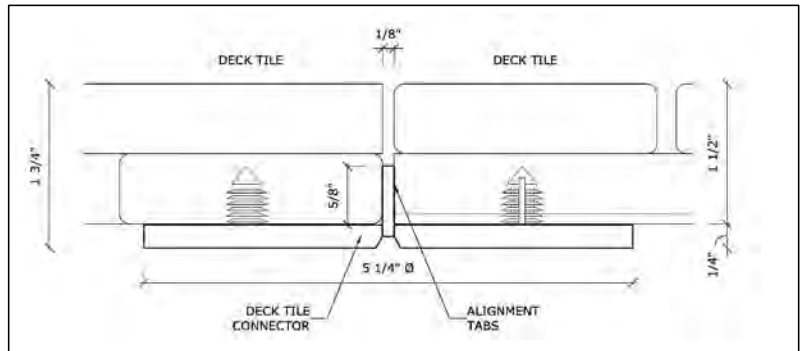
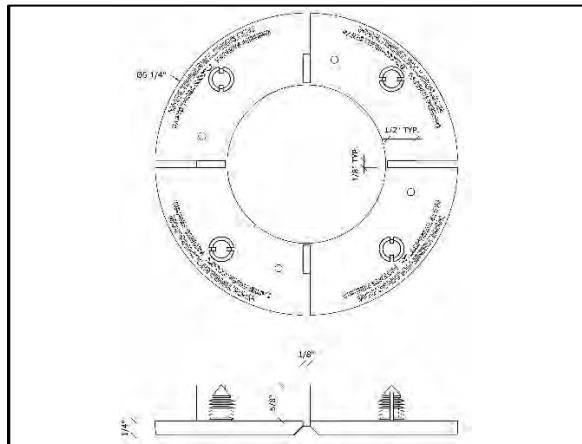
- On grade click system with the EPDM-80 1/4" Deck Pedestal,
- Conventional Framing Method
- Elevated Deck Pedestal System which requires an engineered design.

1. Iron Woods EPDM-80 Pedestal Option

The Iron Woods EPDM Rubber Pedestal is a flexible deck tile connection support that allows tiles to follow the natural contour of the installation surface and water to flow freely underneath the deck tiles. This 1/4" fixed height pedestal incorporates spacer tabs and pressure fit connection technology. The flexible EPDM rubber is resistant to environmental deterioration and is safe for direct contact with any roof surface. EPDM pedestals provide sound deadening qualities that similar plastic corner connectors lack. This pedestal is not stackable and must be considered for low elevation support requirements only. Pedestals are pre-cut and can easily be separated into halves or quarters to facilitate perimeter and corner placement.



- Made from Flexible EPDM 80 Rubber
- Application Limits: -45°C to +150° C
- Weight Bearing Capacity: 2200 lbs.
- Height Range: 1/4" Fixed
- Pressure Fit Connector Pins
- 1/8" Spacer Tabs
- Slope Compensation: 0
- 0 Slope Compensation
- Remove Pins and Tabs for Conventional Deck Application
- 1 Pin per Tile corner required.
- EPDM-80 PEDESTAL can be cut to 1/2 or 1/4 pieces where needed



2. Conventional Deck Framing Construction Option



Our Hardwood Deck Tiles provide a unique and attractive cost savings opportunity in conventional deck construction by providing the labor savings associated with installing a panelized deck system.

Tiles install on double stringers 24" on center using one screw, or screw and plug, per square foot (4 screws per tile) verses the 10 to 16 screws required for conventional deck board application. This represents a significant labor savings over conventional deck on stringer construction.

For new deck construction simply double your stringers 24" on center, the same as we recommend for our conventional hardwood decking to stringer construction. Double perimeter stringers allow for the picture framing of the deck tiles using of a 2x2 board trim board.

3. Elevated Deck Pedestal System (Requires an engineered design)

Roof Decks and other poorly ventilated deck applications present a unique set of challenges for a designer and or builder. It is best to install using an elevated deck pedestal system like the Iron Woods Pedestal System. When constructing a roof deck the designer must take into account many factors. The need to create a level deck on a sloped surface, effective drainage, roof access for maintenance, typically poor underdeck ventilation, variable load requirements, the possible integration of green roof systems, wind uplift and installed system costs. Iron Woods® Self Leveling Pedestals, Deck Tiles, and Conventional Deck Systems provide unique and cost effective solutions for the construction of both roof top and conventional decks.

For more information on elevated roof deck design services visit: IRONWOODS.COM

Material Storage

- Keep product out of direct sunlight until it is ready to be installed. Wood tiles should not be stored tightly wrapped in plastic. Wood tiles will adjust to the climate equilibrium where they are installed and may have or develop some slight cracking or checking.

Site Examination

- Prior to starting work inspect the installation surface to ensure that it has been properly prepared to accept framing or pedestals and tiles.
 - Verify all deck dimension and quantity of deck tiles needed
 - Verify deck tiles and pedestals will be used for pedestrian traffic only.
 - Verify perimeter construction will prevent lateral movement in excess of 1/8 inch, including seismic and wind loads if using elevated pedestals.
 - Verify installation surface is broom clean, frost free, and free of dirt, oil or any rough foreign matter, which may impair the substrate manufacturer's guarantee or protection requirements.
 - Verify installation surface is sloped enough to provide positive and adequate drainage.
 - Review drawings for items such as planters, hot tubs, sculptures or equipment that will be installed on top of deck tiles. Verify with manufacturer whether additional pedestals or support will be required.
 - Proceed with installation only after unsatisfactory conditions have been corrected.
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Site Preparation

- Installation surface shall be clean and free of any projections and debris which may impair the performance of the pedestal and or the deck system.
- Installations on grade: Surface should be well compacted or structurally capable of carrying the dead and live loads anticipated. Use footings or a slab where needed.

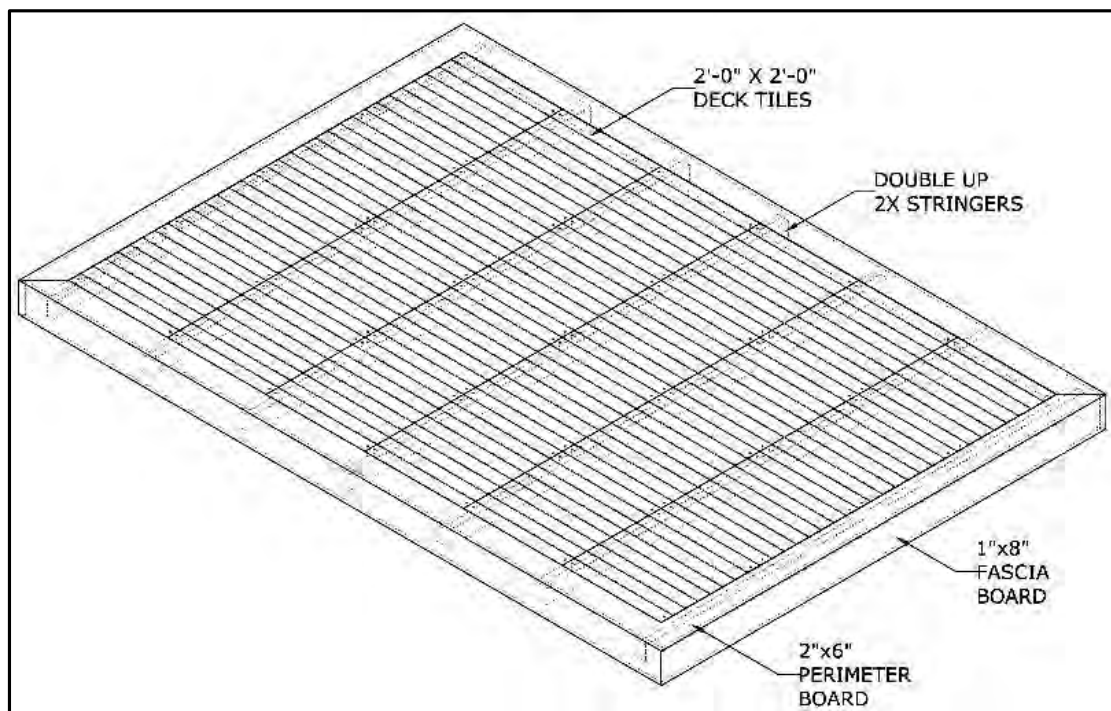
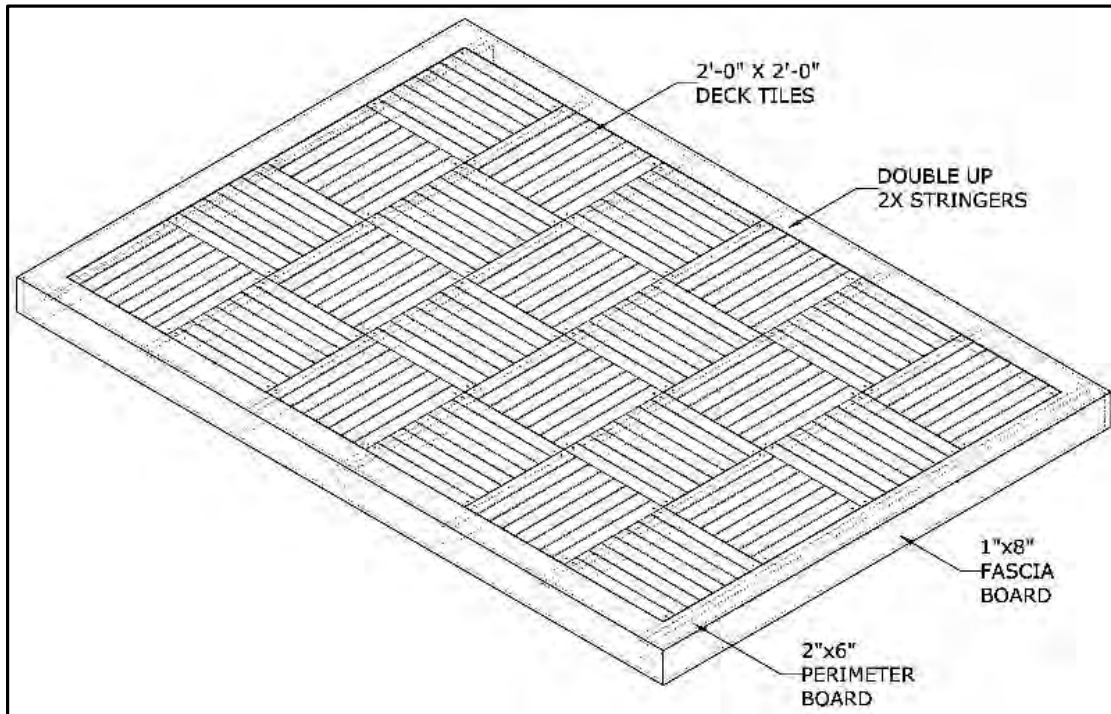
NOTE: When Installing As Non-Elevated Roof Deck

- Installations on Substrate with Insulation Over Membrane: Insulation protection board shall be applied over the waterproofing substrate or specified drainage mat. Install the system according to the membrane manufacturer's recommendations and specifications.
 - Installations on Substrate with Insulation Under Membrane: Insulation required to be installed within a roofing system below deck supports shall meet the roofing membrane manufacturers' specifications and shall have a minimum core density of 60 psi. Do not install on insulation with less than 60 psi compressive strength.
 - Installation on Full Coverage Protection Board (for asphalt type systems used over waterproofing): Verify full coverage 1/8-inch asphaltic composition protection board.
 - Installation on Partial Coverage Protection Board (for asphalt type systems used over waterproofing): When protection is specified only under the pedestal, cut protection board pads to extend beyond the outside perimeter of the pedestal system base or buffer pad by a minimum of two inches.
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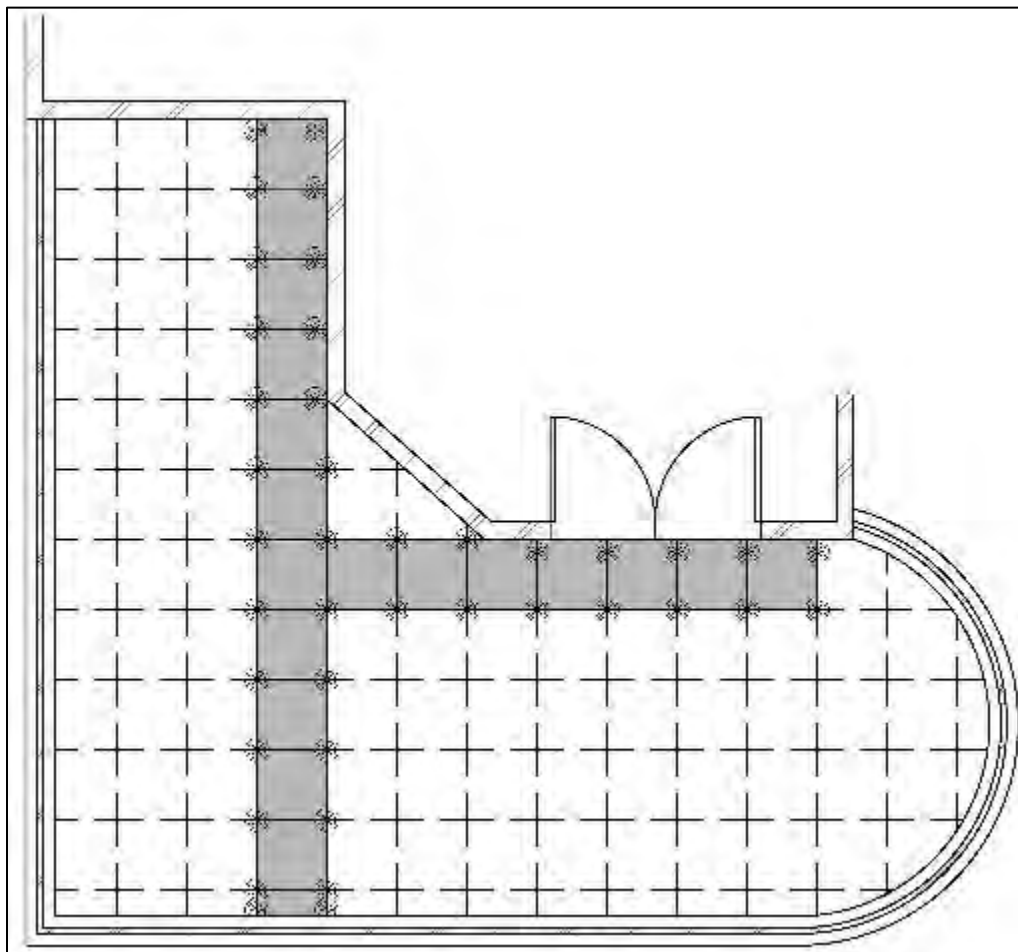
Wood Tile Cutting

- Cut tiles as required
- Carbide tipped finish blades are highly recommended.
- Mark required cut lines on back of tile.
- Remove any screws from deck tile which might interfere with cutting.
- Remove and reinstall tile battens as required.
- Carbide tipped finish blades are highly recommended.
- Wood tiles have a very high density and a slower feed rate is recommended.
- In order to minimize checking (small cracks) the installer must seal any cut ends with Anchorseal® "Or Equal" Aqueous Wax Solution product after cutting. Apply sealer with a brush to the cut ends only, being very careful to not get any on the top surface of the wood so as not to impact the appearance of tiles.

Deck Tile Layout Design Options

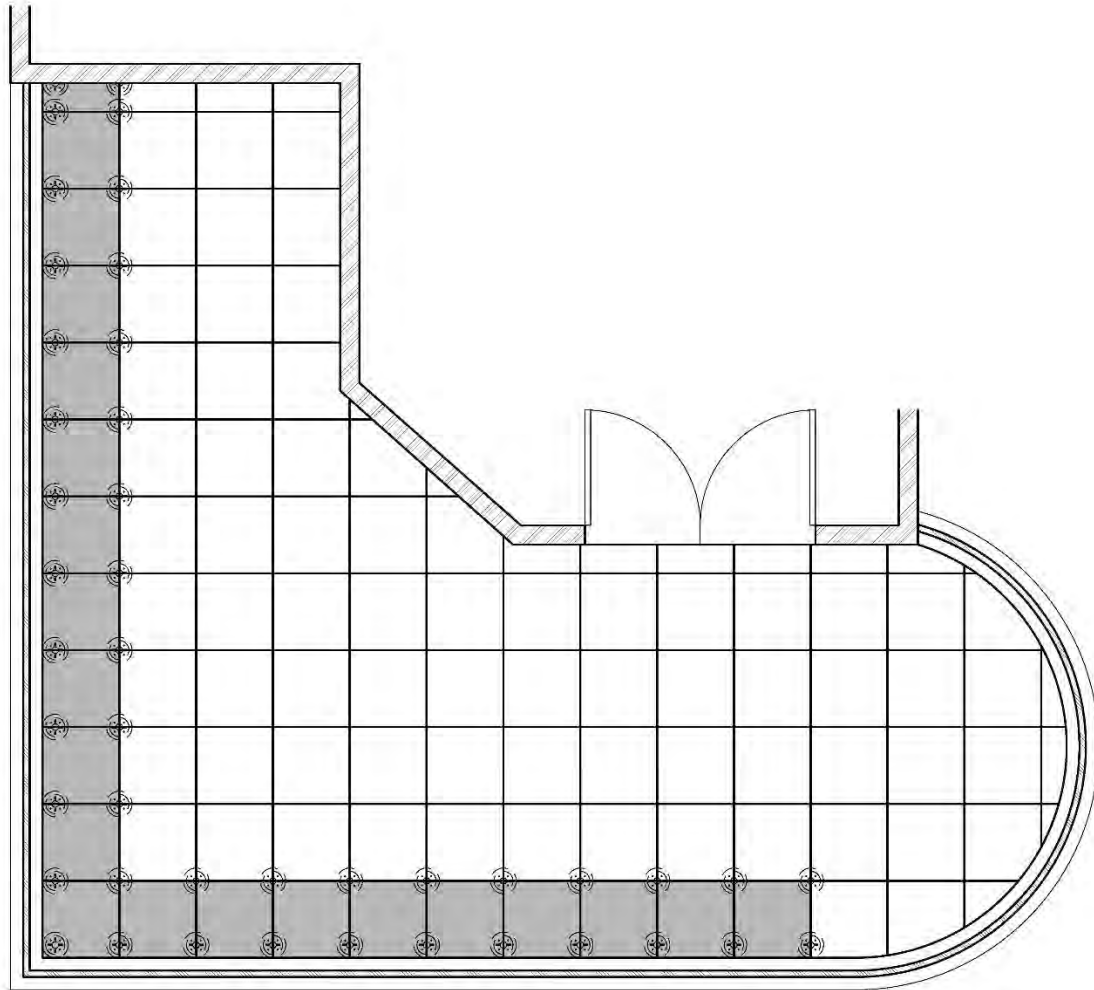


Design Layout 24"x24" Tiles or Conventional Decking - T Method Pedestal Layout and Installation



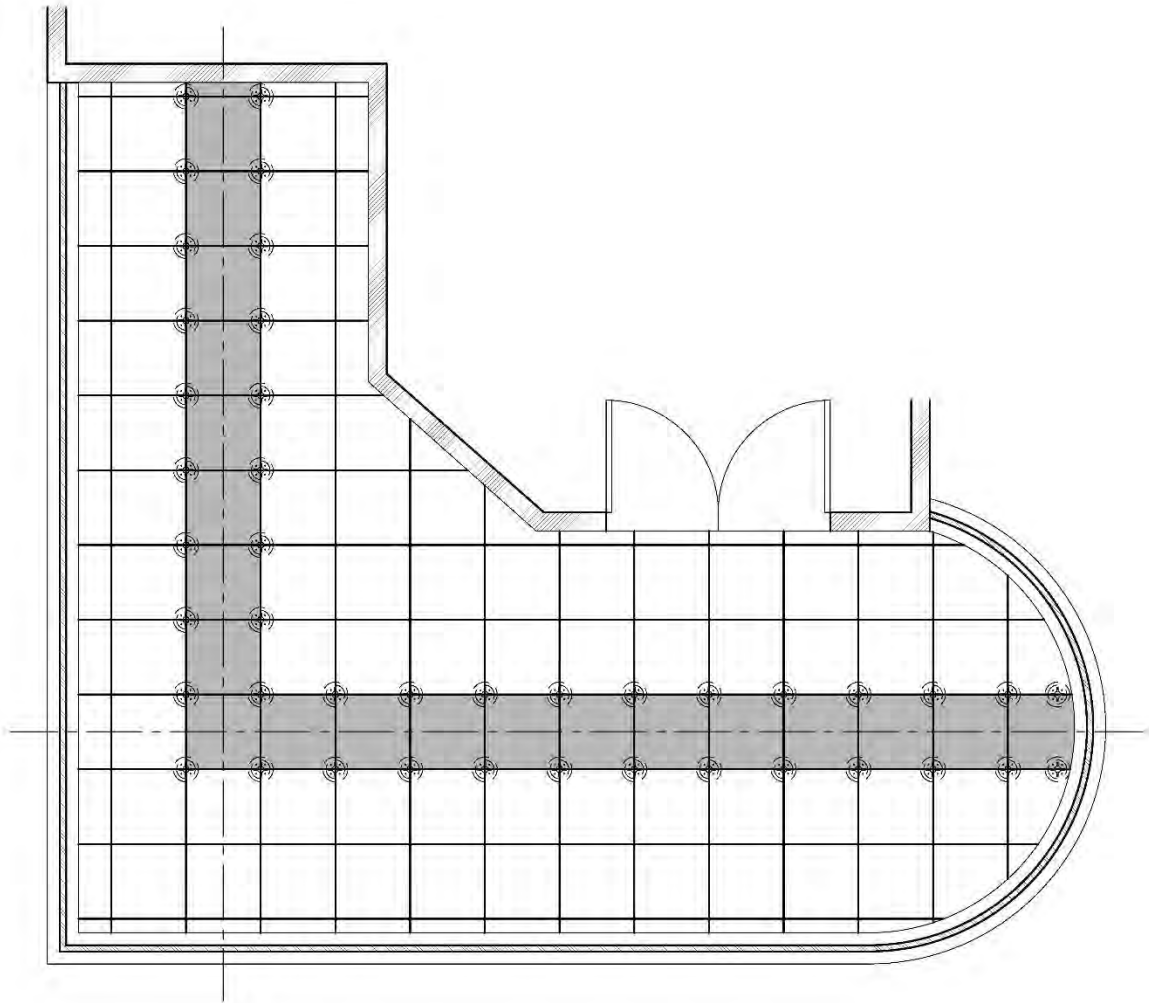
- Using a piece of graph paper (each square equals 1 tile or 4 square feet), layout your desired 24"x24" grid pattern.
 - The grid pattern is the desired tile layout on the roof.
 - Layout your desired tile pattern. Tiles can be installed in mosaic or linear design patterns which provide unique design options.
 - Use your tile layout to determine the number of tiles required for your project.
 - Use your tile layout to determine the number of pedestals required for your project (1 pedestal per tile plus 1 pedestal for each 24" of perimeter)
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Design Layout 24"x24" Tiles or Conventional Decking - L Method Pedestal Layout and Installation



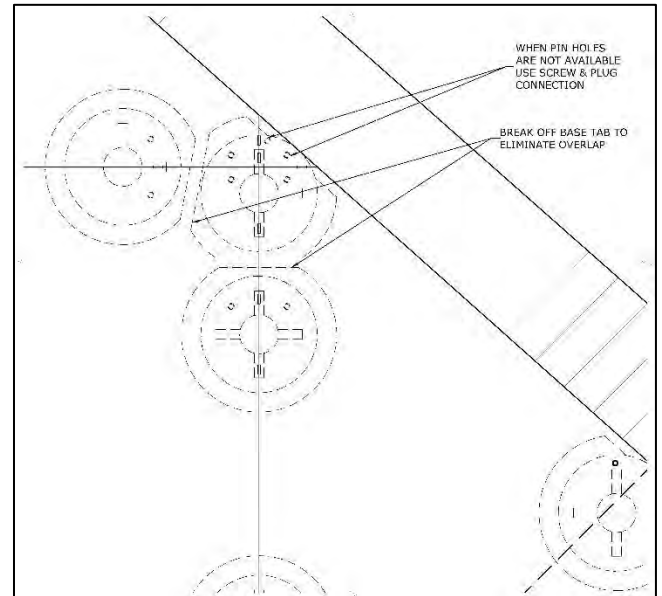
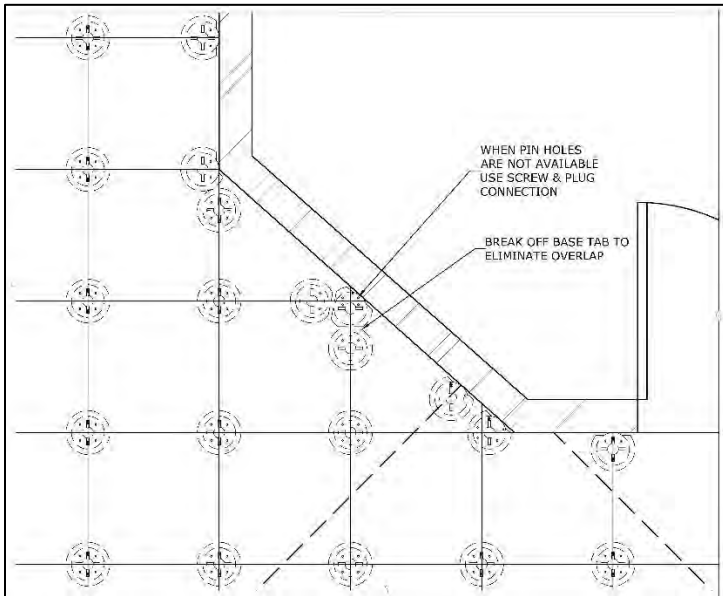
- Using a piece of graph paper (each square equals 1 tile or 4 square feet), layout your desired 24"x24" grid pattern.
 - The grid pattern is the desired tile layout on the roof.
 - Layout your desired tile pattern. Tiles can be installed in mosaic or linear design patterns which provide unique design options.
 - Use your tile layout to determine the number of tiles required for your project.
 - Use your tile layout to determine the number of pedestals required for your project (1 pedestal per tile plus 1 pedestal for each 24" of perimeter)
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Design Layout 24"x24" Tiles or Conventional Decking - Centered Method Pedestal Layout and Installation



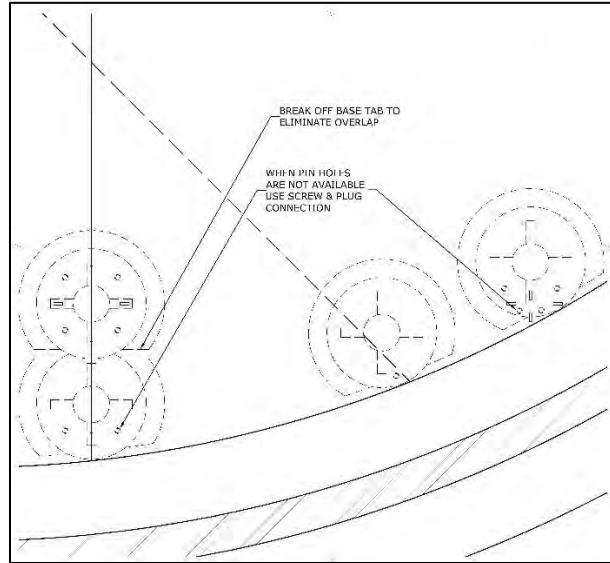
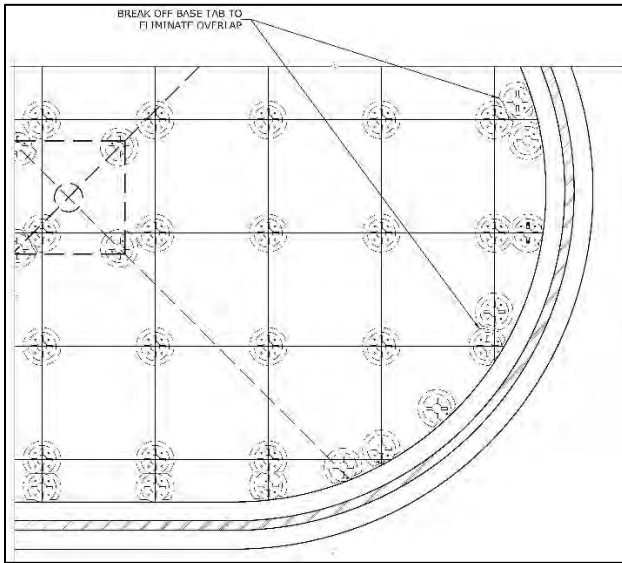
- Using a piece of graph paper (each square equals 1 tile or 4 square feet), layout your desired 24"x24" grid pattern.
 - The grid pattern is the desired tile layout on the roof.
 - Layout your desired tile pattern. Tiles can be installed in mosaic or linear design patterns which provide unique design options.
 - Use your tile layout to determine the number of tiles required for your project.
 - Use your tile layout to determine the number of pedestals required for your project (1 pedestal per tile plus 1 pedestal for each 24" of perimeter)
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Diagonal Placement



- Use extra pedestals under triangular pieces to support small pieces of tile or decking.
 - Never allow more than 1/8" width between the decking material and the edge containment.
 - Add an extra pedestal at perimeter bends.
 - Remove extra tabs to inset pedestals.
 - Adhere small tiles or decking to top of pedestals with construction adhesive.
 - Trim the base along pre-scored lines for tight fits.
 - Use removed tabs to maintain spacing between tiles.
 - Never allow more than 1/8" width between the decking material and the edge containment.
 - Cut, Modify and re-drill tiles with 3/8" (9mm) diameter connection holes as required at perimeters.
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Radius Placement



- Use extra pedestals under triangular pieces to support small pieces of tile or decking.
 - Never allow more than 1/8" width between the decking material and the edge containment.
 - Add an extra pedestal at perimeter as required.
 - Remove extra tabs to inset pedestals.
 - Adhere small tiles or decking to top of pedestals with construction adhesive.
 - Trim the base at pre-scored lines for tight fits.
 - Use removed tabs to maintain spacing between tiles.
 - Never allow more than 1/8" width between the decking material and the edge containment.
 - Cut, Modify and re-drill tiles with 3/8" (9mm) diameter connection holes as required at perimeters.
-

Cleaning and Sealing

- If desired, 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 wax or seal the ends of the wood if desired.
- Use cleaning and sealing products specifically designed for use with exotic hardwoods.
- Timber Holdings recommends that you test any cleaners or sealants in an inconspicuous area first before applying them to the installed deck. Cleaners or sealants should not be used over rubber roof membrane without specific approval by the roof membrane manufacturer.

Maintaining the Color

- To better maintain the rich coloration of the tiles, you can clean your deck tiles and re-apply a penetrating oil finish with UV blocker as tiles begin to fade.
- The amount of direct and indirect sunlight, shading, temperature, humidity, moisture and other local conditions will factor into maintenance schedule. Penetrating oil based finishes 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. Then wipe on and wipe off finish not unlike polishing your favorite piece of furniture.
- Over application of oils will result in a sticky deck surface.
- Check with roof membrane manufacture to determine suitability of using deck cleaners, wood brighteners and finishes over roof membrane.

Periodic Cleaning

- We recommend using a deck cleaning products which safely clean the wood and kill mold spores.
 - To restore the pH balance of the deck, use an oxalic acid based deck brightener approved by the roof membrane manufacturer.
 - The deck tiles are ready to re-seal once they are cleaned.
 - Always check with the roof membrane manufacturer regarding the suitability of cleaning and sealing products.
 - Always test any product you apply in an inconspicuous place to make sure it performs as you expect.
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Pressure Washing

- You may 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 Wood Tiles.
- We also recommend using a professional deck cleaning contractor.
- **Test an inconspicuous area first and be careful to use the wand in even strokes to avoid lap marks.**

Natural Aging

- Left to weather naturally wood tiles will naturally develop a silvery-gray patina over time. Note: each board has unique characteristics and will weather at different rates depending on climatic conditions and amount of UV exposure.
- Minor checks in Iron Woods are natural.

General Safety Precautions

- Cutting, Grinding, Sanding or Sealing should be done outdoors or in a well-ventilated area.
- Wear safety glasses with side shields when handling, cutting, sanding, grinding or staining. Use a face shield for processes that may generate excessive dusts and splinters.
- Wear puncture resistant work gloves, such as leather when handling materials. 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.

Refer to Iron Woods Best Practices Guide for additional information.

www.ironwoods.com

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Environmental Compliance Option 1: "Due Care" Certification



All Iron Woods Deck Tiles and Decking meets 'Green By Nature™' 'Build with Conscience' comprehensive set of Controlled Wood, Chain of Custody, Life Cycle Impact and 'Due Care' Standards, Policies and Procedures that support environmental sustainability and compliance initiatives as follows....



All Iron Woods products have been verified of legal origin and verified of legal compliance as being, legally harvested, transported, exported, imported and documented in compliance with all country of origin, international and domestic laws, rules, regulations and treaties pertaining to the fair and legal trade of forest products including but not limited to the ITTA (International Tropical Timber Trade Agreement), CITES (Convention On The International Trade of Endangered Species) U.S. Department of Agriculture Lacey Act, U.S. Department of Justice Foreign Corrupt Practices Act, U.S. Forced Labor Laws and U.S. Buy American Act.

All Iron Woods products are derived from forests which are naturally occurring, renewable and sustainable and are not harvested from forests or forest plantations where traditional, civil or intellectual property rights have been violated, forests having high conservation values which are threatened, forests that have been genetically modified or forests which have been converted to non-forest use. Iron Woods are sourced with a preference to those forestry operations implementing LIL (Low Impact Logging) techniques and sustainable forest management practices.

All Iron Woods products are 100% organic and grown without the use of chemical fertilization and are regenerated naturally or by seeding and replanting. All Iron Woods are either kiln dried or fumigated and are free from invasive insect or plant species. The natural service life of Iron Woods exceed their natural growth cycle, trap and store carbon and are able to be reclaimed, reused or recycled. Iron Woods do not require for service any petroleum based or inorganic chemical treatments adhesives or coatings. Iron Woods do not require for service any specialized handling storage or disposal procedures and generate zero post-industrial or post-consumer non-biodegradable waste. Iron Woods are also safe for human and animal contact, meet Low VOC emission standards and meet International Building Code, International Residential Code and Cal Fire Wildlife Urban Interface Code requirements for naturally durable and naturally fire resistant wood.

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Environmental Compliance Option 2: LEED



Iron Woods™ Pedestals are manufactured using 100% Recycled Post Industrial Plastic and the pedestals and or collective system may contribute to the following significant criteria used in green building initiatives according to LEED NC LEED Credit.



LEED CREDIT	POINTS	TITLE	FEATURES
SS C6.1 & 6.2	1 & 1	Stormwater Design - Quality & Quantity Control	Previous Flooring System
WE C1.1	2	Water Efficient Landscaping	Supports Water Capturing Systems
EA P2 EA C1	Prerequisite Form 1 to 19	Energy Performance	Possible Contribution for Ventilated Roofing System
MR C4	Form 1 to 2	Recycled Content	Post-consumer Content
MR C5	1	Regional Materials (When Applicable)	Production site defined
EQ P3 & C9 (LEED for Schools)	Prerequisite Form 1 to 2	Acoustical Performance	Design & Components Contribute Towards ANSI & STC Standards

While Iron Woods believes that certain products have characteristics that may allow users to earn points in a LEED certification, only the U.S. Green Building Council may award points and grant certification. Accordingly, Iron Woods does not make any assurances, guarantees, representations, or warranties, express or implied, and specifically disclaims all warranties or representations, that products will earn LEED points, or any project that utilizes such products, will receive LEED® certification.

Additional Product Information, Environmental Program Information, Section Details, Master Specification Language, Best Practices and Terms and Conditions can be found at www.ironwoods.com.

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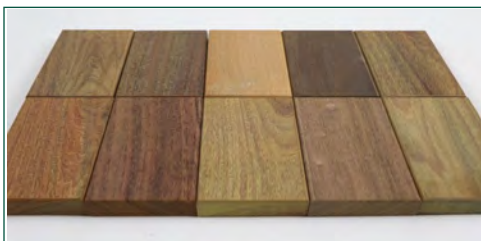
INSTALLATION - BEST PRACTICES

Iron Woods® hardwood decking products are naturally durable and truly Green By Nature each having their own unique appearance and time tested performance values. Whichever Iron Woods® product you choose, this guide is designed to outline current best practices and installation options. The use of Best Practices is an installer's guide to superior results and satisfied customers.

To the best of our knowledge this information is accurate; however due to the variance of products grown in nature, it is the sole responsibility of the installer to select the appropriate product for any given installation and site condition, check and follow local building codes and apply Best Practices in handling and installing Iron Woods® brand products. Installers should follow manufacturers recommended application and maintenance instructions when using proprietary finish and fastening products. To maximize the performance and beauty of Iron Woods® products please read this installation guide before you begin.

Color and Grain Variation

Color and grain variation is typical of materials created by nature and recognized as part of the beauty that sets natural products apart from manufactured products. This is particularly true where wood products are concerned though some species have more or less color variation than others. This should always be considered when looking at wood samples as Iron Woods are supplied mixed grain and are not sorted for color. Some consistency in color can be achieved through either staining wood or allowing wood to weather or grey out naturally.



Handling and Storage

Iron Woods should be handled with care prior to installation. Job site storage should be covered, out of direct sunlight and off the ground with a moisture barrier beneath if the ground is wet. Allow Iron Woods decking to acclimate and stabilize to equilibrium humidity levels prior to installation to reduce movement after install.



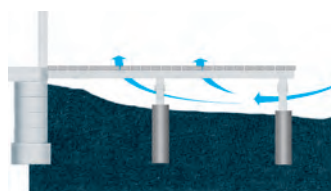
Wood Acclimation

Wood dries by movement of free water through fiber cavities, fiber walls and movement of water vapor through wood. Because wood is not homogeneous, it shrinks more along the growth rings (radial) than across the rings (tangential). Tangential dimensional change is often nearly twice that of radial movement for most wood species and (longitudinal) dimensional change is almost always negligible. These shrinkage variations cause drying defects like warping and checking. Shrinkage and swelling cease as the moisture content of wood approaches equilibrium to its environment. Species of wood vary in the rate and amount of shrinkage. To minimize shrinkage, warping, checking

and splitting in the finished product, lumber must be acclimated to the middle of the range of expected in-use moisture content. This can occur by either air drying or kiln drying the lumber. The extent of drying defects depends on the species and the rate at which the lumber dries. For much of the United States, the point of equilibrium in an exterior environment is between 10% to 14%. For the seasonal EMC levels in your region consult the US Forest Products Laboratories website, www.fpl.fs.fed.us. Search for the document titled, "Equilibrium Moisture Content of Wood in Outdoor Locations".

Deck Ventilation

The importance of ventilation and air flow under and around wood decking in improving product stability and performance has been well understood. Adequate ventilation of the deck is essential for long term stability, durability and to minimize cupping. Air should always be allowed to flow freely from outside and under the deck. Roof decks and decks with poor ventilation need to manage water beneath with slope, drainage, or a moisture barrier.



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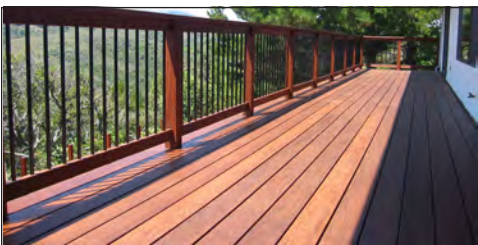
Cutting, Drilling, Fastening

Use carbide tipped finish cut saw blades and coarse open bits. Seal all ends immediately after cutting with clear aqueous wax based end sealer in order to reduce end checking. Holes should be drilled as far from the board ends as allowable to reduce end splits from over torque of screw heads. The use of corded drills for maximum torque and speed is highly recommended. The use on impact drivers should be avoided. Fasteners can range from face fastened with exposed stainless steel trim head screws, face fastened with concealed screws under plugs, or hidden fasteners such as the Ebtly Clips.

Note: Face fasteners are 2 screws per board at each joist. Blocking under butt joints to allow fasteners no closer than $\frac{1}{2}$ " from ends. Hidden fasteners placed on both sides of deck boards at every joist intersection. Screws through hidden fasteners need to be installed at 45 degrees, pinning the boards in place. Blocking at butt joints to accept 4 fasteners; two on each side of the butt joint.

Preparation, Finishing, Maintenance, and Restoration

When specifying wood products for exterior construction it is important to have realistic appearance expectations. When used outdoors wood products will not retain the appearance associated with their use in interior applications like furniture or flooring. Wood will not hold its original color over time without cleaning and reapplication of finishes. Wood by its nature will be subject to some limited amount of natural reaction, as it is difficult to predict how a natural product like wood will behave in any given environment or conditions.



End Sealing

It is required that an aqueous wax be applied to board ends immediately after cutting to reduce end checking on both air dried and kiln dried decking and lumber.



Natural Weathering

Iron Woods decking left to weather naturally without finishing, will yield a beautiful silver patina in time. Maintenance is reduced to periodic cleaning.



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NEW DECK PREPARATION

To prepare a new deck for finishing, it must be clean and dry. Any scratches, stains, or discoloration should be addressed before applying coatings to prevent locking them in

If you are sealing to maintain the color of your deck consider using cleaners from the same manufacturer as the sealer. Caution should be exercised when using Wood Brighteners containing Oxalic Acid, and only used if the deck will be refinished after brightening. Oxalic Acid converts lignin in natural wood species to sugar and can accelerate the mold process if left raw after cleaning.

Finishing

To maintain natural color use high quality oil based outdoor finishes with UV inhibitor, fungicide and pigmented tint. Test finishes on decking to determine their compatibility and appearance. Before application, brush and clean decking surfaces to remove dirt, dust and other airborne contaminants. Follow the stain manufacturer's application instructions carefully. **Stains are defined as, "Vapor Permeable", and allow for natural equalization, and are less effected by seasonal changes in temperature and moisture.**



Finished Deck Maintenance -

Mold and Mildew will grow on any surface on which a food source has accumulated. This includes plastic and glass surfaces. Mold or Mildew can be cleaned with deck cleaner containing Sodium Bicarbonate. Periodic cleaning and reapplication of finish (as needed), will enhance the appearance of your deck. The lowest maintenance approach we have found for maintaining finished decks is to treat them like you would a piece of furniture in your home. Simply clean your deck when it's dirty and wipe-on wipe-off a fresh coat of finish. That's the beauty of wood. It can always be restored to its original appearance.



Spotting, Staining, Discoloration and Weathering

Spots and stains can be difficult to remove from all wood. Iron Wood is extremely durable and can handle aggressive cleaners. For grease stains simply apply household degreasers such as Dawn Dish Detergent. Spotting must be diagnosed as to the cause. Often this is attributed to iron fragments

from deck fasteners. Once completely clean and free from fragments, natural UVs should cause the spots to fade over time. Removing natural weathering is done by the proper application of bleached based wood brightener. Be sure to follow manufacturer's application and dilution directions.



NOTE:

Any cleaner / brightener must only be applied to a wet deck. Applying to a dry deck can create a stain even more stubborn than the one being removed.