



BWDEPOT



BWDepot Decking
Wizard
Report - #101

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Conditions

Below are the installation conditions that you provided to the Decking Wizard. These are the key factors that affect performance and guide the best choices for decking type and fastening system.

LOW AIR-FLOW

Low airflow indicates limited circulation beneath the deck, creating a higher potential for trapped moisture. This condition increases the likelihood of movement-related issues such as cupping and can influence the performance of fastening systems. Drainage systems are a VERY common cause for this condition.

MODERATE TO HEAVY SUNLIGHT

Moderate to heavy sunlight indicates that the deck receives significant sun exposure, which—when combined with other installation conditions—can influence performance and material stability.

“Brazilian Hardwood Decking isn’t a commodity—it takes understanding each project’s conditions and limitations to choose the right wood and fastening system for optimum performance.”



Analysis

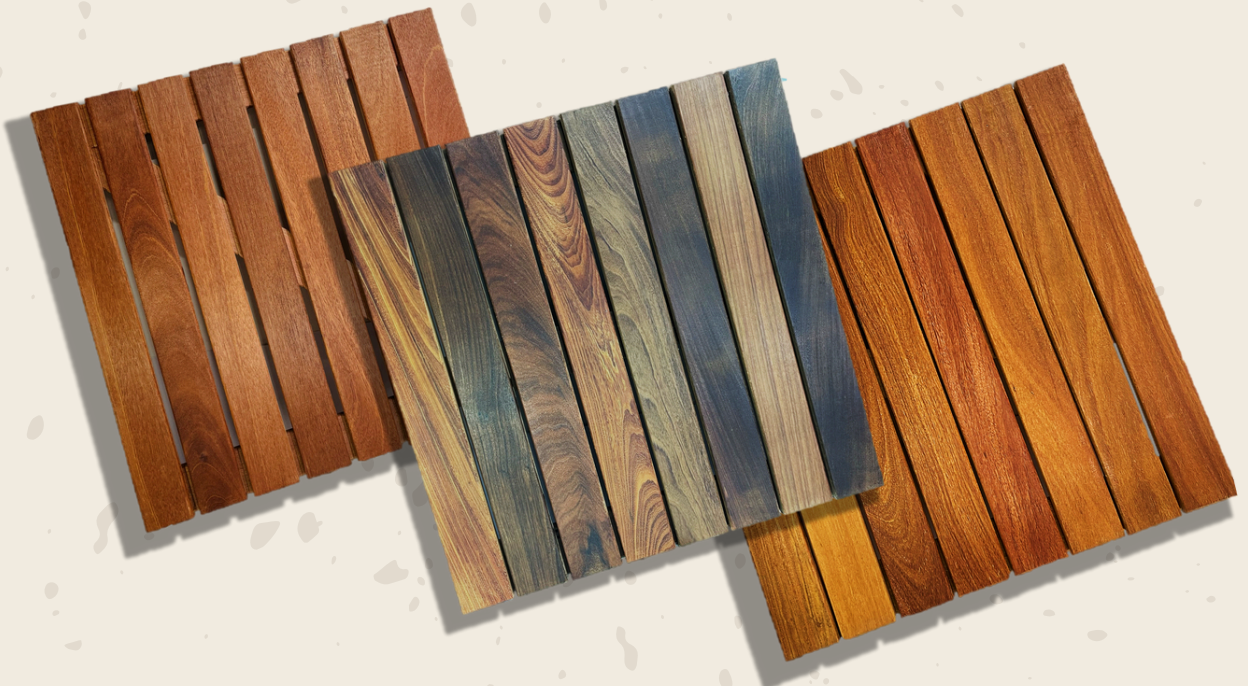
When sunlight heats the surface of a decking board and airflow beneath is adequate, the board will expand and contract slightly each day. If airflow is restricted, the top of the board contracts as sunlight wicks away surface moisture while the bottom remains swollen with trapped moisture. This imbalance leads to **cupping**, where the board's edges rise toward the sun. In these cases, careful considerations are required to ensure optimum performance.



Recommendation: Deck Tiles

Under these conditions, an ideal solution would be **Deck Tiles**. Deck Tiles are designed for situations with **heavy sunlight** and **minimal to no airflow** beneath the deck. While they may not always be the first design **preference**, they are **perfect for functionality** in these environments. They also offer benefits in cost, ease of installation and shipping, and most importantly (with drainage systems) continued access to the drainage system after installation. That last benefit cannot be understated.

Click any of the images to redirect to more details, galleries, and installation information



DECK TILES

Recommendation: Standard Decking Species

For a more traditional hardwood look, **Ipe** and **Garapa** remain the most proven choices. Both species have a long history of stability under demanding conditions. While **Garapa is not as hard as Ipe**, it has demonstrated **nearly equal dimensional stability**, making it an excellent performer in environments with competing moisture extremes.

Click any of the images to redirect to more details, galleries, and installation information



IPE



GARAPA

Recommendation:

Bottom Grooves (Kerf)

1x6 and 5/4x6 boards can be bottom-grooved to **reduce cupping** and stress caused by uneven moisture exposure. By allowing the underside of the board to **expand and contract more evenly** with the surface, grooves help limit warping. Bottom kerfing is especially valuable for decks installed over **under-deck drainage systems** or have reduced air-flow below or where hardwood will make **extended contact with beams, blocking, or waterproof membranes**.

Brazilian Wood Depot has offered this service for many years with consistent success. While it is **not a guarantee against cupping**, it has a proven **track record of improving performance**. We only recommend bottom-grooved boards when conditions call for it, but in many of these cases it is the right choice. **Consult with your salesperson for more information.**



Fastening Considerations

While a variety of fastening methods are acceptable—especially with Ipe and Garapa, which are particularly stable—it's important to consider the stresses of low airflow below and heavy sunlight above. Even with bottom grooves, these conditions can be demanding.



For best results, use a surface fastener such as stainless steel screws or screws with matching plugs. If you prefer a hidden fastening system, especially over a drainage system, select one that allows for continued access from the top so the drainage can be serviced if needed. CAMO Edge Fasteners provides this functionality, for instance.

INSTALLATION GUIDES + VIDEOS

Surface Screw Installation Guide

Screw + Plug Installation Guide

CAMO Edge Fastening Guide

ALL OF OUR INSTALLATION GUIDES ARE ALSO AVAILABLE IN SPANISH, [CLICK HERE.](#)

Next Steps

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Additional Resources

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