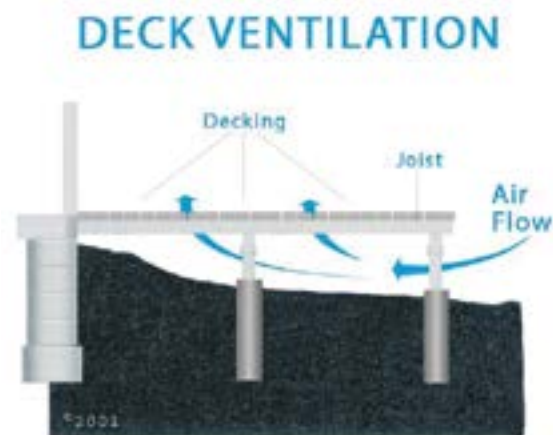


TECHNICAL BULLETIN

Deck Ventilation

It's commonly understood that ensuring adequate air flow and ventilation around and beneath wooden decking is essential for its stability and performance.

Air-dried decking is usually supplied with a moisture content ranging from 18% to 25%. If the moisture content isn't properly equalized before installation, this type of decking can be more susceptible to contraction and cupping right after being installed. Depending on the moisture level at the time of installation, along with climate and site conditions, air-dried decking can shrink up to 1/8" on a 4" board and 1/4" on a 6" board.



In contrast, Black Label™ Kiln-Dried Decking is pre-conditioned to a moisture content of approximately 12% to 14%, which helps reduce the potential for shrinkage and expansion.

High moisture levels underneath a deck, combined with the effects of sunlight and heat on the deck's surface, can create stress leading to increased checking, cupping, or warping. Certain deck designs, such as those at ground level or on rooftops, may have reduced ventilation. What can be done to mitigate issues in these scenarios?

Understanding that the stability of decking is directly linked to its thickness-to-width ratio is crucial. Boards with a larger width relative to their thickness tend to be less stable. For example, a 1x4 board offers more stability than a 1x6 board, and a 5/4x4 board is significantly more stable than a 5/4x6.



What's happening with the deck at the top?

The deck was set up in a concrete pan, with pressure-treated joists and decking installed using adhesive and hidden fasteners. The concrete pan retains water, keeping the area between the joists wet and causing the tannins in the decking to leach out and create stains. Meanwhile, the adhesive film at the joist connections is preventing the decking directly over the joists from becoming damp, so it's weathering as expected. However, this uneven staining might be just the beginning. Without proper airflow and moisture management underneath the deck, it's likely that the boards will experience movement in the future.

Addressing Poor Ventilation

From what we've observed, a 5/4x4 deck board, whether air-dried or kiln-dried, typically offers the best performance for decks with limited ventilation, whether residential or commercial, regardless of the fastening method used.



Alternatively, you might explore products like Black Label™ Roof Deck Tiles and Pedestal Systems or Decking and Pedestal Systems, designed for areas with limited ventilation. These deck tiles are made from wood slats with a stable thickness-to-width ratio. Shorter-length components can provide an affordable and innovative solution for deck construction.

The Black Label™ Deck Tile systems come in sizes of 24" x 24", 24" x 48", 24" x 72", and 24" x 96" and are designed to facilitate drainage. They can be directly installed on any level surface using our Black Label™ Elevate EPDM, Star T, or Self-Leveling or Fixed Head Screw Jack pedestals. For a budget-friendly approach to building a deck right at ground level, you can pour a concrete slab and then place pedestals and tiles on top.



Additionally, Black Label™ Deck Tiles are a great choice for traditionally built decks. By doubling the stringers at 24" intervals and securing them at the corners with 4 Pro Plugs™ per tile, you can easily install the tiles. These tiles offer a distinctive look and can substantially reduce overall construction costs. They also allow for a range of design options and patterns.

