GAPPING GUIDELINES: IPE AND WOOD DECK BOARDS

Ipe and many other wood deck boards can expand or contract in width, thickness, and length.

Wood has water stored in its cells. The moisture can vary as wood goes through different stages of production. Moisture Content Percent is used to measure how much moisture is present in wood cells.

Here are some examples of typical wood with moisture content percentage:

Green Unseasoned - 35% MC

Air Dried - 25% MC

Kiln Dried - 16% MC

The percentage means how much water is still retained in the wood's cells.

The moisture content of wood in its final installed resting spot will acclimate to the environment (i.e. humidity & temperature) surrounding it. Wood with a higher moisture content than its environment will lose moisture and contract. Wood with a lower moisture content than its environment will gain moisture and expand.

When the moisture content of wood reaches the moisture content of its environment, this becomes a constant value known as Equilibrium Moisture Content (EMC).

The EMC will not remain the same as wet or dry seasons pass over the course of a year. Moisture will evaporate as higher moisture content wood acclimates to a drier environment. The wood's cells will lose water and cause the wood to shrink. When lower moisture content wood acclimates to a wetter environment, the wood's cells will absorb water and expand/swell up.

As dry or wet seasons come and go over the course of a year, this shrinking or swelling may perpetually exist.

- THEORETICAL EXAMPLE =

Kiln Dried Ipe' Deck Boards @ 16% MC are installed with a ¼" gap in Sacramento, CA in February with an environment @ 16% MC. In July, the dry season arrives with an environment @ 7% MC, the deck boards shrink and open to a ½" gap. But the winter wet season arrives again, and in February the deck boards have swelled back, and the gap is not as wide as the summer.

- SO.....HOW DO YOU GAP DECK BOARDS at INSTALLATION??

WOOD WILL MOVE, UNDERSTAND IT, COMPENSATE FOR IT

First- Let the wood on the job site at least 2 weeks prior to installing.

Second- determine what desired gap and spacing one wants to achieve, with what kind of connection ... face screwing, blind edge clips, etc.

Third- understand the science of EMC.

Fourth- understand when the project is being installed, and when during the seasonal environmental Moisture Content cycles ... being installed in the drier season? Being installed in the wetter season?

Fifth- conclude the best installation gapping size as a function of all these considerations.

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