

Excel Custom Decks of Madison Issues Summer Deck Surface Guidance

September 02, 2026

MADISON, WI - September 02, 2026 -

Excel Custom Decks of Madison has issued guidance for homeowners on how decking material and color affect the temperature of a deck surface, following a summer outlook that leaned toward above normal temperatures across Wisconsin.

The National Weather Service Climate Prediction Center outlook for the second half of July indicated a statewide lean toward above normal temperatures and below normal precipitation. Surface temperature on an exterior deck is governed less by air temperature than by how much solar energy a material absorbs and how readily it releases that energy back into the surrounding air.

The U.S. Environmental Protection Agency documents this relationship in its research on urban heat islands, noting that solar reflectance and thermal emittance are the two properties determining how hot a paved or built surface becomes in direct sun. Surfaces with lower reflectance absorb a greater share of incoming solar radiation and reach higher temperatures than lighter surfaces under otherwise identical conditions. The same physical relationship that applies to pavement and roofing applies to a residential deck.

Composition matters alongside color. The USDA Forest Products Laboratory addresses the thermal behavior of wood in its Wood Handbook, and manufacturers of composite and PVC decking publish heat performance data for individual product lines. Because formulations differ between manufacturers and between product tiers within a single manufacturer, published figures apply to a specific board rather than to a material category as a whole.

"Nobody chooses a deck color thinking about July," said Rob McDonald, Owner and President of Excel Custom Decks. "They choose it against the siding and the trim in a showroom, and that is a reasonable way to choose. The part that gets skipped is standing in the yard at two in the afternoon and seeing where the sun actually lands."

Orientation determines how much exposure a surface receives. A deck on the west side of a house takes late afternoon and evening sun during the longest and warmest stretch of the day, while an east facing surface is generally shaded by dinner. The angle of the sun also shifts through the season, so a space that is comfortable in May can behave differently by mid July even though nothing about the structure has changed.

Surrounding conditions change the calculation further. Mature tree canopy, neighboring structures and roof overhangs all reduce direct exposure, and those conditions are not permanent. Properties across Dane County have lost substantial canopy over the past decade to emerald ash borer, which the Wisconsin Department of Natural Resources expects to kill the overwhelming majority of susceptible ash statewide. Dane County officials have noted that replacement plantings require decades to reach the size of the trees that were removed.

That matters for existing structures as much as for new ones. A deck built twenty years ago beneath an established tree may now sit in full afternoon sun without the material or the color having changed at all. Homeowners in that situation often attribute the difference to unusually hot weather rather than to a change in shade that occurred gradually over several seasons.

Design features can address exposure where material selection alone cannot. Pergolas provide partial shade over a defined section of a deck, covered porch structures offer full overhead protection from sun and light rain, and screened enclosures combine shade with insect protection during the height of summer. Each addresses a portion of a space rather than the whole of it, which is why the placement of such structures is generally determined by observed sun patterns at the property rather than by a standard layout.

Under deck systems represent a related consideration on elevated structures. By managing water above the space below, such systems create a second area that remains shaded through the day, which can be useful on properties where the primary deck surface receives extended direct exposure.

"The material conversation and the shade conversation are the same conversation," McDonald said. "If a section of the deck is going to bake every afternoon, that is either a color decision, a structure decision, or both, and it is easier to resolve on paper than after the boards are down."

Surface temperature is one consideration among several in material selection. Maintenance requirements, moisture exposure, resistance to fading and staining, performance through freeze and thaw cycling, and appearance against the exterior of the home all factor into the decision. The appropriate balance varies by property and by how a household intends to use the space, and a surface chosen for a shaded porch may not suit an open deck adjacent to a pool.

Excel Custom Decks of Madison is part of Excel Custom Decks, a family owned deck builder founded in 2000 that designs and builds residential decks and outdoor living structures in Wisconsin. The company works with wood, composite and PVC decking and provides design consultation, framing, railing, lighting, under deck systems and deck inspection services.

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Excel Custom Decks of Madison

Excel Custom Decks of Madison is a family-owned deck builder serving Madison, Wisconsin and Dane County since 2000. Our team specializes in custom-designed composite, PVC, and wood decks built for residential and light commercial properties

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