

Q. Is Weathered OSB Okay?

I am siding a building that was framed and roofed two years ago and is sheathed with $1\frac{1}{2}$ -inch OSB. The building paper blew off one of the gable walls, and now the OSB has turned gray and some of the strands are lifting from the surface. Is the OSB still sound as structural sheathing? I cut out one of the window openings, and it looks like only the top surface — less than $\frac{1}{32}$ inch — is affected; the rest of the panel is still tightly glued and has its original color (see photos, below).



A. *Bryan Readling, P.E., an engineered-wood specialist for APA, responds:* For APA-rated structural panels — both plywood and OSB — there are two exposure durability grades: Exterior and Exposure 1. These are also known as bond classifications, because they relate to the moisture resistance of the glue bond, and thus to the structural integrity of the panel. Bond classification does not relate to the panel's physical resistance to, say, erosion or ultraviolet degradation, or to its biological resistance to mold, fungal decay, insect damage, and the like.

Although both panel grades use the same moisture-resistant adhesive, only Exterior-grade panels (such as sanded A-C and B-C plywood, T-111 siding, and overlaid panels like MDO) are intended for long-term exposure to weather, and even then they must be properly finished and maintained.

Exposure 1 panels, by contrast, are supposed to be able to resist the effects of moisture caused by construction delays but are not suitable for long-term exposure; they are commonly used for roof and wall sheathing and sub-flooring, and should be protected from the weather as soon as practical. The longer these panels are exposed and the more severe the exposure, the greater the effect on panel performance. However, panels exposed to long construction delays may be less than aesthetically pleasing — as in your case — yet still structurally sound, especially if they're located on walls where there is less rain exposure.

Exposure to UV rays causes wood to gray, but this is only superficial, because the graying wood fibers on the surface offer UV protection to the wood immediately underneath. Surface flaking as seen in the photos is not unusual for OSB panels that have been exposed to surface wetting; this generally is not a structural concern. During the current economic slowdown, I've inspected several projects that were placed on hold for an extended time. In cases where the panels are able to fully dry between rain exposures, changes in structural performance are normally insignificant. Where panels are subjected to moisture levels over 20 percent for an extended period, structural degradation can be expected — as is true for any wood that is not preservative-treated or naturally decay-resistant.

Q. Safe Soil Lead Levels Next to House

I'm doing a whole-house remodel on an old home. It's the height of the gardening season, and the owners — knowing that many layers of lead-based paint had been scraped off the house over the years — asked me what I thought about planting tomatoes in the soil next to the south wall. Is there a danger that soil lead could be taken up into vegetables in dangerous quantities?

A. *Carl Rosen, a soil scientist at the University of Minnesota, responds:* In general, plants do not take up large quantities of lead even when grown in soil with elevated lead levels; however, lead levels in plants will increase as the soil lead level increases. The amount of lead taken up depends on the type of plant being grown. Lead accumulates more in leafy vegetables like lettuce and in root crops like carrots than in the fruiting part of plants like tomatoes, squash, and strawberries.

The only way to know if soil is safe for gardening is to have it tested; the homeowners can contact their local extension service for the name of a reputable lab. Some states use 500 ppm (parts per million) as the cutoff for vegetable gardens; in Minnesota we use 300 ppm.

If the soil does contain high lead levels, there are ways to reduce the risk so that the space can be used for gardening. For example, the homeowners can amend the soil with lime and organic matter to immobilize the lead, or simply make raised beds with clean soil. If they decide not to garden there, covering the soil with sod will protect children who might be playing in the area. There's a much higher risk of lead exposure through direct ingestion of contaminated soil than there is through eating plants grown in the soil.

Q. Hot-Mopping Health Risks

I received the new JLC book "Tiling for Contractors," by Michael Byrne, and was dismayed to see that there is no section that addresses hot-mop shower pans, including framing, backing, and pan installation. Why not?

A. *Book author Michael Byrne responds:* Given that a shower pan is required by code to have a 1/4-inch-per-foot slope, it is virtually impossible to install a hot-mopped pan without the hot tar running down toward the drain. In addition, since hot-tar fumes have been shown to be a contributing factor in testicular cancer, I've used other, better methods — usually a CPVC pan liner and weep drain — since around 1974.

GOT A QUESTION?

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