

Drop-Ceiling Elevation Change

Q. Occasionally when we're hanging a drop ceiling in a commercial building, we encounter a change in ceiling elevation. What's the easiest way to deal with this transition?

A. *Cliff Carl responds:* In commercial work, drop ceilings are hung from structural systems that are often located well above the finished ceiling height. To create the vertical transition necessary to separate ceilings at two different elevations, we hang a metal stud wall from the structure above that provides backing for a drywall finish (see illustration, below). We install diagonal "kickers" to brace the wall once it's in place. At the lower ceiling level we use a detail that allows us to finish off this vertical transition as the drop ceiling is hung. We build the metal stud wall so the bottom is 2 or 3 inches short of the finish ceiling height, and let the drywall hang 5 to 6 inches below the bottom track of the metal stud wall. After the finish height of the lower ceiling has been established, we score and snap the extended drywall at this height, and

using construction adhesive, apply a drywall J-bead to the exposed edge of the drywall. We fasten the wall angle for the lower ceiling to this J-bead, using $\frac{3}{8}$ -inch tech screws. The J-bead and the drywall can then be painted to match the wall finish.

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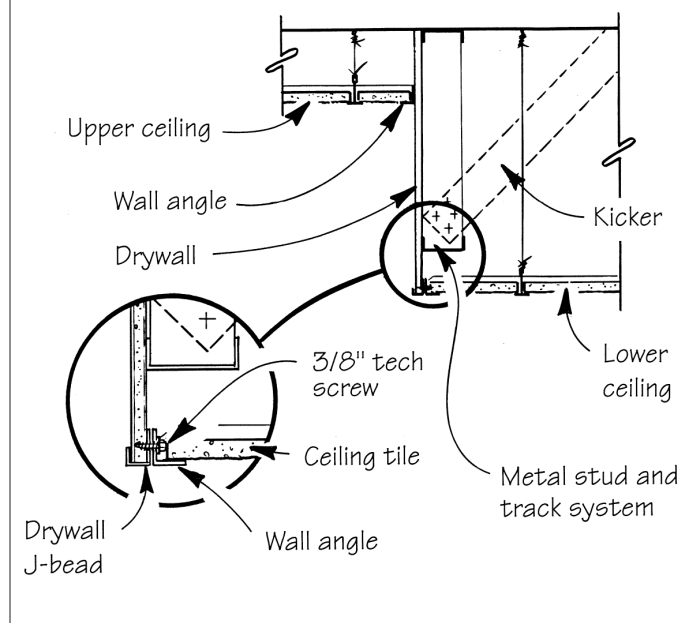
Tile Over OSB?

Q. It is my understanding that plywood and OSB should always be installed with space between the sheets for expansion. Apparently, always isn't always.

I am just now beginning a project on an unfinished house in New England that has had the 1-inch OSB subflooring glued and nailed to the joists, with the tongue-and-groove joints also glued, without any spaces between sheets.

There seems to be some swelling at the joints, most of which seems to be excess adhesive. My plan was to sand the joints flush, install underlayment, and then lay the Terra Cotta tile my client requested.

Bi-Level Ceiling Solution



To provide a vertical transition for a commercial drop ceiling, hang a light-gauge steel wall frame from the supporting structure above. The upper section of ceiling butts into the drywall face of this suspended wall. When the height of the lower ceiling is established, score and snap the drywall at finish height and attach J-bead to the edge. Then fasten the wall angle to the J-bead with $\frac{3}{8}$ -inch tech screws.

I have two questions. When and why is it okay to install sheet goods without a space between them? Can you recommend the best underlayment for this situation?

A. Michael Byrne responds: “When” and “why” aren’t the only questions to ask — how about “where” and “what”? In particular, what kind of underlayment and surfacing materials have been selected for this installation? OSB should never be considered for any tile installation: Its expansion/contraction rate is so different from that of tile that this alone would rule out its use as a setting bed for tile. Besides that, in many controlled tests, OSB has proven to be so inadequate as a tile substrate that an industry installation standard has never been written for its use.

Having said that, I realize that OSB has been used with varying degrees of success. This often hinges on the condition of the OSB, the other materials involved in the installation, and “where” the tile is installed. If the OSB panels have been recently installed in a dry, stable environment over a sturdy plywood subfloor, and the boards have been protected with a thin-bed ceramic tile membrane laminated to the surface using a low moisture adhesive, the installation may have a better chance of surviving than if the tiles are set directly over OSB panels using a moisture-laden adhesive.

As a consultant, my first advice would be to walk away from installing tiles on this surface. Perhaps another kind of floor covering whose installation requirements are more forgiving would be a better choice than to risk covering an already problematic situation with a material that needs a stable setting bed.

One of the reasons plywood has been used successfully as a tile substrate is that, within limits, its ability to support weight is fairly reliable. OSB, however, has proven itself unreliable when used for this purpose. Remember that the weight of the tile floor and its contents are ultimately supported by the strength of the sub-

flooring. Your idea to install underlayment over the OSB may work for a while, but once the floor is put into use and begins to flex, the tiles or grout joints are likely to show signs of cracking. OSB-based installation systems, in addition to being severely affected by moisture, are usually unable to meet the L/360 industry standard for acceptable deflection.

If your customer insists on using tile, get a disclaimer in writing to protect yourself and the subs connected with the installation, and improve your chances of success by finding an adhesive or membrane system formulated for use with OSB (I am not familiar with any). Another alternative would be to use 100% epoxy mortar to attach a cement backer board underlayment, a sheet membrane, and the tiles. There is no water in this adhesive that could be absorbed by the OSB and cause it to swell. (There will be some swelling, but not nearly as much as with water-based adhesives.)

Finally, as extra insurance, make certain that the floor is surrounded by an expansion joint that meets the criteria found in the *Handbook for Ceramic Tile Installation*, published by the Tile Council of America (TCA, 100 Clemson Research Blvd., Anderson, SC 29625; 864/646-8453). Expansion joints are required on all ceramic tile installations, but in this situation they become even more critical.

For your customer’s sake, weigh the costs of jury-rigging the existing situation against removing the OSB and starting from scratch with more appropriate subflooring materials. This is the course I would suggest. ■

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Got a question about a building or renovation project? Send it to On the House, JLC, RR 2, Box 146, Richmond, VT 05477.