

Wood Structural Panel Size and Spacing

Wood is a biological material and, as such, will expand or contract when subjected to changes in temperature and relative humidity. At time of manufacture, wood structural panels are fairly dry (i.e., around 2 to 6 percent moisture content, oven-dry basis). They can be expected to expand slightly as they become equilibrated to their in-place environment, usually at a moisture content of between 6 and 12 percent. Due to a more humid environment, panels used in the southeastern United States may expand more than a similar panel used in the northern United States or Canada. Table 13-1 of the USDA's Wood Handbook (2010 edition) lists the average monthly equilibrium moisture content (EMC) of solid wood exposed to outdoor atmosphere for various locations throughout the United States. These values can be used as a guide for your particular location. Note that the EMC of wood structural panels is approximately 1.5% to 3% less than that of solid wood in the same exposure condition.

Spacing of wood-based panels during installation to allow for possible expansion caused by moisture gain has been a recommendation of the panel industry for more than three decades. Minimum panel spacing recommendations help to minimize the chance of buckling and other problems associated with panel expansion. It is traditionally recommended that panels be spaced as shown in the diagram (see Figure 1), unless other recommendations or requirements are specified by the manufacturer. If panel edge clips are required for roof sheathing applications, they also serve to maintain the recommended spacing.

Grade stamps on panels often contain the note "Sized For Spacing," meaning that panels are cut by the manufacturer to be slightly less than nominal dimensions. This allows the panel to be installed with spacing at the ends and edges yet maintain adequate bearing on the supports. Panels are allowed to be manufactured a maximum of 1/16 inch short in both length and width for plywood manufactured to U.S. Department of Commerce (DOC) Voluntary Product Standard PS 1, *Structural Plywood* and 1/8 inch short for plywood and OSB manufactured to DOC PS 2, *Performance Standard for Wood-Based Structural-Use Panels*.

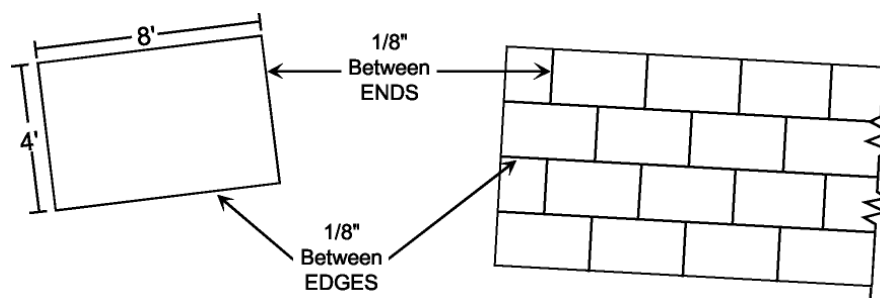


Figure 1