

Cupped Versa-Lam® Beams

Multiple-ply Versa-Lam® beams may cup after installation. The condition that causes cupping is one wet face and one dry face on the individual beam plies. If the plies are wet or dry to the same degree on both faces, they will lie flat. It is therefore possible to make a beam with wet plies that lie flat against each other when the beam is assembled. The wet beam will then begin to dry once it has been installed and the building is dried-in. The beam will of course dry first on the outside and eventually throughout its thickness.

The outside surfaces of the plies will shrink as they dry and this will cause cupping. The cupping will be greatest when the difference is greatest between the moisture contents of the inside and outside surfaces of the beam. After that, the cupping will decrease until the beam has dried through its thickness and the cupping has disappeared. How long this will take depends upon the size of the beam, how wet the beam was to begin with, the relative humidity in the atmosphere, and ambient temperature. The range will normally be a few weeks to a few months.

There is no use in attempting to flatten the beam plies by clamping them or drawing them together with bolts or screws. The force required to flatten the plies will probably split them along their length.

Cupped beams can be avoided by protecting the Versa-Lam® LVL from moisture with good storage practices in the yard and at the job site. Beam plies that are suspected of being wet should be placed in an area where they are protected from the weather and have free air circulation on all sides for as long as possible before they are assembled into a beam.

