



AMERICAN INSTITUTE OF TIMBER CONSTRUCTION

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# Tech Note 25

## Jobsite Care of Laminated Timbers in Arid Climates

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## **Introduction**

Arid climates present unique challenges for the use of wood in construction. Conditions of low relative humidity cause wood to dry as it attempts to equilibrate to its environment. As wood dries, it shrinks, creating stresses in the material. These stresses are relieved through the formation of checks (separations between wood fibers). Generally speaking, checks do not reduce the capacity of timber members (AITC Technical Notes 11, 18), but they may be objectionable from an appearance standpoint.

All wood products may become checked, however, careful drying of individual laminations prior to manufacturing structural glued laminated timbers reduces the size and frequency of the checks. While it is impossible to completely eliminate checking, proper protection of laminated timbers during storage, handling, and construction will significantly reduce the appearance of checks in structural glued laminated timber and other wood products.

## **Recommendations**

Virtually all wood contains moisture. Timber members gain or lose moisture depending on the surrounding environment. In arid environments, such as those in the southwestern United States, the wood will typically dry in-service due to low relative humidity. Coupled with low humidity, high heat in the summertime creates an extreme environment that can cause particularly rapid drying. Because rapid drying tends to increase the size and frequency of checks in timber members, steps should be taken to slow the drying process down.

The following practices are recommended to reduce the occurrence and severity of checks in structural glued laminated timbers in arid climates.

- 1.** Keep timbers wrapped until construction is complete. If the manufacturer's wrap (or portions thereof) is removed to inspect or install the beams, it should be carefully replaced.
- 2.** Apply a coat of sealer to the ends of all members on receipt at the jobsite and after trimming. The sealer will retard moisture loss from the ends of the beam, minimizing end checks and splits.
- 3.** Protect the timbers from both sun and rain.

Careful adherence to these practices will minimize checking, reduce call-backs, and help to maintain the beautiful appearance of the laminated timbers.