



BCI[®] / AJS[®] Joist Ceiling Framing Over an Indoor Pool

Boise Cascade products are only intended for dry service conditions. As per CSA 086, service conditions are considered to be dry when the **average equilibrium moisture content is 15% or less over a year and does not exceed 19% at any time**. Products used in interior, open-protected applications, or wet only for short periods and dry most of the time, will have an equilibrium content of not more than 15%, and dry design strengths may be used. Short term duration (as per CSA 086) is not expected to last more than 7 days continuously or cumulatively throughout the life of the structure.

Wood contained within the interior, heated or unheated buildings, has generally been found to have a moisture content of between 6 and 14% according to the season and location.

Open-protected applications can be defined as areas where members are exposed to outside air but typically do not have contact with moisture when it rains. Such an application is a roof over a carport or deck where the members are protected from direct exposure to the weather above by a roof membrane and from the side by a fascia or overhang. Members supporting a deck constructed with a waterproof membrane would be another acceptable application.

In the unusual event that I-joists are exposed to abnormally high or rapidly changing moisture environments, research shows that the I-joists can undergo greater creep deflection and the strength may also be reduced. Estimating the amount of strength or stiffness loss for joists exposed to high humidity is difficult to quantify by visual inspection. Destructive testing of samples conducted at a certified laboratory is the only accurate method of determining the resulting structural properties. Therefore, if testing is not feasible, the product warranty of Boise Cascade I-Joists would be voided, and the products shall be replaced.

Ceiling framing above indoor pools may be subjected to environmental conditions that are not typically found in enclosed structures. High moisture levels, temperature and chemical emissions all can affect the stress capacities of structural materials over time. Wood fiber loses strength and stiffness if exposed to both relatively high moisture and temperature conditions.

The proper design and installation of ventilation/dehumidifier systems and related components is the responsibility of the structure's design professional(s) of record. Such systems are required to maintain a dry service environment in ceiling areas above indoor pools. The structure's owner is responsible for maintaining such ventilation/dehumidifier systems over the lifetime of the structure to ensure that dry service conditions are preserved.

If AJS and BCI joists are properly designed and installed, they will perform to their published structural capacities. However, if the joists are subjected to conditions that would increase the product moisture content over 19% at any time, the product warranty would be voided by Boise Cascade.

Please feel free to contact Boise Cascade EWP Engineering if you have any questions or concerns.