

4 BEST PRACTICES FOR GLULAM INSTALLATION

SIMPLE STEPS TO ENSURE GLULAM BEAMS PERFORM AS DESIGNED.

With higher strength and better dimensional stability than solid-sawn lumber, glulam offers designers and builders an ideal solution for framing long spans, tall walls, and traditional beams and headers in residential construction.

Glulam beams install with the same general techniques and tools as dimension lumber and other engineered wood. However, as engineered components, glulam beams are used for applications where they will be highly stressed under design loads. It is important to follow manufacturer and industry instructions for installation, from beam positioning to fastening to cutting.

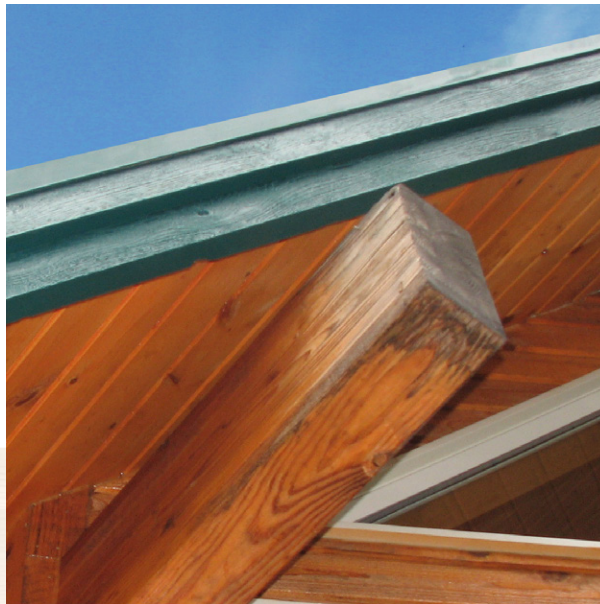
Read on for four simple guidelines to ensure proper installation.



CHECK BEFORE NOTCHING AND DRILLING HOLES IN GLULAM BEAMS

Glulam is manufactured from specially selected and positioned lumber laminations, designed to optimize strength and performance in the structural members. As with all engineered wood products, any holes, notches, or tapered cuts should be approved by the design professional of record and detailed on shop drawings. Improperly placed notches or holes may have an adverse effect upon the load-carrying capacity of the glulam beams.

When field notching, cutting, or drilling a glulam beam is required, consult the engineer of record before making any cuts. In some instances, these modifications can be made in areas of the glulam that are not highly stressed and therefore have minimal effect on the structural capacity of the member. To address these specific conditions, APA offers the Technical Note, *Field Notching and Drilling of Glued Laminated Timber Beams*, Form S560.



Roof beams that extend to the exterior need to be protected from the elements.



All holes, notches, and tapered cuts must be approved by the engineer or architect.

USE GLULAM FOR STRAIGHT AND TRUE COLUMNS

Glulam functions well in column applications because it remains straight and true in cross-section. Since it is manufactured with dry lumber, glulam is less susceptible to the checking and splitting that can occur with green timbers; glulam also has superior fastener-holding capacities.

PROTECT UNTREATED BEAMS FROM THE ELEMENTS

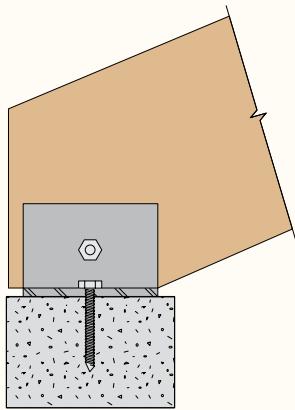
Any wood roof beam that extends to the exterior of the house needs to be protected from the elements. Be sure to use proper detailing and flashing over the exposed ends of the beams as shown in APA Technical Note *Glulam Connection Details*, Form T300.

Treated beams also can be used. Always use treated beams and columns for applications in which the glulam members are fully exposed to the environment, such as decks.

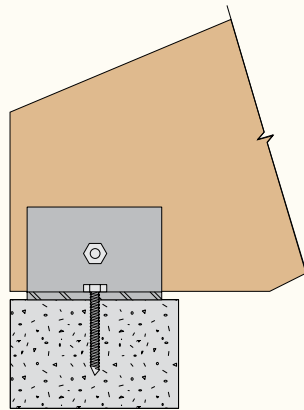
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BEAM-TO-BEARING CONNECTIONS

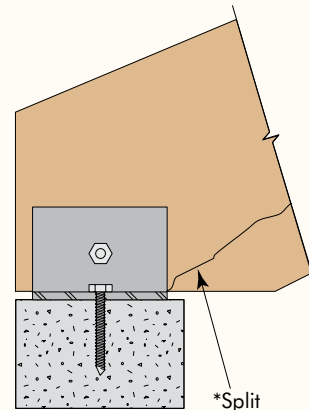
Correct



Incorrect



Result of Incorrect Detail



*Splitting may result from rapid drying due to exposed end grain which may, in turn, induce tension perpendicular-to-grain stresses and reduce shear strength.

Follow manufacturer recommendations for beam-to-bearing connections, such as the example shown here, to avoid splitting.

USE PROPER CONNECTION DETAILS

Proper connection details are important to the structural performance and serviceability of any timber-framed structure. Connections are designed to transfer loads to and from a structural member while avoiding localized stress concentrations. Because of glulam's larger sizes and longer spans, it's important to make connections as detailed by the design professional on record.

Another consideration is ambient moisture. It is important to design connections that protect wood members from potential sources of moisture. Additionally,

moisture-related expansion and contraction, characteristic to all wood products, must be taken into account when detailing glulam connections.

To see detailed examples of correct and incorrect connections, download *Glulam Connection Details*, Form T300, at www.apawood.org.

ADDITIONAL RESOURCES

No matter the application, always follow manufacturer instructions for proper installation techniques. In addition, resources can be found at www.glulambeams.org and by contacting APA's Help Desk at www.apawood.org/helpdesk.

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