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
of

Agriculture and Forestry

**Bending Moment Capacity of Metal Plate Connected Wood-Splice Joints
Constructed with Red Pine (*Pinus brutia* Ten.) Lumber**

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Abstract: The ultimate bending moment carrying capacity of metal-plate-connected (MPC) wood-truss-splice joints constructed with red pine (*Pinus brutia* Ten.) lumber was investigated. Lumber 38 mm by 90 mm and 3 different sizes of metal plate connectors were utilized in constructing the joints. A 4-point loading method was used to determine the joints' bending moment capacity. Tensile splice joints were tested in both flat- and edgewise positions. The effects of tooth orientation and metal plate size on the bending moment capacity of the joints were investigated. The results indicated that both tooth orientation and plate size significantly influenced the joints' bending moment capacity. Plate size seemed to increase the bending moment capacity of the joints when plate size was increased to 76 mm by 100 mm from 76 mm by 76 mm. There was no significant difference between 76 mm by 100 mm plates and 76 mm by 152 mm plates in bending moment capacity. There was also no conclusive relationship between the bending moment capacity of the joints and the specific gravity of the lumber, and between the lumber's modulus elasticity.

Key Words: MPC splice joints, bending moment capacity, red pine

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