

**ANNOUNCEMENT**

**MASTER’S STUDENT FINAL PAPER/THESIS PRESENTATION**

**2 PM Thursday, August 11th, 2022**

**Presentation via Zoom:** Provide zoom link, Meeting ID and password, if virtual. If in-person, provide Room number

**Meeting ID: XXX**

**Password: XXXX**

Presenter: XXXX YYYY

“Presentation Tittle”

Abstract:

In this study, simple parallel chord metal plate connected wood truss panels fabricated with a 1/8-inch gap between the webs and chord at the center joint were tested under vertical compression and tension load reversal cycles to evaluate the gap-closure effects on the gapped joint. ANSI/TPI 1-2014 currently specifies a maximum gap of 1/8-inch without factoring the compression capacity of the metal connector plate for all truss joints except for floor truss chord splices. These truss panels were fabricated in both flat (4x2) and edgewise (2x4) orientations using standard MiTek® 20-gauge steel connector plates.

All truss samples in both orientations experienced gap closure by plate buckling as opposed to plate tooth slippage in the lumber. Most of the connector plates in the edgewise truss orientation experienced a higher buckling load than those of flat orientation. All buckling loads were larger in magnitude than the maximum design compression value of the truss joint. Additionally, all but one truss sample experienced tension failure forces larger in magnitude than the maximum tension design value. Only three load reversal cycles occurred in the edgewise orientation and a maximum of two cycles in the flat orientation. For all truss samples, it was observed that the original embedment holes in the lumber widened between progressive load cycles, which likely led to decreased tension grip strength values at failure when compared with previous load cycles. With the small number of load reversal cycles experienced during testing, it is recommended that further testing be conducted with modified loading scenarios to determine if a load cycle-joint stress trend is quantifiable. If an observable trend exists, it may be helpful in evaluating the validity of the current gap limit specified in the code.