



June 8, 2020

Subject: Single Pass Roller Reduction for Flat-Lumber Oriented Trusses

To Whom It May Concern:

With the introduction of the updated plate testing standard CSA S347-14 in TPIC2014, the standard requires truss manufacturers to incorporate a strength value reduction for plates installed in a single-pass roller manufacturing process. When plates are pressed using a roller press, but with no secondary pass via a finish-roller, a reduction needs to apply to the grip properties of the plates.

One example of a manufacturing procedure that incorporates a "single pass" process are flat-lumber trusses typically used in floor and flat-roof applications. Some types of manufacturing equipment incorporate roller-type press systems to fabricate flat-lumber trusses (2.5" and 3.5" wide). Typically for these roller systems, there is a first pressing, where plates are installed on one face using a roller press, and a second pressing for the adjacent face. The above-described process results in the first face of the truss having the roller press apply pressure twice (the 1st pass when the plates are installed and the 2nd pass, indirectly after the truss is flipped). However, the opposite face of the truss typically receives only a single pressing from the roller.

TPIC was asked to investigate whether such a manufacturing process (a single roller pass on each face) requires flat-lumber oriented truss designs to have plate strength value reductions. It was the conclusion of the TPIC technical committee that:

- Flat-Lumber-oriented trusses which are manufactured with only a single direct roller pass on each face, require a strength value reduction incorporated into the design of the metal plates, as outlined in CSA S347-14
- Running the roller press twice along the 2nd face of the truss after it is flipped (three roller passes total, with two on the 2nd face) would satisfy the "double-pass" roller requirements of CSA S347 and no reduction in strength would be required

Note this clarification does not apply to manufacturing processes that involve vertical hydraulic presses to press plates. This clarification document is applicable only to roller-press systems.

Sincerely,

Truss Plate Institute of Canada