The European Yield Model (EYM) predicts the lateral load capacity of bolted timber joints. It considers that the capacity depends on the bending strength of the bolt and the bearing strength of the timber. Different modes of failure are identified when either the bearing strength of the bolt bends with plastic hinges forming in the bolt. The capacity of the joint corresponding to each mode is determined, with the minimum value indicating the actual failure mode.

The objective of this study was to ascertain whether the EYM could be applied to timbers of Sri Lanka. The experimental study consisted of testing various configurations of bolted joints loaded parallel to the grain in different species of timber and comparing the experimental load with that predicted by the EYM.

A high-density timber and low-density timber were selected for the study, which was limited to 3 member symmetrical bolted timber joints, with the bolts loaded in double shear. It covered three geometries were tested diameters of outer member thickness to central member thickness.

The study showed that the lateral load capacity for bolted joints of high-density timber is underestimated, and low density timber is overestimated values. Further work is recommended to determine what modifications are required to adopt the EYM to bolted joints of Sri Lankan timber species.