

Load-bearing characteristics of heat-treated rubberwood furniture components and joints

ABSTRACT

The load bearing characteristics of heat-treated rubberwood furniture components and joints were studied. It was found that heat-treated samples had significantly lower fatigue strength compared to the conventionally kiln-dried rubberwood samples, which were used as control specimens. Inevitably, the recommended allowable design stresses for heat-treated rubberwood furniture components and joints could be set at 40 and 25 % of the respective bending strengths, in order to ensure its compliance with furniture performance standards. These figures are much lower than the allowable design stresses for conventionally kiln dried components, reflecting the need for a lower safety margin when working with heat-treated materials.

Keyword: Design stress; Fatigue strength; Heat-treated materials; Load bearing; Performance standards; Rubberwood; Safety margin