

## The Fire Performance of Exposed Timber Panels

**Authors :** Bernice V. Y. Wong, Kong Fah Tee

**Abstract :** Cross-laminated timber is increasingly being used in the construction of high-rise buildings due to its simple manufacturing system. In term of fire resistance, cross-laminated timber panels are promoted as having excellent fire resistance, comparable to that of non-combustible materials and to heavy timber construction, due to the ability of thick wood assemblies to char slowly at a predictable rate while maintaining most of their strength during the fire exposure. This paper presents an overview of fire performance of cross-laminated timber and evaluation of its resistance to elevated temperature in comparison to homogeneous timber panels. Charring rates for cross-laminated timber panels of those obtained experimentally were compared with those provided by Eurocode simplified calculation methods.

**Keywords :** timber structure, cross-laminated timber, charring rate, timber fire resistance

**Conference Title :** ICSECM 2014 : International Conference on Structural Engineering, Construction and Management

**Conference Location :** Osaka, Japan

**Conference Dates :** October 12-13, 2014