

Behavior of Glulam in Compression Perpendicular to grain in Different Strength Grades and Load Configurations

M. Augustin¹, A. Ruli², R. Brandner², G. Schickhofer¹

¹ Institute for Timber Engineering and Wood Technology,
Graz University of Technology / Austria, Europe

² holz.bau forschungs gmbh, Graz / Austria, Europe

Abstract

In the European standard for glulam EN 1194:1999 the strength values perpendicular to the grain are specified in dependence of the tensile strength respectively grading class of the used boards. By consideration of the test results given in this paper this correlation could not be confirmed. For all glulam strength classes the specification of a constant characteristic strength value perpendicular to the grain $f_{c,90,g,k}$ of about 2,1 N/mm² to 2,3 N/mm² can be recommended and has to be discussed. This is also the fact for the characteristic modulus of elasticity perpendicular to the grain where a constant mean value of 300 N/mm² valid for all glulam strength classes should be considered. For the design of structural members with different loading situations adjustments of these values are necessary.