



Characterizing High Temperature Performance of Structural Adhesives

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 Glulam (Glue-Laminated Timber)
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 Notes: Contact: Christian Dagenais, Université Laval

Summary:

Structural engineered woods require the use of previously evaluated structural adhesives in accordance with a variety of standard methods (ASTM D2559, ASTM D7247, CSA O112.9, CSA O112.10, CSA O177, etc.). The basic assumption is that a bonded engineered wood product will have a performance equivalent to, or better than, the non-bonded product it replaces, regardless of the conditions of use (dry, wet, fire, etc.). Nevertheless, the results of cross-laminated wood (CLT) fire tests have shown that the requirements currently imposed on adhesives do not allow to limit lamellae detachment when CLT is exposed to fire. Traditionally, this behavior is not observed for glulam. It is essential to review the classification and performance criteria imposed on adhesives by submitting them to the various tests currently standardized. The analysis of the results may also be used to develop a new test method for adhesives exposed to high temperatures, depending on the anticipated use of the engineered wood product.