



## Direct Impact Sound Insulation of Cross Laminate Timber Floors with and without Toppings

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Author: Zeitler, Berndt  
Schoenwald, Stefan  
Sabourin, Ivan

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### Summary:

Cross Laminated Timber (CLT), which is well suited for construction of tall buildings, is becoming a more popular construction material in North America. However, to ensure comfortable living conditions, sound insulation measures are necessary. The study presented here compares results of direct impact sound insulation of 5- and 7-ply CLT floors covered with different a concrete toppings on various interlayers. Improvements of up to 21dB in Weighted Normalized Impact Sound Pressure Level ( $L_{n,w}$ ) were observed using a newly proposed reference floor for CLTs. Furthermore, the improvements of floor coverings on CLT floors are compared to those achieved on other types of construction, such as the reference concrete floor. The improvements of  $L_{n,w}$  tend to be higher on the concrete floors than on the CLT floors tested. These and other findings will be presented.

Online Access: Free

### Resource Link

[https://www.researchgate.net/profile/Berndt-Zeitler/publication/268516593\\_Direct\\_Impact\\_Sound\\_Insulation\\_of\\_Cross\\_Laminate\\_Timber\\_Floors\\_with\\_and\\_without\\_Toppings/links/546eab910cf2bc99c2155aef/Direct-Impact-Sound-Insulation-of-Cross-Laminate-Timber-Floors-with-and-without-Toppings.pdf](https://www.researchgate.net/profile/Berndt-Zeitler/publication/268516593_Direct_Impact_Sound_Insulation_of_Cross_Laminate_Timber_Floors_with_and_without_Toppings/links/546eab910cf2bc99c2155aef/Direct-Impact-Sound-Insulation-of-Cross-Laminate-Timber-Floors-with-and-without-Toppings.pdf)