



## Design Concept for CLT - Reinforced with Self-Tapping Screws

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**Summary:**

Concentrated loads on Cross Laminated Timber elements (CLT) in areas of point supports or load applications cause high local shear stresses. Inclined self-tapping screws with continuous threads have turned out to be an effective reinforcement. As neither the German design standard DIN 1052 [2] nor technical approvals cover this construction method a research project funded by the AiF [3] was conducted to gather basic information for its application. These basics include the determination of shear stresses next to concentrated loads, the interaction of compression perpendicular to the grain and rolling shear stresses as well as theoretical and experimental examinations of the load bearing behaviour of reinforced CLT-elements. This paper presents the main research results. A design concept validated by means of the test results is proposed [4].

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**Resource Link**

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