

## **Airtightness of cross-laminated timber envelopes : influence of moisture content, indoor humidity, orientation, and assembly**

**Kukk, Villu; Bella, Adeniyi; Kers, Jaan; Kalamees, Targo** Journal of building engineering 2021 / art. 102610

<https://doi.org/10.1016/j.jobbe.2021.102610> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **A case study on construction of CLT building without preliminary roof**

**Liisma, Eneli; Kalamees, Targo; Kuus, Babette Liseth; Kukk, Villu** Proceedings of the I Forum Wood Building Baltic, 2019 : [27.02-1.03.2019, Tallinn] 2019 / p. 44-45 : ill [https://www.ester.ee/record=b5197207\\*est](https://www.ester.ee/record=b5197207*est) <https://www.digar.ee/viewer/et/nlib-digar:409888/350001/page/45>

## **A case study on the construction of a CLT building without a preliminary roof**

**Liisma, Eneli; Kuus, Babette Liseth; Kukk, Villu; Kalamees, Targo** Journal of sustainable architecture and civil engineering 2019 / p. 53-62 : ill <https://doi.org/10.5755/j01.sace.25.2.22263>

## **Construction period moisture load on CLT - example of 5 CLT buildings**

**Kalbe, Kristo; Kukk, Villu; Kalamees, Targo** Proceedings of the III Forum Wood Building Baltic, Riga Technical University, 09-10.05, 2022, Riga, Latvia 2022 / p. 42-43 <https://forumwoodbuilding.rtu.lv/wp-content/uploads/sites/37/2022/05/FWBB2022-2022.05.09-speakers-day-1-and-2.pdf>

## **Design guidelines of CLT external wall based on stochastic analysis**

**Kukk, Villu; Kers, Jaan; Kalamees, Targo; Wang, Lin; Ge, Hua** Proceedings of the III Forum Wood Building Baltic, Riga Technical University, 09-10.05, 2022, Riga, Latvia 2022 / p. 40-41 <https://forumwoodbuilding.rtu.lv/wp-content/uploads/sites/37/2022/05/FWBB2022-2022.05.09-speakers-day-1-and-2.pdf>

## **Designing highly insulated cross-laminated timber external walls in terms of hygrothermal performance : field measurements and simulations**

**Kukk, Villu; Kaljula, Laura; Kers, Jaan; Kalamees, Targo** Building and Environment 2022 / art. 108805

<https://doi.org/10.1016/j.buildenv.2022.108805> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **The effect of material selection, design, and construction on the service life and appearance of a wooden building**

**Kukk, Villu; Hiiekivi, Jürgen; Kalamees, Targo** 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 144-145 : ill <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17> [https://www.ester.ee/record=b5668645\\*est](https://www.ester.ee/record=b5668645*est)

## **Exploring the performance of CLT external walls enhanced with wood-fibre-based ETICS: preliminary field measurement insights**

**Kukk, Villu; Kalamees, Targo** Multiphysics and Multiscale Building Physics: Proceedings of the 9th International Building Physics Conference (IBPC 2024) ; Volume 3: Building Systems and HVAC Technologies 2025 / p. 392-397 [https://doi.org/10.1007/978-981-97-8313-7\\_54](https://doi.org/10.1007/978-981-97-8313-7_54)

## **Field measurements and simulation of an massive wood panel envelope with ETICS**

**Kukk, Villu; Kers, Jaan; Kalamees, Targo** Wood material science and engineering 2021 / p. 27-34 : ill

<https://doi.org/10.1080/17480272.2020.1712738> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **Field measurements of a MHM envelope with ETICS**

**Kukk, Villu; Kalamees, Targo; Kers, Jaan** Proceedings of the I Forum Wood Building Baltic, 2019 : [27.02-1.03.2019, Tallinn] 2019 / p. 48-49 : ill [https://www.ester.ee/record=b5197207\\*est](https://www.ester.ee/record=b5197207*est)

## **Hygrothermal criteria for design of cross-laminated timber external walls**

**Kukk, Villu; Kers, Jaan; Kalamees, Targo; Wang, Lin; Ge, Hua** Proceedings of the 5th international conference on building energy and environment 2023 / p. 811-815 [https://doi.org/10.1007/978-981-19-9822-5\\_87](https://doi.org/10.1007/978-981-19-9822-5_87) [Conference proceedings at Scopus](#) [Article at Scopus](#)

## **Hygrothermal criteria for design of cross-laminated timber external walls with ventilated facades = Soojus- ja niiskustehnilised kriteeriumid tuulduva fassaadiga riskihtiimpuidust välisseinte projekteerimiseks**

**Kukk, Villu** 2022 <https://doi.org/10.23658/taltech.33/2022> <https://digikogu.taltech.ee/et/Item/aedf3ed3-26d7-49be-b386-20cd705ac4b7> [https://www.ester.ee/record=b5501869\\*est](https://www.ester.ee/record=b5501869*est)

## **Hygrothermal performance of cross-laminated timber walls with interior insulation**

**Kukk, Villu; Kalamees, Targo** Durability and Climate Change : Changing Climatic loads as may affect the Durability of Building Materials, Components and Assemblies : proceedings of the CIB / NRC Symposium : National Research Council Canada, Construction Research Center, Ottawa, Canada, 21 September, 2018 2018 / p. 23-24 : ill [https://site.cibworld.nl/dl/publications/W080\\_pub414.pdf](https://site.cibworld.nl/dl/publications/W080_pub414.pdf)

## **Hygrothermal performance of mass timber wall assembly with external insulation finish system**

**Kukk, Villu; Kers, Jaan; Kalamees, Targo** Buildings XIV : thermal performance of exterior envelopes of whole buildings : [conference proceedings] 2019 / 9 p [Hygrothermal Performance of Mass Timber](#)

### **Identification and improvement of critical joints in CLT construction without weather protection**

**Kalbe, Kristo; Kuk, Villu; Kalamees, Targo** E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 10002, 8 p. : ill <https://doi.org/10.1051/e3sconf/202017210002> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Impact of built-in moisture on the design of hygrothermally safe cross-laminated timber external walls : a stochastic approach**

**Kukk, Villu; Kers, Jaan; Kalamees, Targo; Wang, Lin; Ge, Hua** Building and environment 2022 / art. 109736 <https://doi.org/10.1016/j.buildenv.2022.109736> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Impact of cracks to the hygrothermal performance of cross laminated timber**

**Kukk, Villu; Püssa, Martin; Kallakas, Heikko; Kers, Jaan** Proceedings of the 12th Meeting of the Northern European Network for Wood Science and Engineering (WSE) : Wood Science and Engineering - a Key Factor on the Transition to Bioeconomy : September 12-13, 2016, Riga, Latvia 2016 / p. 143 <http://www.kki.lv/dokumenti/WSE2016.pdf>

### **Impact of cracks to the hygrothermal properties of CLT water vapour resistance and air permeability**

**Kukk, Villu; Horta, R.; Püssa, Martin; Luciani, Giovanni; Kallakas, Heikko; Kalamees, Targo; Kers, Jaan** Energy procedia 2017 / p. 741-746 : ill <https://doi.org/10.1016/j.egypro.2017.10.019> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Influence of CLT wetting during the construction phase on the crack formation and air leakages in the CLT**

**Kalbe, Kristo; Kuk, Villu; Kalamees, Targo** AIP conference proceedings 2023 / p. 020028-1-020028-8 <https://doi.org/10.1063/5.0171342> [Conference proceedings at Scopus](#) [Article at Scopus](#)

### **Influence of interior layer properties to moisture dry-out of CLT walls**

**Kukk, Villu; Külaots, Annegrete; Kers, Jaan; Kalamees, Targo** Canadian journal of civil engineering 2019 / p. 1001-1009 <https://doi.org/10.1139/cjce-2018-0591> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Millea tuleb arvestada CLT-paneelidest maju ehitades?**

**Kukk, Villu** Ehitaja 2022 / lk. 42 [https://www.ester.ee/record=b1072123\\*est](https://www.ester.ee/record=b1072123*est)

### **A state-of-the-art empirical round robin validation of heat, air and moisture (HAM) models**

**Dang, Xinyuan; Guimarães, Ana Sofia; Sarkany, Andreas; Laukkarinen, Anssi; Xu, Bingyu; Vanderschelden, Bruno; Rode, Carsten; Xia, Changchang; Feng, Chi; Whitman, Chris; Klöße, Paul; Kalamees, Targo; Kuk, Villu** Building and Environment 2025 / art. 112867 <https://doi.org/10.1016/j.buildenv.2025.112867>

### **The effects of production technologies on the air permeability and crack development of cross-laminated timber**

**Kukk, Villu; Kalamees, Targo; Kers, Jaan** Journal of building physics 2019 / p. 171-186 : ill <https://doi.org/10.1177/1744259119866869> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **The effects of production technologies on the air permeability properties of cross laminated timber**

**Kukk, Villu; Kers, Jaan; Kalamees, Targo** 7th International Building Physics Conference IBPC2018: Healthy, Intelligent and Resilient Buildings and Urban Environments: proceedings : Syracuse, NY, USA, September 23-26, 2018 2018 / p. 349-354 : ill <http://ibpc2018.org/wp-content/uploads/2018/11/FINAL-IBPC2108-Proceedings.pdf>

### **The use of an internal airtight membrane in CLT external wall in terms of hygrothermal performance**

**Kukk, Villu; Kers, Jaan; Kalamees, Targo** Journal of physics : conference series 2021 / p. 2-4 : ill <https://doi.org/10.1088/1742-6596/2069/1/012208> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

### **Weather exposed CLT construction – observations and improvement concept**

**Kalbe, Kristo; Kuk, Villu; Kalamees, Targo** Forum Wood Building Baltic : proceedings of the II Forum Wood Building Baltic, Riga Technical University Digital Conference, 14-16 April 2021 2021 / p. 84-85 : ill <https://issuu.com/matijsbabris/docs/fwbb2021>

### **Wetting circumstances, expected moisture content, and drying performance of CLT end-grain edges based on field measurements and laboratory analysis**

**Kalbe, Kristo; Kalamees, Targo; Kuk, Villu; Ruus, Aime; Annuk, Alvar** Building and environment 2022 / art. 109245 <https://doi.org/10.1016/j.buildenv.2022.109245> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)