

Data acquisition workflow utilizing lod3 geometry templates and point clouds for urban building energy modelling
Iliste, Elisa; Pikas, Ergo; Kalamees, Targo; Viik, Joosep Proceedings of the 2024 European Conference on Computing in Construction 2024 / p. 689-696 <https://doi.org/10.35490/EC3.2024.221> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Adaptive ventilation for climate control in a medieval church in cold climate
Napp, Margus; Wessberg, Magnus; Kalamees, Targo; Broström, Tor International journal of ventilation 2016 / p. 1-14 : ill <https://doi.org/10.1080/14733315.2016.1173289> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Air leakage and hygrothermal performance of an internally insulated log house
Alev, Üllar; Uus, Andres; Teder, Marko; Miljan, Martti-Jaan; Kalamees, Targo NSB 2014 : 10th Nordic Symposium on Building Physics, 15-19 June 2014, Lund, Sweden : full papers 2014 / p. 55-62 : ill

Air leakage levels in timber frame building envelope joints
Kalamees, Targo; Alev, Üllar; Pärnalaas, Mihkel Building and environment 2017 / p. 121-129 : ill <https://doi.org/10.1016/j.buildenv.2017.02.011> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Air leakage of concrete floor and foundation junctions
Alev, Üllar; Antsov, Peeter; Kalamees, Targo Energy procedia 2015 / p. 2046-2051 : ill <https://doi.org/10.1016/j.egypro.2015.11.217> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Air leakage of joints filled with polyurethane foam
Hallik, Jaanus; Gustavson, Heleen; Kalamees, Targo Buildings 2019 / art. 172, 15 p. : ill <https://doi.org/10.3390/buildings9070172> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Air pressure conditions in Finnish residences : [abstract] [Electronic resource]
Kalamees, Targo; Kurnitski, Jarek; Jokisalo, Juha; Eskola, Lari; Jokiranta, Kai; Vinha, Juha Proceedings of Clima 2007 WellBeing Indoors : 10-14 June 2007, Helsinki, Finland 2007 / p. 278 [CD-ROM]

Air pressure conditions in Finnish residences [Electronic resource]
Kalamees, Targo; Kurnitski, Jarek; Jokisalo, Juha; Eskola, Lari; Jokiranta, Kai; Vinha, Juha Proceedings of Clima 2007 WellBeing Indoors : 10-14 June 2007, Helsinki, Finland 2007 / [CD-ROM]

Air tightness and air leakages of new lightweight single-family detached houses in Estonia
Kalamees, Targo Building and environment 2007 / 6, p. 2369-2377 : ill

Air tightness and thermal bridges of Estonian lightweight timber-frame detached houses
Kalamees, Targo; Vaikmäe, Roland; Otsmaa, H.; Sasi, Lennart; Öiger, Karl Materials of Forum ANNEX-41 : Zürich, 2004 2004 / [6] p

Air tightness of apartment buildings in Estonia
Kalamees, Targo; Arumägi, Endrik; Tähiste, M. Proceedings of the 4th International Symposium on Building and Ductwork Air tightness (BUILDAIR) / 30th AIVC conference Trends in High Performance Buildings and the Role of Ventilation : Berlin, Germany, October 1-2, 2009 2009 / ? p

Airflow performance of ventilated sub flooring system
Kalamees, Targo; Kurnitski, Jarek; Helenius, Tapio Building and environment 2007 / 10, p. 3708-3716 : ill

Airtightness and thermal bridges of 32 lightweigt detached houses
Kalamees, Targo; Sasi, Lennart; Öiger, Karl IEA-Annex 41 MOIST-ENG working meeting : Trondheim, Norway, 26-28 October 2005 2005 / [10] p

Airtightness and ventilation of new Estonian apartments constructed 2001-2010
Paap, Leena; Mikola, Alo; Kõiv, Teet-Andrus; Kalamees, Targo Joint Conference 33rd AIVC Conference and 2nd TightVent Conference : Optimising Ventilative Cooling and Airtightness for [Nearly] Zero-Energy Buildings, IAQ and Comfort : Copenhagen, Denmark, 11-11 October 2012 : proceedings 2012 / p. 177-180 : ill <https://www.aivc.org/resource/airtightness-and-ventilation-new-estonian-apartments-constructed-2001-2010>

Airtightness improvement solutions for log wall joints
Alev, Üllar; Uus, Andres; Kalamees, Targo Energy procedia 2017 / p. 861-866 : ill <https://doi.org/10.1016/j.egypro.2017.09.678> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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.job.2021.102610> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Airtightness of Estonian dwellings – median and base-values for heat loss estimation

Hallik, Jaanus; Kalamees, Targo; Pikas, Ergo Journal of Physics: Conference Series 2023 / 9 p <https://doi.org/10.1088/1742-6596/2654/1/012063> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Airtightness, air exchange and energy performance in historic residential buildings with different structures

Eskola, Lari; Alev, Üllar; Arumägi, Endrik; Jokisalo, Juha; Donarelli, Anna; Sirén, Kai; Kalamees, Targo International journal of ventilation 2015 / p. 11-26 : ill <https://doi.org/10.1080/14733315.2015.11684066> [Journal metrics at Scopus](#) [Article at Scopus](#)

Ajaloolised katusekatted

Kalamees, Targo Pööning : ajalooga majad, aiad ja disainiklassika 2020 / lk. 87-93 : fot https://www.ester.ee/record=b4516546*est

Ajaloolised katusekonstruktsioonid

Kalamees, Targo Pööning : ajalooga majad, aiad ja disainiklassika 2020 / lk. 86-90 : fot https://www.ester.ee/record=b4516546*est

Akna ja sein liitekohade soojuskao ja niiskusturvalisuse arvutuslik uuring : aruanne

Hallik, Jaanus; Kalamees, Targo 2020 <https://vbh.ee/wp-content/uploads/2020/10/Akna-seinakinnituse-kulmasildade-uuring.pdf>

Alternatiivseid soojustusmaterjale puitkarkasshoonetele

Kalamees, Targo Ehitaja 2002 / 7/8, lk. 11-14 https://artiklid.elnet.ee/record=b1010121*est

Analysis of causes of the end of service life of a spray polyurethane foam and polyurea roof

Kalamees, Targo; Ilomets, Simo; Põldaru, Mattias; Klõšeiko, Paul; Kallavus, Urve; Rosenberg, Margit; Öiger, Karl E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 15002, 6 p. : ill <https://doi.org/10.1051/e3sconf/202017215002> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Analysis of energy economic renovation for historic wooden apartment buildings in cold climates

Arumägi, Endrik; Kalamees, Targo Applied energy 2014 / p. 540-548 : ill <https://doi.org/10.1016/j.apenergy.2013.10.041> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analysis of energy use in detached houses to determine energy performance requirements in Estonia

Ilomets, Simo; Kalamees, Targo; Kõiv, Teet-Andrus Proceedings of Clima2010 10th Rehva World Congress "Sustainable Energy Use in Buildings" : Antalya, 9-12.05.2010 2010 / [8] p

The analysis of indoor hygrothermal loads based on measurements in multi-storey wooden apartment buildings

Kalamees, Targo; Arumägi, Endrik; Thalfeldt, Martin; Ilomets, Simo; Klõšeiko, Paul; Alev, Üllar Proceedings of the 5th International Building Physics Conference (IBPC) : Kyoto, Japan, May 28-31, 2012 2012 / p. 225-232 : ill

Analysis of various ventilation solutions for residential and non-residential buildings in Latvia and Estonia

Zemitis, Jurgis; Borodinecs, Anatolijs; Kalamees, Targo Cold Climate HVAC 2018 : Sustainable buildings in cold climates : proceedings of the 9th Cold Climate HVAC conference, Kiruna, Sweden, 2018, 12-15 March 2019 / p. 51-61 https://doi.org/10.1007/978-3-030-00662-4_5

Assessing the accuracy of EN ISO 13370 simplified method for edge insulation: A comparative analysis with steady-state and dynamic simulation models

Lomp, Siim; Kalamees, Targo; Hallik, Jaanus Multiphysics and Multiscale Building Physics : Proceedings of the 9th International Building Physics Conference (IBPC 2024) ; Volume 1: Moisture and Materials 2025 / p. 533-539 https://doi.org/10.1007/978-981-97-8305-2_75

Assessment of durability of environmentally friendly wood-based panels

Kallavus, Urve; Järv, Hele; Kalamees, Targo; Kurik, Lembit Energy procedia 2017 / p. 207–212 : ill <https://doi.org/10.1016/j.egypro.2017.09.756> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Assessment of moisture and mould of hempcrete and straw panels

Raamets, Jane; Lokko, Laura; Ruus, Aime; Kalamees, Targo; Muoni, Karin Journal of physics : conference series 2021 / art. 012194, p. 1-3 <https://doi.org/10.1088/1742-6596/2069/1/012194> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Assessment of the potential of reconstruction of historic buildings

Liiva, Elina; Rummo, Helena; Ambrozevits, Kateriin; Ojari, Andres; Kalamees, Targo; Lomp, Siim 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 208-209 <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17> https://www.ester.ee/record=b5668645*est

Assessment of the renovation need, material authenticity, and the cultural and environmental value of historic apartment building neighbourhoods

Liiva, Elina; Rummo, Helena; Ambrozevits, Kateriin; Ojari, Andres; Lomp, Siim; Kalamees, Targo Journal of sustainable architecture and civil engineering 2024 / p. 53-67 <https://doi.org/10.5755/j01.sace.35.2.35747>

Assessment on strength and stiffness properties of aged structural timber

Kauniste, Maarja; Just, Alar; Tuhkanen, Eero; Kalamees, Targo Journal of sustainable architecture and civil engineering 2024 / p. 62-74 <https://doi.org/10.5755/j01.sace.34.1.35534>

Asuinrakennusten ilmanpitävyys, sisäilmasto ja energiatalous

Vinha, Juha; Korpi, Minna; Kalamees, Targo; Kurnitski, Jarek 2009

Asuntojen ilmanvaihto ja ilmanpitävyytutkimus - asukkaiden viihtyisyys pien- ja kerrostaloissa

Palonen, J.; Kalamees, Targo; Kurnitski, Jarek Sisäilmastoseminaari 2009 2009 / p. 137-142
<https://researchportal.tuni.fi/en/publications/asuntojen-ilmanvaihto-ja-ilmanpit%C3%A4vyystutkimus-asukkaiden-viihtyi>

Avoiding mould growth in an interiorly insulated log wall

Alev, Üllar; Kalamees, Targo Building and environment 2016 / p. 104-115 : ill <https://doi.org/10.1016/j.buildenv.2016.05.020> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Basic solutions for the renovation of lightweight brick walls of Estonian detached houses

Suvalov, Mihhail; Lomp, Siim; Kalamees, Targo 2nd International Conference on Moisture in Buildings (ICMB23), online, 3-4 July 2023 2023 / 2 p <https://doi.org/10.14293/ICMB230051>

Building and ductwork airtightness in Estonia : national trends and requirements

Kalamees, Targo; Hallik, Jaanus; Mikola, Alo Ventilation challenges in a changing world : the 42nd AIVC, 10th Tightvent and 8th venticool Conference : proceedings 2022 / p. 640-641 https://www.aivc.org/sites/default/files/download/AIVC2022_Proceedings.pdf

Building carbon footprint comparison between building permit and as-built with circular material usage

Kertsmik, Kadri-Ann; Talvik, Martin; Lylykangas, Kimmo Sakari; Ilomets, Simo; Kalamees, Targo ICEARC'23 : The 3rd International Civil Engineering & Architecture Conference, Trabzon, Türkiye, 12-14 October 2023 : Proceedings ; Vol. 2: Architecture 2023 / p. 392-399 https://icearc2023.glpmanager.com/documents/ICEARC'23_Proceedings_Architecture.pdf

Building leakage, infiltration and energy performance analyses for Finnish detached houses

Jokisalo, Juha; Kurnitski, Jarek; Korpi, Minna; Kalamees, Targo; Vinha, Juha Building and environment 2009 / 2, p. 377-387 : ill

Calculation and compliance procedures of thermal bridges in energy calculations in various European countries

Kuusk, Kalle; Kurnitski, Jarek; Kalamees, Targo Energy procedia 2017 / p. 27-32 : ill <https://doi.org/10.1016/j.egypro.2017.09.626>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Capillary condensation redistribution (CCR) test: measurement results of 5 materials and comparison to modelling

Klõšeiko, Paul; Valk, Thorny; Põldaru, Mattias; Kalamees, Targo Journal of Physics: Conference Series 2023 / 8 p
<https://doi.org/10.1088/1742-6596/2654/1/012047> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Case study : in-situ testing and model calibration of interior insulation solution for an office building in cold climate

Klõšeiko, Paul; Kalamees, Targo CESB 16 - Central Europe Towards Sustainable Building 2016 : Innovations for Sustainable Future : [book of abstracts] 2016 / p. 61-62 : ill

Case study : in-situ testing and model calibration of interior insulation solution for an office building in cold climate [Online resource]

Klõšeiko, Paul; Kalamees, Targo CESB 16 - Central Europe Towards Sustainable Building 2016 : Innovations for Sustainable Future : [electronic proceedings] 2016 / p. 159-166 : ill

A case study on construction of CLT building without preliminary roof

Liisma, Eneli; Kalamees, Targo; Kuus, Babette Liseth; Kuk, 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.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; Kuk, 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>

Case-study analysis of concrete large-panel apartment building at pre- and post low-budget energy-renovation

Kuusk, Kalle; Kalamees, Targo; Link, Siim; Ilomets, Simo; Mikola, Alo Journal of civil engineering and management 2017 / p. 67-75 : ill <https://doi.org/10.3846/13923730.2014.975741> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Case-study analysis on hygrothermal performance of ETICS on concrete wall after low-budget energy-renovation

Ilomets, Simo; Kalamees, Targo Proceedings of XII International Conference on Performance of Exterior Envelopes of Whole Buildings 2013 / [15] p. : ill

Circular renovation of an apartment building with prefabricated additional insulation elements to nearly zero energy building

Nigumann, Eero; **Kalamees, Targo; Kuusk, Kalle; Pihelo, Peep** Journal of sustainable architecture and civil engineering 2024 / p. 22-34 <https://doi.org/10.5755/j01.sace.34.1.35674>

Circular renovation of an apartment building with prefabricated insulation elements

Nigumann, Eero; **Kalamees, Targo; Kuusk, Kalle; Pihelo, Peep** 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 96-97 : ill <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17> https://www.ester.ee/record=b5668645*est

Circularity concepts for offsite prefabricated energy renovation of apartment buildings

Kuusk, Kalle; Kullerkupp, Kristel; Pihelo, Peep; Ritzen, Michiel; Tisov, Ana; Kalamees, Targo Journal of physics : conference series 2021 / art. 012074 <https://doi.org/10.1088/1742-6596/2069/1/012074> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Climate change and energy demand for heating and cooling of buildings in Finland

Jylhä, Kirsti; Tietäväinen, Hanna; Ruosteenoja, Kimmo; **Kalamees, Targo; Jokisalo, Juha; Ilomets, Simo**; Hyvönen, Reijo; Saku, Seppo European Geosciences Union General Assembly, Vienna, Austria, 03–08 April, 2011 2011

Climate zones

Kalamees, Targo; Morck, Ove Christen A Guide into Renovation Package Concepts for Mass Retrofit of Different Types of Buildings with Prefabricated Elements for (N)Zeb Performance 2018 / p. 71-75 : ill [Guide into renovation...](#)

Commissioning of moisture safety of nZEB renovation with prefabricated timber frame insulation wall elements

Pihelo, Peep; Kalamees, Targo Wood material science and engineering 2021 / p. 110-117 <https://doi.org/10.1080/17480272.2019.1635206> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Commissioning of thermal performance of prefabricated timber frame insulation elements for nZEB renovation

Pihelo, Peep; Kalamees, Targo 4th Central European Symposium on Building Physics (CESBP 2019) MATEC web of conferences 2019 / art. 02004, 6 p. : ill <https://doi.org/10.1051/mateconf/201928202004>

Common exercise 1B "Realistic" case

Kalamees, Targo IEA-Annex 41 MOIST-ENG working meeting : Montreal, Canada, 16-18 May 2005 2005 / [4] p

Common exercise 3

Kalamees, Targo IEA-Annex 41 MOIST-ENG working meeting : Trondheim, Norway, 26-28 October 2005 2005 / ? p

Comparative assessment of simple and detailed energy performance models for urban energy modelling based on digital twin and statistical typology database for the renovation of existing building stock

Hallik, Jaanus; Arumägi, Endrik; Pikas, Ergo; Kalamees, Targo Energy and buildings 2024 / art. 114775 <https://doi.org/10.1016/j.enbuild.2024.114775>

Comparing domain expert and machine learning data enrichment of building registry

Torim, Ants; Iliste, Elisa; Pikas, Ergo; Liiv, Innar; Robal, Tarmo; Kalamees, Targo Buildings 2025 / art. 1798 <https://doi.org/10.3390/buildings15111798>

A comparison of measured and simulated air pressure conditions of a detached house in a cold climate

Jokisalo, Juha; **Kalamees, Targo; Kurnitski, Jarek**; Eskola, Lari; Jokiranta, Kai; Vinha, Juha Journal of building physics 2008 / p. 67-89 : ill <https://doi.org/10.1177/1744259108091901>

A comparison of measured and simulated air pressure conditions of a detached house in a cold climate [Electronic resource]

Jokisalo, Juha; **Kalamees, Targo; Kurnitski, Jarek**; Eskola, Lari; Jokiranta, Kai Building Enclosure Science & Technology : BEST 1 Conference : Minneapolis, USA, 10-12.06.2008 2008 / ? p. [CD-ROM]

Comparison of mineral wool, cellulose and reed mat for interior thermal insulation of log walls

Alev, Üllar; Uus, Andres; **Kalamees, Targo** Journal of civil engineering and architecture research 2015 / p. 938-946 : ill

Comparison of thermal performance of mineral wool and reflective insulation on internally insulated log wall

Alev, Üllar; Kalamees, Targo; Arumägi, Endrik; Ilomets, Simo Proceedings of Healthy Buildings 2012 : Brisbane, Australia 8-12 July 2012 2012 / [6] p. : ill

Compliance with summer thermal comfort requirements in apartment buildings

Simson, Raimo; Kurnitski, Jarek; Maivel, Mikk; Kalamees, Targo Proceedings of REHVA Annual Conference "Advanced HVAC and Natural Gas Technologies" : Riga, Latvia, May 6-9, 2015 2015 / p. 64-69 : ill

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>

Construction process and measuring initial dryout of PCM mortar in energy activated ETICS façade

Talvik, Martin; Ilomets, Simo; Klõšeiko, Paul; Kalamees, Targo; Heim, Dariusz Thermal performance of the exterior envelopes of whole buildings : Buildings XV Conference 2022 / p. 757-764 <https://www.scopus.com/record/display.uri?eid=2-s2.0-85163701291&origin=inward&txId=c83aa5cf70cab7322515343c3d634b25>

Cost and energy reduction of a New nZEB wooden building

Arumägi, Endrik; Kalamees, Targo Energies 2020 / art. 3570, 16 p. : ill <https://doi.org/10.3390/en13143570> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cost effectiveness of energy performance improvements in Estonian brick apartment buildings

Kuusk, Kalle; Kalamees, Targo; Maivel, Mikk Energy and buildings 2014 / p. 313-322 : ill <https://doi.org/10.1016/j.enbuild.2014.03.026> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cost optimal and nearly zero energy performance requirements for buildings in Estonia

Kurnitski, Jarek; Saari, Arto; Kalamees, Targo; Vuolle, Mika; Niemelä, Jouko; Tark, Teet Estonian journal of engineering 2013 / p. 183-202 : ill https://artiklid.elnet.ee/record=b2632889*est <https://doi.org/10.3176/eng.2013.3.02> [Article at Scopus](#)

Cost optimal and nearly zero (nZEB) energy performance calculations for residential buildings with REHVA definition for nZEB national implementation

Kurnitski, Jarek; Saari, Arto; Kalamees, Targo; Vuolle, Mika; Niemelä, Jouko; Tark, Teet Energy and buildings 2011 / p. 3279-3288 : ill

Cost reduction of the new NZEB Wooden building – case study of the kindergarten in Estonia

Arumägi, Endrik; Kalamees, Targo E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 13002, 8 p. : ill <https://doi.org/10.1051/e3sconf/202017213002> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Cost-effective energy and indoor climate renovation of Estonian residential buildings

Kalamees, Targo; Kuusk, Kalle; Arumägi, Endrik; Alev, Üllar Cost-effective energy-efficient building retrofitting : materials, technologies, optimization and case studies 2017 / p. 405-454 : ill http://www.ester.ee/record=b4674305*est <https://doi.org/10.1016/B978-0-08-101128-7.00015-0>

Critical values for the temperature factor to assess thermal bridges

Kalamees, Targo Proceedings of the Estonian Academy of Sciences. Engineering 2006 / 3-1, p. 218-229 : ill

Deep energy renovation of old concrete apartment building to nZEB by using wooden modular element

Kalamees, Targo; Pihelo, Peep; Kuusk, Kalle II Miedzynarodowa Konferencja : Forum Holzbau Polska 2018 / 10 p. : ill <http://forum-holzbau.pl/category/filmy-i-zdjecia/> <https://www.etis.ee/File/DownloadPublic/b9656a11-ef9e-4b34-9033-83254134f617?name=Deep%20energy%20renovation%20of%20old%20concrete%20apartment%20building%20to%20nZEB%20by%20using%20wooden%20modular%20elements.pdf&type=application%2Fpdf>

Deep energy renovation of old concrete apartment building to nZEB by using wooden modular elements

Kalamees, Targo; Pihelo, Peep; Kuusk, Kalle Forum Holz Bau Garmisch 17 : 23. Internationales Holzbau-Forum (IHF 2017) : aus der Praxis - für die Praxis : Kongresszentrum, Garmisch-Partenkirchen ; B. 2 2017 / p. 317-325 : ill <http://www.gbv.de/dms/tib-ub-hannover/1014402786.pdf>

Dependence of measured specific air leakage rate (qE50) on envelope pressure differences and measurement position: A case study in an apartment building in winter conditions

Klõšeiko, Paul; Arumägi, Endrik; Hallik, Jaanus; Kalamees, Targo Journal of Physics: Conference Series 2021 / art. 012229, 3 p. : ill <https://doi.org/10.1088/1742-6596/2069/1/012229> [Conference proceedings at Scopus](#) [Article at Scopus](#)

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>

Design of indoor climate and energy efficiency of the medieval Episcopal Castle of Haapsalu museum

Tark, Teet; Kalamees, Targo; Rodin, Artem; Arumägi, Endrik; Napp, Margus Conference Report : The 3rd International Conference on Energy Efficiency in Historic Buildings 2018 / p. 318-236 : ill <http://eehb2018.com/wp-content/uploads/2018/09/Conference-Report-The-3rd-International-Conference-on-Energy-Efficiency-in-Historic-Buildings.pdf>

Design of the first net-zero energy buildings in Estonia

Arumägi, Endrik; Kalamees, Targo Science and technology for the built environment 2016 / p. 1039-1049 : ill
<https://doi.org/10.1080/23744731.2016.1206793> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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](#)

Deterioration of building envelope of wooden apartment buildings built before 1940 based on external survey

Klõšeiko, Paul; Agasild, Tõnis; Kalamees, Targo Proceedings of the 9th Nordic Symposium on Building Physics (NSB 2011), 29 May-2 June 2011, Tampere, Finland 2011 / p. 917-924 : ill
https://www.researchgate.net/publication/290428833_Deterioration_of_building_envelope_of_wooden_apartment_buildings_built_before_1940_based_on_external_survey

Determination of energy performance requirements for apartment buildings in Estonia

Hani, Allan; Kalamees, Targo; Kõiv, Teet-Andrus 9th International Conference & Exhibition Healthy Buildings 2009 : September 13-17, 2009, Syracuse, NY, USA 2009 / paper 409, [4] p. : ill

Development and performance assessment of prefabricated insulation elements for deep energy renovation of apartment buildings

Pihelo, Peep; Kuusk, Kalle; Kalamees, Targo Energies 2020 / art. 1709, 20 p. : ill <https://doi.org/10.3390/en13071709> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Development of airtightness of Estonian wooden buildings

Hallik, Jaanus; Kalamees, Targo Journal of sustainable architecture and civil engineering 2019 / p. 36-43 : ill
<https://doi.org/10.5755/j01.sace.24.1.23231>

Development of airtightness of Estonian wooden buildings : [conference paper]

Hallik, Jaanus; Kalamees, Targo Proceedings of the I Forum Wood Building Baltic, 2019 : [27.02-1.03.2019, Tallinn] 2019 / p. 46-47 : ill https://www.ester.ee/record=b5197207*est

Development of prefabricated additional insulation elements for the renovation of high-rise apartment buildings

Pihelo, Peep; Kalamees, Targo Journal of sustainable architecture and civil engineering 2024 / p. 8-22
<https://doi.org/10.5755/j01.sace.35.2.35422>

Development of prefabricated additional insulation elements for the renovation of high-rise apartment buildings

Pihelo, Peep; Kalamees, Targo 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 98-99 : ill <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17>
https://www.ester.ee/record=b5668645*est

Development of prefabricated insulation elements for buildings with aerated autoclaved concrete walls

Pihelo, Peep; Kalamees, Targo E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 18001, 8 p. : ill <https://doi.org/10.1051/e3sconf/202017218001> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Development of weighting factors for climate variables for selecting the energy reference year according to the EN ISO 15927-4 standard

Kalamees, Targo; Jylhä, Kirsti; Tietäväinen, Hanna; Jokisalo, Juha; Ilomets, Simo; Hyvönen, Reijo; Saku, Seppo Energy and buildings 2012 / p. 53-60 <https://www.sciencedirect.com/science/article/abs/pii/S0378778811005779>

Diagnosis of moisture movements in massive dolostone walls of medieval churches

Kurik, Lembit; Kalamees, Targo; Kallavus, Urve Recent developments in building diagnosis techniques 2016 / p. 69-90 : ill
http://dx.doi.org/10.1007/978-981-10-0466-7_5

The distribution of the air leakage places and thermal bridges in Finnish detached houses and apartment buildings

Kalamees, Targo; Korpi, Minna; Eskola, Lari; Kurnitski, Jarek; Vinha, Juha Proceedings of the 8th Symposium on Building Physics in the Nordic Countries : Copenhagen, Denmark, June 16-18, 2008. 3 2008 / p. 1095-1102
https://www.academia.edu/90749708/The_distribution_of_the_air_leakage_places_and_thermal_bridges_in_Finnish_detached_houses_and_apartment_buildings

The distribution of the air leakage places and thermal bridges of different types of detached houses and apartment buildings

Kalamees, Targo; Kurnitski, Jarek; Korpi, Minna; Vinha, Juha 2. Europäisches BlowerDoor-Symposium Dichte Gebäudehülle Thermografie und Wohnungslüftung = 2nd European BlowerDoor-Symposium Tight Building Envelope, Thermography and Dwelling Ventilation : Kassel, Germany, March 16 and 17 2007 2007 / p. 71-81
https://repo.tuni.fi/bitstream/handle/10024/128669/Kalamees_The_distribution_of_the_air_leakage_places_and_thermal_bridges_in_Finnish_detached_houses_and_apartment_buildings.pdf?sequence=1

Driving decarbonisation of the EU building stock by enhancing a consumer centred and locally based circular renovation process

Tisov, Ana; **Kuusk, Kalle**; Navarro Escudero, Miriam; **Pihelo, Peep**; **Kalamees, Targo** E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020

<https://doi.org/10.1051/e3sconf/202017218006> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Durability of concrete and brick facades of apartment buildings built between 1960-90 in Estonia

Ilomets, Simo; **Kalamees, Targo**; **Agasild, Tõnis**; **Õiger, Karl**; **Raado, Lembi-Merike** XII International Conference on Durability of Building Materials and Components (XII DBMC), Porto, Portugal, April 12th-15th, 2011 2011 / p. 1171-1178 : ill

<https://www.irbnet.de/daten/iconda/CIB22471.pdf>

Dynamics of apartment building renovation investment costs based on Estonian reovation grant scheme

Miller, Grete; **Lihtmaa, Lauri**; **Kalamees, Targo** Acta Polytechnica CTU proceedings 2022 / p. 579-584

<https://doi.org/10.14311/APP.2022.38.0579> [Journal metrics at Scopus](#) [Article at Scopus](#)

Early stage CAD-compliant energy performance assessment method

Kurnitski, Jarek; **Kalamees, Targo**; **Tark, Teet** Journal of energy and power engineering 2013 / p. 1662-1668 : ill

Early stage CAD-compliant energy performance assessment method

Kurnitski, Jarek; **Kalamees, Targo**; **Tark, Teet** Seventh International Cold Climate HVAC Conference : November 12-14, 2012, Calgary, Canada 2012 / p. 191-198 : ill https://www.researchgate.net/publication/289191364_Early_stage_CAD-compliant_energy_performance_assessment_method

https://www.researchgate.net/publication/289191364_Early_stage_CAD-compliant_energy_performance_assessment_method

The economic challenges of deep energy renovation - differences, similarities, and possible solutions in Northern Europe : Estonia and Denmark

Rose, Jorgen; **Kuusk, Kalle**; Thomsen, Kirsten Engelund; **Kalamees, Targo**; Morck, Ove Christen ASHRAE transactions. Vol. 122, pt. 1 2016 / p. 58-68 : ill <https://www.proquest.com/openview/3b32b899a3b498dc8694f261aaaa9cf0/1?pq-origsite=gscholar&cbl=34619>

[Conference Proceedings at Scopus](https://www.proquest.com/openview/3b32b899a3b498dc8694f261aaaa9cf0/1?pq-origsite=gscholar&cbl=34619) [Article at Scopus](#) [Article at WOS](#)

Economic viability of energy-efficiency measures in educational buildings in Finland

Alanne, Kari; Schade, Jutta; Martinac, Ivo; Saari, Arto; Jokisalo, Juha; **Kalamees, Targo** Advances in building energy research 2013 / p. 120-127 <https://doi.org/10.1080/17512549.2013.809272> [Journal metrics at Scopus](#) [Article at Scopus](#)

Eesti eluasemefondi ehitustehniline seisukord - ajavahemikul 1990-2010 kasutusele võetud korterelamud : uuringu lõpparuanne

Kalamees, Targo; **Ilomets, Simo**; **Liias, Roode**; **Raado, Lembi-Merike**; **Kuusk, Kalle**; **Maivel, Mikk**; **Ründva, Marko**; **Klõšeiko, Paul**; **Liho, Eva**; **Paap, Leena**; **Mikola, Alo**; **Seinre, Erkki**; **Lill, Irene**; **Soekov, Erki**; **Paadam, Katrin**; **Ojamäe, Liis**; **Kallavus, Urve**; **Mikli, Lauri**; **Kõiv, Teet-Andrus** 2012 http://www.ester.ee/record=b2878060*est

Eesti eluasemefondi puitkorterelamute ehitustehniline seisukord ning prognoositav eluiga : uuringu lõpparuanne

Kalamees, Targo; **Arumägi, Endrik**; **Just, Alar**; **Kallavus, Urve**; **Mikli, Lauri**; **Thalfeldt, Marko**; **Klõšeiko, Paul**; **Agasild, Tõnis**; **Liho, Eva**; **Haug, Priit**; **Tuurmann, Kristo**; **Liias, Roode**; **Õiger, Karl**; **Langeproon, Priit**; **Orro, Oliver**; **Välja, Leele**; **Suits, Maris**; **Kodi, Georg**; **Ilomets, Simo**; **Alev, Üllar**; **Kurik, Lembit** 2011 http://www.ester.ee/record=b2720728*est

Eesti eluasemefondi suurpaneel-korterelamute ehitustehniline seisukord ning prognoositav eluiga : uuringu lõppraport

Kalamees, Targo; **Õiger, Karl**; **Kõiv, Teet-Andrus**; **Liias, Roode**; **Kallavus, Urve**; **Mikli, Lauri**; **Lehtla, Andres**; **Kodi, Georg**; **Luman, Andre**; **Arumägi, Endrik**; **Mironova, Jelena** 2009 http://www.ester.ee/record=b2542472*est

Eesti eluasemefondi telliskorterelamute ehitustehniline seisukord ning prognoositav eluiga : uuringu lõpparuanne

Kalamees, Targo; **Kõiv, Teet-Andrus**; **Liias, Roode**; **Õiger, Karl**; **Kallavus, Urve**; **Mikli, Lauri**; **Ilomets, Simo**; **Kuusk, Kalle**; **Maivel, Mikk**; **Mikola, Alo**; **Klõšeiko, Paul**; **Agasild, Tõnis**; **Arumägi, Endrik**; **Liho, Eva**; **Ojang, Tanel**; **Tuisk, Tanel**; **Raado, Lembi-Merike**; **Jõesaar, Tõnu** 2010 http://www.ester.ee/record=b2665958*est

Eesti kodusid ootab peagi ees renoveerimismaraton [Võrguväljaanne]

Kalamees, Targo Äripäev 2021 / lk. 12 "[Eesti kodusid ootab peagi ees renoveerimismaraton](#)"

Eesti uuritud kirikute ehitustehniline seisund

Klõšeiko, Paul; **Kalamees, Targo** The Final Research Report of the project "Sustainable Management of Historic Rural Churches in the Baltic Sea Region (SMC)" 2013 / lk. 7-29 : ill

Eestlaste välja mõeldud uus tehnoloogia kiirendaks kortermajade kordategemist

Liiva, Siiri; **Kalamees, Targo** Eesti Päevaleht 2019 / lk. 17 <https://arileht.delfi.ee/artikkel/85632109/eestlaste-valja-moeldud-uus-tehnoloogia-kiirendaks-kortermajade-kordategemist>

Efektiivne, hea soojustuse ja planeeringuga maja

Vill, Ants Kodu & Ehitus : TM 2022 / lk. 8-10 : fot https://www.ester.ee/record=b1740684*est

Effect of freezing and thawing on the performance of “capillary active” insulation systems: a comparison of results from climate chamber study to HAM modelling

Klõšeiko, Paul; Varda, Kadi; Kalamees, Targo Energy procedia 2017 / P. 525-530 : ill <https://doi.org/10.1016/j.egypro.2017.09.714>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [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

The effect of prestressing and temperature on tensile strength of basalt fiber-reinforced plywood

Lõhmus, Rünno; Kallakas, Heikko; Tuhkanen, Eero; Gulik, Volodymyr; Kiisk, Madis; Saal, Kristjan; Kalamees, Targo Materials 2021 / art. 4701, 9 p. : ill <https://doi.org/10.3390/ma14164701> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#)
[Article at WOS](#)

The effect of temperature, humidity and mechanical properties on crack formation on external thin plasters of ETICS

Volkova, Kristina; Põldaru, Mattias; Ilomets, Simo; Kalamees, Targo; Talvik, Martin; Heim, Dariusz Journal of physics : conference series 2021 / art. 012025, 8 p. : ill <https://doi.org/10.1088/1742-6596/2069/1/012025> [Conference Proceedings at Scopus](#)
[Article at Scopus](#)

The effect of thermal transmittance of building envelope and material selection of wind barrier on moisture safety of timber frame exterior wall

Pihelo, Peep; Kalamees, Targo Journal of building engineering 2016 / p. 29-38 : ill <https://doi.org/10.1016/j.jobbe.2016.02.002> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effects of energy retrofits on indoor air quality in three Northern European countries

Prasauskas, Tadas; Martuzevicius, Dainius; Kalamees, Targo; Kuusk, Kalle; Leivo, Virpi; Haverinen-Shaughnessy, Ulla Energy procedia 2016 / p. 253-259 : ill <https://doi.org/10.1016/j.egypro.2016.09.134> [Conference Proceedings at Scopus](#) [Article at Scopus](#)
[Article at WOS](#)

The effects of ventilation systems and building fabric on the stability of indoor temperature and humidity in Finnish detached houses

Kalamees, Targo; Korpi, Minna; Vinha, Juha; Kurnitski, Jarek Building and environment 2009 / 8, p. 1643-1650 : ill

Ehitusfüüsik : pika plaanita jääb riik küttearveid lõputult kinni maksma [Võrguväljaanne]

Kalamees, Targo novaator.err.ee 2022 [Ehitusfüüsik: pika plaanita jääb riik küttearveid lõputult kinni maksma](#)

Ehitusfüüsika ja energiatõhususe teadustaristu

Kalamees, Targo Liginullenergiahooned täna ja homme : artiklite kogumik 2015 / lk. 20-26 : ill

Ehitusfüüsika ja energiatõhususe uurimis- ja teadustaristu

Kalamees, Targo 100 aastat TTÜ ehitusinseneri 2018 / lk. 303-309 : ill

Ehitusfüüsikute kohtumine Floridas : [2.-7. detsember 2007 X rahvusvahelisel ehitusfüüsika konverentsil]

Kalamees, Targo Tallinna Tehnikaülikooli aastaraamat 2007 2008 / lk. 371-373. (Konverentsimuljeid)

Ehitusmeistrid heitlevad olevikuga, kuid vaatavad tulevikku

Alver, Anne-Mari Eesti Ekspress 2023 / Lk. 16

Ehitusnõuete analüüs vastavalt haiglate ja hooldekodude eripäradele

Luht, Kadi; Valge, Alar; Kalamees, Targo; Just, Alar; Angelštok, Feliks 2012 https://www.ester.ee/record=b2886397*est

Ehitusprofessorid: Praeguse tempoga muudame oma hooneid energiatõhusaks sada aastat

Jarne, Aivar Pealinn 2023 / Lk. 11 https://www.ester.ee/record=b1287116*est [Ehitusprofessorid: Praeguse tempoga muudame oma hooneid energiatõhusaks sada aastat](#)

Ehitusprojekti kirjeldus. Osa 1, Eelprojekti seletuskiri = Description of building design. Part 1, Design note of preliminary design

2013 https://www.ester.ee/record=b2940612*est

Eksperdid: ajaloolised hooned vajavad kliimamuutuse eest läbimõeldumat kaitset

Truu, Murel; Kalamees, Targo; Martin, Anni; Koit, Katrin novaator.err.ee 2024 [Eksperdid: ajaloolised hooned vajavad kliimamuutuse eest läbimõeldumat kaitset](#)

Elamu sisekliima, küttekulu ja õhutihedus

Sasi, Lennart; Kalamees, Targo Ehituskaar 2004 / 2, lk. 46-47

Elementrenoveerimine kui paneelelamu rätsepaülikond = Элементная реновация как костюм для панельного дома
Trell, Kristel Elamu 2020 / lk. 11-14, 33-35 : fot https://www.ester.ee/record=b1072137*est

Emerging renovation strategies and technical solutions for mass-construction of residential districts built after World War II in Europe

Lihtmaa, Lauri; Kalamees, Targo Energy strategy reviews 2024 / art. 101282 <https://doi.org/10.1016/j.esr.2023.101282>

Energiaühendus eramu 2013 : [ka TTÜ Ehitiste projekteerimise instituudi professorite Jarek Kurnitski ja Targo Kalamehe kommentaaridega]

Kurnitski, Jarek; Kalamees, Targo Meie Kodu 2013 / lk. 33-41 : fot

Energy and hygrothermal performance challenges in the renovation of a over 100-year-old wooden apartment building into a nearly zero-energy building

Evard, Anni; Arumägi, Endrik; Lomp, Siim; Kalamees, Targo 2nd International Conference on Moisture in Buildings 2023, 3-4 July 2023 2023 / 2 p <https://doi.org/10.14293/ICMB230053>

Energy and indoor climate performance of heat pumps and dehumidification

Napp, Margus; Kalamees, Targo The Final Research Report of the project "Sustainable Management of Historic Rural Churches in the Baltic Sea Region (SMC)" 2013 / p. 102-125

Energy and investment intensity of integrated renovation and 2030 cost optimal savings

Kurnitski, Jarek; Kuusk, Kalle; Tark, Teet; Uutar, Aivar; Kalamees, Targo; Pikas, Ergo Energy and buildings 2014 / p. 51-59 : ill <https://doi.org/10.1016/j.enbuild.2014.01.044> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Energy demand for the heating and cooling of residential houses in Finland in a changing climate

Jylhä, Kirsti; Jokisalo, Juha; Kalamees, Targo Energy and buildings 2015 / p. 104-116 : ill <https://doi.org/10.1016/j.enbuild.2015.04.001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Energy performance of buildings

2020 https://www.mdpi.com/journal/energies/special_issues/energy_performance_of_buildings

Energy performance of ETICS integrated with a flexible photovoltaic panel

Heim, Dariusz; Wieprzowicz, Anna; Knera, Dominika; Ilomets, Simo; Kalamees, Targo; Spitalsky, Zdeno Building simulation conference proceedings 2022 / p. 64-71 <https://doi.org/10.26868/25222708.2021.30194>

Energy performance of renovation alternatives of traditional rural houses in Estonia

Alev, Üllar; Arumägi, Endrik; Kalamees, Targo Proceedings of CLIMA 2013 : 11th REHVA World Congress and the 8th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings, Prague 16th-19th June, 2013 2013 / [9] p. : ill

Energy performance, indoor air quality and comfort in new nearly zero energy day-care centres in northern climatic conditions

Kuusk, Kalle; Kaiser, Ahmed; Lolli, Nicola; Johansson, Jan; Kouvola, Tero Hasu; Gunnarshaug Lien, Anne; Arumägi, Endrik; Kalbe, Kristo; Hallik, Jaanus; Kurnitski, Jarek; Kalamees, Targo Journal of sustainable architecture and civil engineering 2019 / p. 7-16 <https://doi.org/10.5755/j01.sace.24.1.23228>

Energy use and indoor climate of conservation heating, dehumidification and adaptive ventilation for the climate control of a mediaeval church in a cold climate

Napp, Margus; Kalamees, Targo Energy and buildings 2015 / p. 61-71 : ill <https://doi.org/10.1016/j.enbuild.2015.08.013> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Enhancing CLT construction – Hygrothermal modelling, novel performance criterion, and strategies for end-grain moisture safety

Kalbe, Kristo; Pärn, Roland; Ruus, Aime; Kalamees, Targo Journal of building engineering 2024 / art. 111411 <https://doi.org/10.1016/j.jobe.2024.111411>

Estonia : [the More-Connect approach]

Kalamees, Targo; Pihelo, Peep; Kuusk, Kalle A Guide into Renovation Package Concepts for Mass Retrofit of Different Types of Buildings with Prefabricated Elements for (N)Zeb Performance 2018 / p. 50-55 : ill [Guide into renovation...](#)

Estonian climate analysis for selecting moisture reference years for hygrothermal calculations

Kalamees, Targo Journal for Thermal Envelope & Building Science 2004 / 3, [3] p

Estonian climate analysis for selecting the test reference year

Kalamees, Targo; Kurnitski, Jarek Annual report / Helsinki University of Technology, HVAC-Laboratory 2006 / [10] p

Estonian climate analysis for selecting the test reference year

Kalamees, Targo; Kurnitski, Jarek Proceedings of the Healthy Buildings 2006 : Lisboa, Portugal, 4-8 June. V 2006 / p. 207-212

Estonian climate analysis for selecting the test reference year

Kalamees, Targo; Kurnitski, Jarek Proceedings of the Healthy Buildings 2006 : Lisboa, Portugal, 4-8 June. A 2006 / p. 253

Estonian grant scheme for renovating apartment buildings

Kuusk, Kalle; Kalamees, Targo Energy procedia 2016 / p. 628-637 : ill <https://doi.org/10.1016/j.egypro.2016.09.113> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Estonian test reference year for energy calculations

Kalamees, Targo; Kurnitski, Jarek Proceedings of the Estonian Academy of Sciences. Engineering 2006 / 1, p. 40-58 : ill

Euroopa ringrenoveerimise projekt tõi Saue elanikele tänapäevase kodu = Рециклинговый Европейский проект дал жителям Сауэ новый дом

Trell, Kristel Elamu 2022 / lk. 6-9 : fot.; c. 44-45 : фот https://www.ester.ee/record=b1072137*est

European roadmap for the En-ActivETICS advancement and potential of the PV/PCM unventilated wall system application

Heim, Dariusz; **Talvik, Martin**; Wieprzkowicz, Anna; **Ilomets, Simo**; Knera, Dominika; **Kalamees, Targo**; Czarny, Dariusz Energy and buildings 2023 / art. 113207 <https://doi.org/10.1016/j.enbuild.2023.113207> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Evaluating moisture safety strategies in CLT buildings – predictions vs actual outcomes

Kalbe, Kristo; Kalamees, Targo Case studies in construction materials 2025 / art. e04958, 17 p. : ill <https://doi.org/10.1016/j.cscm.2025.e04958>

Evaluation of a technical survey and the renovation needs of old rural wooden houses in Estonia

Alev, Üllar; Kalamees, Targo Journal of building survey, appraisal & valuation 2016 / p. 275-290 : ill <http://www.ingentaconnect.com/content/hsp/jbsav/2016/00000005/00000003/art00011>

Evaluation of renovation strategies : cost-optimal, COIe optimal, or total energy optimal

Kertsmik, Kadri-Ann; Kuusk, Kalle; Lylykangas, Kimmo Sakari; Kalamees, Targo Energy and buildings 2023 / art. 112995 <https://doi.org/10.1016/j.enbuild.2023.112995> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Evaluation of the criticality of thermal bridges

Ilomets, Simo; Kalamees, Targo Journal of building pathology and rehabilitation 2016 / art. 11, p. 1-13 : ill <http://dx.doi.org/10.1007/s41024-016-0005-6>

Evaluation of the thermal bridges of prefabricated concrete large-panel and brick apartment buildings in Estonia

Ilomets, Simo; Kalamees, Targo; Paap, Leena Proceedings of the 9th Nordic Symposium on Building Physics (NSB 2011), 29 May- 2 June 2011, Tampere, Finland. Vol. 3 2011 / p. 943-950 : ill

Experiences from design process of renovation of existing apartment building to nZEB

Kuusk, Kalle; Kalamees, Targo; Pihelo, Peep CLIMA 2016 - proceedings of the 12th REHVA World Congress. Vol. 1 2016 / [10] p. : ill http://vbn.aau.dk/files/233707163/paper_591.pdf

Experimental analysis of moisture uptake and dry-out in CLT end-grain exposed to free water

Kalbe, Kristo; Annuk, Alvar; Ruus, Aime; Kalamees, Targo Journal of Physics: Conference Series 2021 / art. 012050, 8 p. : ill <https://doi.org/10.1088/1742-6596/2069/1/012050> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Experimental study on hygrothermal performance and durability of sandwich wall panels made of fiber reinforced AAC and PU foam insulation

Klõšeiko, Paul; Talvik, Martin; Kaljuvee, Kaire; Tuisk, Tanel; Ilomets, Simo; 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 https://doi.org/10.1007/978-981-97-8313-7_42

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

Extent and reasons for biodeterioration, salt distribution and damage of plaster in Estonian medieval churches

Kallavus, Urve; Kalamees, Targo; Kurik, Lembit; Traksmaa, Rainer ISBP 2015 : 1st International Symposium on Building Pathology : conference proceedings : March 24-27, 2015, Porto, Portugal 2015 / p. 709-716 : ill

Failure analysis of 10 year used wooden building

Kalamees, Targo Engineering failure analysis 2002 / 6, p. 635-643 : ill

Failure analysis of a spray polyurethane foam roofing system

Kalamees, Targo; Põldaru, Mattias; Ilomets, Simo; Klõšeiko, Paul; Kallavus, Urve; Rosenberg, Margit; Õiger, Karl Journal of building engineering 2020 / art. 101752, 9 p. : ill <https://doi.org/10.1016/j.jobbe.2020.101752> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Fiber-reinforced plywood: Increased performance with less raw material

Saal, Kristjan; Kallakas, Heikko; Tuhkanen, Eero; Just, Alar; Rohumaa, Anti; Kers, Jaan; Kalamees, Targo; Lõhmus, Rünno Materials 2024 / art. 3218 <https://doi.org/10.3390/ma17133218> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Field study of airtightness of traditional rural houses in Estonia

Alev, Üllar; Kalamees, Targo Proceedings of CLIMA 2013 : 11th REHVA World Congress and the 8th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings, Prague 16th-19th June, 2013 2013 / [10] p. : ill

Field study of hygrothermal performance of log wall with internal thermal insulation

Arumägi, Endrik; Ilomets, Simo; Kalamees, Targo; Tuisk, Tanel XII International Conference on Durability of Building Materials and Components (XII DBMC), Porto, Portugal, April 12th-15th, 2011 2011 / p. 811-819 : ill <https://www.irbnet.de/daten/iconda/CIB22427.pdf>

Field study on hygrothermal performance of highly insulated exterior wall in Estonia

Pihelo, Peep; Kalamees, Targo; Kikkas, Henri; Muring, Tõnu; Valge, Margus; Valler, Raimond CLIMA 2016 - proceedings of the 12th REHVA World Congress. Vol. 2 2016 / [10] p. : ill http://vbn.aau.dk/files/233715342/paper_188.pdf

Field survey of overheating problems in Estonian apartment buildings

Maivel, Mikk; Kurnitski, Jarek; Kalamees, Targo Architectural science review 2015 / p. 1-10 : ill <https://doi.org/10.1080/00038628.2014.970610> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings

2024 <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17> https://www.ester.ee/record=b5668645*est

The Final Research Report of the project "Sustainable Management of Historic Rural Churches in the Baltic Sea Region (SMC)"

2013 http://www.ester.ee/record=b3053416*est

Financial viability of energy-efficiency measures in a new detached house design in Finland

Saari, Arto; Kalamees, Targo; Jokisalo, Juha; Michelsson, Rasmus; Alanne, Kari; Kurnitski, Jarek Applied energy 2012 / p. 76-83 <https://www.sciencedirect.com/science/article/pii/S0306261911006830>

Growth rate of solar thermal systems in Baltic States : slow but steady wins the race?

Valančius, Rokas; Borodinecs, Anatolijs; Kalamees, Targo; Fokaides, Paris; Jurelionis, Andrius; Jonynas, Rolandas Energy Sources, Part B: Economics, Planning and Policy 2020 / p. 423 - 435 <https://doi.org/10.1080/15567249.2020.1813844> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Guest editor preface

Journal of sustainable architecture and civil engineering 2019 / p. 5-6 <https://doi.org/10.5755/j01.sace.24.1.23239>

A guide for renovation solution types of ventilation and building envelopes of typical post WWII apartment buildings

Kalamees, Targo; Thalfeldt, Martin; Zelenski, Maksim; Meos, Heiki; Laas, Margus; Kurnitski, Jarek; Kuusk, Kalle 14th International Conference on Indoor Air Quality and Climate (Indoor Air 2016) : Ghent, Belgium, 3-8 July 2016. Vol. 3 2016 / p. 1618-1625 : ill

A Guide into Renovation Package Concepts for Mass Retrofit of Different Types of Buildings with Prefabricated Elements

for (N)Zeb Performance [Online resource]

Rovers, Ronald; Kuusk, Kalle; Pihelo, Peep; Kalamees, Targo 2018 [A Guide into Renovation Package Concepts for Mass Retrofit of Different Types of Buildings with Prefabricated Elements for \(N\)Zeb Performance](#)

Heat loss characteristics of typology-based apartment building external walls for a digital twin-based renovation strategy tool

Ilste, Elisa; Lomp, Siim; Pikas, Ergo; Arumägi, Endrik; Hallik, Jaanus; Öiger, Karl; Kisel, Einari; Liiv, Innar; Kalamees, Targo
Journal of Physics: Conference Series 2023 / 8 p <https://doi.org/10.1088/1742-6596/2654/1/012125> [Conference proceedings at Scopus](#)
[Article at Scopus](#)

Heat loss due to domestic hot water pipes

Hamburg, Anti; Mikola, Alo; Parts, Tuule Mall; Kalamees, Targo Energies 2021 / art. 6446 <https://doi.org/10.3390/en14206446>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Heat, air and moisture transfer terminology : parameters and concepts

Radu, A.; Barreira, E.; Kalamees, Targo 2012
https://www.researchgate.net/publication/257183156_Heat_air_and_moisture_transfer_terminology_-_parameters_and_concepts

"Hingav" puitsein ruumide sisekliima mõjutajana

Kalamees, Targo Ehitaja 2001 / 9, lk. 38-40 https://artiklid.elnet.ee/record=b1007472*est

Historiallisten rakennusten ilmanpitävyys, ilmanvaihtuvuus ja energiatehokkuus

Eskola, Lari; Jokisalo, Juha; Kalamees, Targo Sisäilmastoseminaari 2014 2014 / s. 1-6 : kuv

Hoone ehitusprojekt = Building design

2012 https://www.ester.ee/record=b2758900*est

Hoone kasutusea planeerimine

Kalamees, Targo Ehituskaar 2002 / 1, lk. 21-23

Hoone niiskuskooormust aitab arvutada niiskulisa väärtus

Kalamees, Targo Ehitaja 2007 / 11, lk. 62-65 : ill https://artiklid.elnet.ee/record=b1021048*est

Hoone piirdetarindi soojusjuhtivuse arvutusjuhend

Kalamees, Targo 2010 https://www.ester.ee/record=b2563282*est

Hoone piirdetarindi soojusjuhtivuse arvutusjuhend. Osa 1, Välisõhuga kontaktis olev läbipaistmatu piire = Guidance for calculation of thermal transmittance of building envelope. Part 1, Opaque building envelope in contact with outdoor-air

2025 https://www.ester.ee/record=b5733425*est

Hoone piirdetarindi soojuslähivuse arvutusjuhend. Osa 1, Välisõhuga kontaktis olev läbipaistmatu piire [Võrguteavik] = Guidance for calculation of thermal transmittance of building envelope. Part 1, Opaque building envelope in contact with outdoor-air

2016 http://www.ester.ee/record=b4601770*est

Hoonepiirete õhupidavus

Kalamees, Targo Keskkonnatehnika 2006 / 2, lk. 35-37 https://artiklid.elnet.ee/record=b1018996*est

Hoonete kuluoptimaalsete energiatõhususe miinimumtasemetega analüüs [Võrguteavik]

Arumägi, Endrik; Simson, Raimo; Kuusk, Kalle; Kalamees, Targo; Kurnitski, Jarek 2017 https://www.ester.ee/record=b4762265*est

Hoonete rekonstrueerimise pikaajaline strateegia

2020 <https://www.mkm.ee/media/155/download>

Hourly test reference weather data in the changing climate of Finland for building energy simulations

Jylhä, Kirsti; Ruosteenoja, Kimmo; Kalamees, Targo Data in brief 2015 / p. 162-169 : ill <http://dx.doi.org/10.1016/j.dib.2015.04.026>

How vacancy of dwellings influences energy renovations of multifamily buildings

Lihtmaa, Lauri; Kalamees, Targo Energies 2025 / art. 603 <https://doi.org/10.3390/en18030603>

How well are energy performance objectives being achieved in renovated apartment buildings in Estonia?

Hamburg, Anti; Kalamees, Targo Energy and buildings 2019 / p. 332-341 <https://doi.org/10.1016/j.enbuild.2019.07.006> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Hygrothermal calculations and laboratory tests on timber-framed wall structures

Kalamees, Targo; Vinha, Juha Building and environment 2003 / 5, p. 689-697 : ill
<https://www.sciencedirect.com/science/article/pii/S036013230200207X>

Hygrothermal criteria for design and simulation of buildings
Kalamees, Targo 2006 https://www.ester.ee/record=b2226959*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 [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

Hygrothermal performance of a brick wall with interior insulation in cold climate : vapour open vs vapour tight approach
Klõšeiko, Paul; Kalamees, Targo Journal of building physics 2022 / p. 3-35 : ill <https://doi.org/10.1177/17442591211056067> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Hygrothermal performance of a massive natural stone masonry wall insulated from the internal side with hemp concrete – field measurements in cold climate
Pau, Markus; Kalamees, Targo; Kallavus, Urve Journal of physics : conference series 2021 / art. 012068, 9 p. : ill
<https://doi.org/10.1088/1742-6596/2069/1/012068> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Hygrothermal performance of a massive stone wall with interior insulation : an in-situ study for developing a retrofit measure
Klõšeiko, Paul; Kalamees, Targo; Arumägi, Endrik; Kallavus, Urve Energy procedia 2015 / p. 195-200 : ill
<https://doi.org/10.1016/j.egypro.2015.11.139> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Hygrothermal performance of AAC exterior wall after additional insulation with prefabricated elements in Estonia
Pihelo, Peep; Kalamees, Targo 5th Central European Symposium On Building Physics (CESBP) 2023 / p. 020049-1-020049-8
<https://doi.org/10.1063/5.0170884> [Conference proceedings at Scopus](#) [Article at Scopus](#)

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

Hygrothermal performance of highly insulated timber-frame external wall
Pihelo, Peep; Kikkas, Henri; Kalamees, Targo Energy procedia 2016 / p. 685-695 : ill <https://doi.org/10.1016/j.egypro.2016.09.128>
[Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Hygrothermal performance of internally insulated brick wall in cold climate : a case study in a historical school building
Klõšeiko, Paul; Arumägi, Endrik; Kalamees, Targo Journal of building physics 2015 / p. 444-464 : ill
<https://doi.org/10.1177/1744259114532609> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Hygrothermal performance of internally insulated brick wall in cold climate : field measurement and model calibration
Klõšeiko, Paul; Arumägi, Endrik; Kalamees, Targo Contributions to Building Physics : proceedings of the 2nd Central European Symposium on Building Physics : 9-11 September 2013, Vienna, Austria 2013 / p. 185-192 : ill

Hygrothermal performance of masonry walls retrofitted with interior insulation in cold climate = Kiviseinte seespoolse lisasoojustuse soojus- ja niiskustehniline toimivus külmas kliimas
Klõšeiko, Paul 2022 <https://doi.org/10.23658/taltech.41/2022> <https://digikogu.taltech.ee/et/Item/e4e4dc01-f8cf-4d60-b205-3f01529a8fc1>
https://www.ester.ee/record=b5508993*est

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](#)

Hygrothermal performance of prefabricated insulation elements for serial renovation of apartment buildings in a moderately continental German climate
Pihelo, Peep; Kalamees, Targo Journal of Physics: Conference Series 2023 / art. 012001 <https://doi.org/10.1088/1742-6596/2654/1/012001> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Hygrothermal performance of prefabricated timber frame insulation elements for deep energy renovation of apartment

buildings = Puitkarkass-lisasoojustuselementide niiskustehniline toimivus suurpaneelidelamute tervikrenoveerimisel
Pihelo, Peep 2020 <https://digikogu.taltech.ee/et/item/d748bdf-83e0-4377-a8d3-5e7e327e102e>

Hygrothermal performance of thick PCM mortar behind PV panels in energy-activated ETICS facades
Talvik, Martin; Ilomets, Simo; Klõšeiko, Paul; Kalamees, Targo; Põldaru, Mattias; Heim, Dariusz Buildings 2023 / art. 1572
<https://doi.org/10.3390/buildings13061572> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Незванный гость: плесень в многоквартирном доме - чья проблема?
Truvorova, Olesja Stolitsa 2023 / c. 4-5

Identification and improvement of critical joints in CLT construction without weather protection
Kalbe, Kristo; Kukk, 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](#)

Ilmanpitävyyden vaikutus vuotoilmanvaihtoon ja energiakulutukseen pientaloissa
Jokisalo, Juha; Kurnitski, Jarek; Kalamees, Targo; Eskola, Lari; Jokiranta, Kai Sisäilmastoseminaari 2007 2007 / s. 241-246
<https://research.aalto.fi/publications/ilmanpit%C3%A4vyyden-vaikutus-vuotoilmanvaihtoon-ja-energiankulutukseen>

Ilmavuotojen merkitys seinä- ja kattorakenteiden kostetusteknisessä toiminnassa
Kalamees, Targo; Kurnitski, Jarek Rakennusfysiikka 2009 2009 / p. 11

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 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](#)

Impact of ETICS on corrosion propagation of concrete facade
Ilomets, Simo; Kalamees, Targo; Lahdensivu, Jukka; **Klõšeiko, Paul** Energy procedia 2016 / p. 67-76 : ill
<https://doi.org/10.1016/j.egypro.2016.09.101> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Impact of linear thermal bridges on thermal transmittance of renovated apartment buildings
Ilomets, Simo; Kuusk, Kalle; Paap, Leena; Arumägi, Endrik; Kalamees, Targo Journal of civil engineering and management 2017 / p. 96-104 : ill <https://doi.org/10.3846/13923730.2014.976259> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The impact of the technical requirements of the renovation grant on the ventilation and indoor air quality in apartment buildings
Mikola, Alo; Hamburg, Anti; Kuusk, Kalle; Kalamees, Targo; Voll, Hendrik; Kurnitski, Jarek Building and environment 2022 / art. 108698 <https://doi.org/10.1016/j.buildenv.2021.108698> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Improving the indoor climate and energy saving in renovated apartment buildings in Estonia
Hamburg, Anti; Kalamees, Targo Cold Climate HVAC 2018 : Sustainable Buildings in Cold Climates : proceedings of the 9th Cold Climate HVAC Conference, Kiruna, Sweden, 2018, 12-15 March 2019 / p. 243-251 https://doi.org/10.1007/978-3-030-00662-4_21

Indoor climate analyzis of the old observatory in Tartu
Arumägi, Endrik; Kalamees, Targo; Õiger, Karl; Kallavus, Urve; Kurik, Lembit 9th International Conference & Exhibition Healthy Buildings 2009 : September 13-17, 2009, Syracuse, NY, USA 2009 / p. Paper 398

Indoor climate and energy performance in nearly zero energy day care centers and school buildings
Kaiser, Ahmed; Kuusk, Kalle; Heininen, Henrik; **Arumägi, Endrik; Kalamees, Targo;** Hasu, Tero; Lolli, Nicola; **Kurnitski, Jarek** E3S Web of Conferences : CLIMA 2019 Congress, Bucharest, Romania, May 26-29, 2019 2019 / art. 02003 ; 9 p. : ill
<https://doi.org/10.1051/e3sconf/201911102003> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Indoor climate and energy performance in typical concrete large-panel apartment buildings
Kõiv, Teet-Andrus; Kalamees, Targo Chemistry, emission control, radioactive pollution and indoor air quality 2011 / p. 597-618 : ill

Indoor climate and energy performance of traditional stone houses on Gotland, Sweden
Arumägi, Endrik; Kalamees, Targo; Broström, Tor NSB 2014 : 10th Nordic Symposium on Building Physics, 15-19 June 2014, Lund, Sweden : full papers 2014 / p. 616-623 : ill

Indoor climate and humidity loads in old rural houses with different usage profiles

Alev, Üllar; Kalamees, Targo; Arumägi, Endrik Proceedings of the 9th Nordic Symposium on Building Physics (NSB 2011), 29 May- 2 June 2011, Tampere, Finland. Vol. 3 2011 / p. 1103-1110 : ill

Indoor climate and hygrothermal loads in Estonian dwellings

Kalamees, Targo; Sasi, Lennart; Õiger, Karl Final report of the IEA Annex 41 Whole Building Heat Air and Moisture Response - Subtask 3 : Boundary Conditions and Whole Building HAM Analysis 2008 / p. 157-174[??]

Indoor climate conditions and hygrothermal loads in Finnish and Estonian dwellings

Kalamees, Targo; Vinha, Juha; Korpi, Minna; **Kurnitski, Jarek** Proceedings of the IEA ECBCS Annex 41 Closing Seminar : Copenhagen, Denmark, June 19, 2008 2008 / p. 81-92

Indoor climate conditions and hygrothermal loads in historic wooden apartment buildings in cold climates

Arumägi, Endrik; Kalamees, Targo; Kallavus, Urve Proceedings of the Estonian Academy of Sciences 2015 / p. 146-156 : ill
https://artiklid.elnet.ee/record=b2727447*est <https://doi.org/10.3176/proc.2015.2.03> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Indoor climate conditions and ventilation performance in Estonian lightweight detached houses

Kalamees, Targo Indoor and built environment 2006 / 6, p. 555-569

Indoor climate conditions in lightweight detached houses in cold climate [Electronic resource]

Kalamees, Targo; Kurnitski, Jarek; Vinha, Juha; Korpi, Minna The 6th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings : IAQVEC 2007, Oct 28-31, 2007, Sendai, Japan 2007 / [8] p. [CD-ROM]

Indoor climate in a naturally ventilated unheated medieval church in Harju-Risti, Estonia

Arumägi, Endrik; Kalamees, Targo; Broström, Tor Proceedings of Clima2010 10th Rehva World Congress "Sustainable Energy Use in Buildings" : Antalya, 9-12.05.2010 2010 / [8] p

Indoor climate in a naturally ventilated unheated medieval churches

Kalamees, Targo; Väli, Alan; **Kurik, Lembit** The Final Research Report of the project "Sustainable Management of Historic Rural Churches in the Baltic Sea Region (SMC)" 2013 / p. 30-51 : ill

Indoor climate in Church of the Holy Spirit, Tallinn [Electronic resource]

Kalamees, Targo; Sasi, Lennart Indoor Air 2008 : The 11th International Conference on Indoor Air Quality and Climate : 17-22.08.2008, Copenhagen, Denmark 2008 / [8] p. [CD-ROM]

Indoor climate in the Cathedral of Saint Mary the Virgin, Tallinn

Kalamees, Targo; Malva, L. 9th International Conference & Exhibition Healthy Buildings 2009 : September 13-17, 2009, Syracuse, NY, USA 2009 / p. Paper 101

Indoor climate loads for dwellings in different cold climates to assess hygrothermal performance of building envelopes

Ilomets, Simo; Kalamees, Targo; Tariku, Fitsum Canadian journal of civil engineering 2019 / p. 963-968 <https://doi.org/10.1139/cjce-2019-0079> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Indoor climate loads to assess hygrothermal performance of building envelope [Online resource]

Ilomets, Simo; 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. 9-10 : ill
https://site.cibworld.nl/dl/publications/W080_pub414.pdf

Indoor humidity load in dwellings with high occupancy

Kalamees, Targo IEA Annex 41 MOIST-ENG Working meeting : Lyon France, 25-27 October 2006 2006 / [4] p

Indoor humidity load in Estonian detached houses

Kalamees, Targo; Sasi, Lennart; Õiger, Karl IEA-Annex 41 MOIST-ENG working meeting : Trondheim, Norway, 26-28 October 2005 2005 / [9] p

Indoor humidity loads and moisture production in lightweight timber-frame detached houses

Kalamees, Targo; Vinha, Juha; **Kurnitski, Jarek** Journal of building physics 2006 / 3, p. 219-246

Indoor hygrothermal condition and user satisfaction in naturally ventilated historic houses in temperate humid continental climate around the Baltic Sea

Alev, Üllar; Kalamees, Targo; Eskola, Lari; **Arumägi, Endrik** Architectural science review 2016 / p. 53-67 : ill
<https://doi.org/10.1080/00038628.2015.1038980> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Indoor hygrothermal conditions in Estonian old multi-storey brick apartment buildings

Kalamees, Targo; Ilomets, Simo; Arumägi, Endrik; Alev, Üllar; Kõiv, Teet-Andrus; Mikola, Alo; Kuusk, Kalle; Maivel, Mikk
The 12th International Conference on Indoor Air Quality and Climate, June 5-10, 2011, Austin, Texas, USA 2011 / [6] p

Indoor hygrothermal loads for the deterministic and stochastic design of the building envelope for dwellings in cold climates

Ilomets, Simo; Kalamees, Targo; Vinha, Juha Journal of building physics 2018 / p. 547-577 : ill

<https://doi.org/10.1177/1744259117718442> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Indoor hygrothermal loads in Estonian dwellings

Kalamees, Targo The 4th European Conference on Energy Performance & Indoor Climate in Buildings. The 27th Conference of the Air Infiltration & Ventilation Centre : Lyon, France, 20-22 November. 2 2006 / p. 541-546

Indoor Overheating Risks of Pv-ETICS and Dark-Coloured Facades : Experimental and Simulation-Based Assessment

Talvik, Martin; Ilomets, Simo; Kalamees, Targo SSRN 2025 / 16 p <https://doi.org/10.2139/ssrn.5264960>

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5264960

Indoor temperature and humidity conditions and the performance of ventilation in 27 detached houses

Kalamees, Targo; Sasi, Lennart; Öiger, Karl IEA-Annex 41 MOIST-ENG working meeting : Trondheim, Norway, 26-28 October 2005 2005 / [10] p

Indoor temperature and humidity conditions in Estonian old multi-storey apartment buildings composed of prefabricated concrete elements

Kalamees, Targo; Kõiv, Teet-Andrus; Arumägi, Endrik; Ilomets, Simo Proceedings of Clima2010 10th Rehva World Congress "Sustainable Energy Use in Buildings" : Antalya, 9-12.05.2010 2010 / [8] p

Indoor temperature and humidity conditions in Finnish dwellings [Electronic resource]

Kalamees, Targo; Kurnitski, Jarek; Keto, M.; Eskola, E.; Jokisalo, Juha; Korpi, Minna; Vinha, Juha Indoor Air 2008 : The 11th International Conference on Indoor Air Quality and Climate : 17-22.08.2008, Copenhagen, Denmark 2008 / [8] p. [CD-ROM]

Indoor temperature and humidity conditions in modern Estonian apartment buildings

Kalamees, Targo; Ilomets, Simo; Kuusk, Kalle; Paap, Leena Proceedings of CLIMA 2013 : 11th REHVA World Congress and the 8th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings, Prague 16th-19th June, 2013 2013 / [10] p. : ill

Indoor temperature and humidity load in Finnish detached houses

Kalamees, Targo; Vinha, Juha; **Kurnitski, Jarek** IEA-Annex 41 MOIST-ENG working meeting : Montreal, Canada, 16-18 May 2005 2005 / [10] p

Infiltration simulation in a detached house - empirical model validation : [abstract] [Electronic resource]

Jokisalo, Juha; **Kalamees, Targo; Kurnitski, Jarek;** Eskola, Lari; Jokiranta, Kai; Vinha, Juha Proceedings of Clima 2007 WellBeing Indoors : 10-14 June 2007, Helsinki, Finland 2007 / p. 289 [CD-ROM] <https://researchportal.tuni.fi/en/publications/infiltration-simulation-in-a-detached-house-empirical-model-valid>

Infiltration simulation in a detached house - empirical model validation [Electronic resource]

Jokisalo, Juha; **Kalamees, Targo; Kurnitski, Jarek;** Eskola, Lari; Jokiranta, Kai; Vinha, Juha Proceedings of Clima 2007 WellBeing Indoors : 10-14 June 2007, Helsinki, Finland 2007 / [CD-ROM] <https://researchportal.tuni.fi/en/publications/infiltration-simulation-in-a-detached-house-empirical-model-valid>

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](#)

The influence of exterior walls on the level and stability of indoor relative humidity and temperature in detached houses

Korpi, Minna; **Kalamees, Targo;** Vinha, Juha; **Kurnitski, Jarek** Proceedings of the 8th Symposium on Building Physics in the Nordic Countries : Copenhagen, Denmark, June 16-18, 2008. 3 2008 / p. 1413-1420

https://www.researchgate.net/publication/228600799_The_influence_of_exterior_walls_on_the_level_and_stability_of_indoor_humidity_and_temperature_in_detached_houses

The influence of indoor climate control on risk for damages in naturally ventilated historic churches in cold climate

Kalamees, Targo; Väli, Alan; Kurik, Lembit; Napp, Margus; Arumägi, Endrik; Kallavus, Urve International journal of architectural heritage : conservation, analysis, and restoration 2016 / p. 486-498 : ill <https://doi.org/10.1080/15583058.2014.1003623> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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](#)

Influence of moisture dry-out on hygrothermal performance of prefabricated modular renovation elements

Pihelo, Peep; Lelumees, Magnus; Kalamees, Targo Energy procedia 2016 / p. 745-755 : ill

<https://doi.org/10.1016/j.egypro.2016.09.137> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Influence of production on hemp concrete hygrothermal properties : sorption, water vapour permeability and water absorption

Ruus, Aime; Koosapoeg, Tarmo; Pau, Markus; Kalamees, Targo; Põldaru, Mattias Journal of Physics : Conference Series 2021

/ art. 012004, 9 p. : ill <https://doi.org/10.1088/1742-6596/2069/1/012004> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Influence of window details on the energy performance of an nZEB

Kalbe, Kristo; Kalamees, Targo Journal of sustainable architecture and civil engineering 2019 / p. 61-70 : ill

<https://doi.org/10.5755/j01.sace.24.1.23234>

Influence of window details on the energy performance of an nZEB

Kalbe, Kristo; Kalamees, Targo Proceedings of the I Forum Wood Building Baltic, 2019 : [27.02-1.03.2019, Tallinn] 2019 / p. 58-59

https://www.ester.ee/record=b5197207*est

Influencing factors of moisture measurement when using microwave reflection method

Kurik, Lembit; Kalamees, Targo; Kallavus, Urve; Sinivee, Veljo Energy procedia 2017 / p. 159-164 : ill

<https://doi.org/10.1016/j.egypro.2017.09.675> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Integrated cost-optimal renovation of apartment buildings toward nearly zero-energy buildings = Korterelamute kuluoptimaalne tervikrenoveerimine liginullenergiahooneks

Kuusk, Kalle 2015 https://www.ester.ee/record=b4482703*est

Integrated design of museum's indoor climate in medieval Episcopal Castle of Haapsalu

Napp, Margus; Kalamees, Targo; Tark, Teet; Arumägi, Endrik Energy procedia 2016 / p. 592-600 : ill

<https://doi.org/10.1016/j.egypro.2016.09.105> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Internal moisture excess of residential buildings in Finland

Vinha, Juha; Salminen, Mikko; Salminen, Kati; Kalamees, Targo; Kurnitski, Jarek; Kiviste, Mihkel Journal of building physics 2018 /

p. 239-258 : ill <http://dx.doi.org/10.1177/1744259117750369>

Juhised radoonikaitse meetmete kasutamiseks uutes ja olemasolevates hoonetes = Guidance for radon-protective measures for new and existing buildings [Võrguteavik]

2017 http://www.ester.ee/record=b4671261*est

Karl Õiger: väljapaistvaid ehitisi on meil vähe

Õiger, Karl Ehitaja 2023 / lk. 22-25 : fot https://www.ester.ee/record=b1072123*est https://artiklid.elnet.ee/record=b2908320*est

Kas renoveerimine tasub vaeva? „Alati on ikka kõik loomulikult kallis, raha on alati vähe.“

Pinn, Mariliis ohtuleht.ee 2023 [Kas renoveerimine tasub vaeva? „Alati on ikka kõik loomulikult kallis, raha on alati vähe.“](#)

Kas õppida vigadest või eeskujust?

Kalamees, Targo Ehitaja 2014 / lk. 44 : fot

Katuse niiskus- ja soojustoimivus

Kalamees, Targo Pööning : ajalooga majad, aiad ja disainiklassika 2020 / lk. 86-90 : ill https://www.ester.ee/record=b4516546*est

Katuseehitusreeglid. Osa 5, Lamekatused = Requirements for roof building. Part 5, Flat roofs

2023 https://www.ester.ee/record=b5652717*est

Katuste niiskus- ja soojustoimivus

Kalamees, Targo Katuseraamat 2016 / lk. 165-168 : ill

Kes on kes BIM-valdkonnas?

Kalamees, Targo Ehitaja 2018 / lk. 32-34 : fot http://www.ester.ee/record=b1072123*est https://artiklid.elnet.ee/record=b2868755*est

Kliima, teadlaste ja ettevõtjate koostöö : TTÜ pereühiselasust saab moodne liginullenergiahoone

Kalamees, Targo Mente et Manu 2017 / lk. 22-25 : ill https://www.ttu.ee/public/m/mente-et-manu/MM_03_2017/mobile/index.html#p=1

https://artiklid.elnet.ee/record=b2820641*est

Korterelamute tervikliku renoveerimise juhendmaterjal

Kalamees, Targo; Thalfeldt, Martin; Meos, Heiki; Laas, Margus Liginullenergiahooned täna ja homme : artiklite kogumik 2015 / lk.

Korterelamute välispiirete lisasoojustamise sõlmejoonised ja tüüpkorterite ventilatsioonilahendused

Kalamees, Targo; Thalfeldt, Martin; Meos, Heiki; Laas, Margus; **Zelenski, Maksim; Kurnitski, Jarek;** Diligentov, Eduard; Bökova, Larissa 2015

Kosteuskuormien vaikutus lämpötilaindeksin raja-arvoon

Kalamees, Targo Rakennusfysiikka 2007 : Tampere (Finland), 18-19.10.2007 2007 / s. 287-294

Kuidas alandada puithoonete maksumust?

Kalamees, Targo Ehitaja 2020 / lk. 32-33 : portr https://www.ester.ee/record=b1072123*est

Kuidas paigaldada lift vanasse korterelamusse? = Как установить лифт в старом многоквартирном доме?

Kalamees, Targo Elamu 2021 / lk. 20-21 : fot.; c. 44-45 : фот https://www.ester.ee/record=b1072137*est

Kuidas viia Eestis sujuvalt läbi renoveerimislaine?

Kisel, Einari; Kalamees, Targo; Pikas, Ergo; Liiv, Innar; Arumägi, Endrik Mente et Manu 2023 / lk. 40-41 : fot https://www.ester.ee/record=b1242496*est

Külmasillad Eesti nõukogudeaegsetes raudbetoonist suurpaneelalamutes

Paap, Leena; **Kalamees, Targo** Tallinna Tehnikakõrgkooli Toimetised 2010 / lk. 34-39 : ill

Kylmäsiltöjen ja ilmapuotikohtien jakauma suomalaisissa pientaloissa ja kerrostaloasunnoissa

Kalamees, Targo; Korpi, Minna; Eskola, Lari; **Kurnitski, Jarek;** Vinha, Juha Rakennusfysiikka 2007 : Tampere (Finland), 18-19.10.2007 2007 / s. 295-302

Laboratory tests and modelling of mineral wool insulated steel sandwich panels

Laukkarinen, Anssi; Vinha, Juha; **Kalbe, Kristo; Kalamees, Targo** E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 17006, 8 p. : ill <https://doi.org/10.1051/e3sconf/202017217006>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Conference proceedings at WOS](#) [Article at WOS](#)

Large scale indoor climate study in 101 dwellings

Kalamees, Targo; Vinha, Juha Final report of the IEA Annex 41 Whole Building Heat Air and Moisture Response - Subtask 4 : applications - indoor climate, energy, durability 2008 / p. 107-111

Lessons learnt from the first public buildings in Estonia intended to be passive houses

Raide, Indrek; Kalamees, Targo; Muring, Tõnu Proceedings of the Estonian Academy of Sciences 2015 / p. 157-167 : ill https://artiklid.elnet.ee/record=b2727449*est <https://doi.org/10.3176/proc.2015.2.04> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Liginullenergiamajad : Soome võitleb hoonete hallitusega, Eestit päästab oskuslik projekteerimine

Soopan, Ivar; **Kurnitski, Jarek; Kalamees, Targo** Maaleht 2018 / lk. 2-3

Long term measurements and HAM modelling of an interior insulation solution for an office building in cold climate

Klõšeiko, Paul; 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. 1419-1424 : ill <http://ibpc2018.org/wp-content/uploads/2018/11/FINAL-IBPC2108-Proceedings.pdf>

Low- and nearly zero energy solutions for apartment buildings in Estonia

Kuusk, Kalle; Kalamees, Targo Proceedings of CLIMA 2013 : 11th REHVA World Congress and the 8th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings, Prague 16th-19th June, 2013 2013 / [10] p. : ill

Low carbon emission renovation of historic residential buildings

Kertsmik, Kadri-Ann; Arumägi, Endrik; Hallik, Jaanus; Kalamees, Targo 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 206-207 : ill <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17> https://www.ester.ee/record=b5668645*est

Low carbon emission renovation of historical residential buildings

Kertsmik, Kadri-Ann; Arumägi, Endrik; Hallik, Jaanus; Kalamees, Targo Energy reports 2024 / p. 3836-3847 <https://doi.org/10.1016/j.egyrs.2024.03.030>

Lühikokkuvõte telliskorterelamute ehitustehnilise seisukorra uuringust = Краткое резюме из исследования строительно-технического состояния кирпичных многоквартирных домов

Kalamees, Targo Elamu 2011 / 1, lk. 14-15, 52-53

Maaelamute sisekliima, ehitusfüüsika ja energiasääst I : uuringu I etapi lõpparuanne

Kalamees, Targo; Alev, Üllar; Arumägi, Endrik; Ilomets, Simo; Just, Alar; Kallavus, Urve 2011
http://www.ester.ee/record=b2665966*est

Madal- ja liginullenergiahooned : büroohoonete põhilahendused eskiis- ja eelprojektis
Kurnitski, Jarek; Thalfeldt, Martin; Kalamees, Targo; Voll, Hendrik; Uutar, Aivar; Rosin, Argo 2013

Measured and simulated air pressure conditions in Finnish residential buildings

Kalamees, Targo; Kurnitski, Jarek; Jokisalo, Juha; Eskola, Lari; Jokiranta, Kai; Vinha, Juha Building services engineering research & technology 2010 / 2, p. 177-190 : ill <https://journals.sagepub.com/doi/pdf/10.1177/0143624410363655>

Measured hygrothermal performance of energy activated facade in cold climate

Talvik, Martin; Kalamees, Targo; Ilomets, Simo Journal of building physics 2025 / p. 1-27 <https://doi.org/10.1177/174425912413124>

Measurement and simulations of air pressure in a two-storey detached house and in a five-storey apartment building

Kalamees, Targo; Jokisalo, Juha; **Kurnitski, Jarek;** Vinha, Juha IEA-Annex 41 MOIST-ENG, working meeting : Florianopolis (Brazil), 16-18 April, 2007 2007 / [8] p <https://bwk.kuleuven.be/bwf/projects/annex41/protected/data/TTU%20Apr%202007%20Paper%20A41-T3-EE-07-2.pdf>

Mechanical ventilation system in deep energy renovation of a multi-story building with prefabricated modular panels

Kalamees, Targo; Palmiste, Ülar; Hamburg, Anti Subtask 4: Current challenges, selected case studies and innovative solutions covering indoor air quality, ventilation design and control in residences 2020 / p. 71-75 : ill https://iea-ebc.org/Data/publications/EBC_Annex_68_Subtask_4_Report_October_2020.pdf

Method for assessment of energy retrofit measures in milieu valuable buildings

Arumägi, Endrik; Mändel, Maris; **Kalamees, Targo** Energy procedia 2015 / p. 1027-1032 : ill
<https://doi.org/10.1016/j.egypro.2015.11.052> Conference proceedings at Scopus Article at Scopus Article at WOS

A method to develop energy activated ETICS

Ilomets, Simo; Heim, Dariusz; Chodak, Ivan; Czarny, Dariusz; **Kalamees, Targo** E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 21006, 8 p. : ill
<https://doi.org/10.1051/e3sconf/202017221006> Conference proceeding at Scopus Article at Scopus Article at WOS

Method to divide heating energy in energy efficient building without direct measuring

Hamburg, Anti; Kalamees, Targo Energy procedia 2017 / p. 45-50 : ill <https://doi.org/10.1016/j.egypro.2017.09.629> Conference proceedings at Scopus Article at Scopus Article at WOS

Mida teha, kui fassaad vajab uuendamist? = Что делать, если фасад требует ремонта?

Kalamees, Targo Elamu 2021 / lk. 16-17 : fot.; c. 38-39 : фот https://www.ester.ee/record=b1072137*est

Moisture control strategies of habitable basements in cold climates

Asphaug, Silje Kathrin; Kvande, Tore; Time, Berit; Peuhkuri, Ruut H.; **Kalamees, Targo;** Johansson, Pär; Berardi, Umberto; Lohne, Jardar Building and Environment 2020 / Art. 106572 <https://doi.org/10.1016/j.buildenv.2019.106572> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Moisture convection performance of external walls and roofs

Kalamees, Targo; Kurnitski, Jarek Journal of building physics 2010 / 3, p. 225-247
<https://journals.sagepub.com/doi/10.1177/1744259109343502>

Moisture convection performance of wall and attic floor joint

Kalamees, Targo; Kurnitski, Jarek Proceedings of the 8th Symposium on Building Physics in the Nordic Countries : Copenhagen, Denmark, June 16-18, 2008. 2 2008 / p. 777-784
https://www.researchgate.net/publication/228777811_Moisture_convection_performance_of_wall_and_attic_floor_joint

Moisture convection performance on the joint of external wall and attic floor - laboratory tests and two-dimensional simulation model validation : [abstract] [Electronic resource]

Kalamees, Targo; Kurnitski, Jarek Proceedings of Clima 2007 WellBeing Indoors : 10-14 June 2007, Helsinki, Finland 2007 / p. 286 [CD-ROM]
https://www.researchgate.net/publication/228890901_Moisture_convection_performance_on_the_joint_of_external_wall_and_attic_floor-laboratory_tests_and_two-dimensional_simulation_model_validation

Moisture convection performance on the joint of external wall and attic floor - laboratory tests and two-dimensional simulation model validation [Electronic resource]

Kalamees, Targo; Kurnitski, Jarek Proceedings of Clima 2007 WellBeing Indoors : 10-14 June 2007, Helsinki, Finland 2007 / [CD-ROM] https://www.researchgate.net/publication/228890901_Moisture_convection_performance_on_the_joint_of_external_wall_and_attic_floor-laboratory_tests_and_two-dimensional_simulation_model_validation

Moisture drying capacity of mineral wool insulated steel-faced sandwich panels by convection

Lomp, Siim; Kalbe, Kristo; Kalamees, Targo Acta Polytechnica CTU proceedings 2022 / p. 347-353
<https://doi.org/10.14311/APP.2022.38.0347> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Moisture dry-out capability of steel-faced mineral wool insulated sandwich panels

Kalbe, Kristo; Piikov, Hubert; Kalamees, Targo Sustainability 2021 / 18 p. : ill <https://doi.org/10.3390/su12219020> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Moisture dry-out from steel faced insulated sandwich panels

Kalbe, Kristo; Piikov, Hubert; Kurnitski, Jarek; Kalamees, Targo E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 / art. 17007, 8 p. : ill <https://doi.org/10.1051/e3sconf/202017217007>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Moisture safety in prefabricated roof renovations : causes and strategies

Kodi, Georg-Mihkel; Kalbe, Kristo; Pihelo, Peep; Kalamees, Targo Journal of sustainable architecture and civil engineering 2024 / p. 68-83 <https://doi.org/10.5755/j01.sace.35.2.35825> [Journal metrics at Scopus](#) [Article at Scopus](#)

Moisture safety of cross-laminated timber construction = Ristkihtliimpuit ehituse niiskusturvalisus

Kalbe, Kristo 2025 https://www.ester.ee/record=b5750525*est <https://digikogu.taltech.ee/et/Item/75dac979-4e4c-4fd7-8d66-ade40d647e91>
<https://doi.org/10.23658/taltech.44/2025>

Moisture safety strategies for renovations of a roof with prefabricated additional insulation elements: A whole building heat, air, and moisture simulation approach

Kalamees, Targo; Kalbe, Kristo; Kodi, Georg-Mihkel; Pihelo, Peep; Simson, Raimo; Arumägi, Endrik Multiphysics and Multiscale Building Physics : Proceedings of the 9th International Building Physics Conference (IBPC 2024) ; Volume 1: Moisture and Materials 2025 / p. 262–269 https://doi.org/10.1007/978-981-97-8305-2_36

Moisture safety strategies for roof renovation with prefabricated additional insulation elements

Kodi, Georg-Mihkel; Kalbe, Kristo; Pihelo, Peep; Kalamees, Targo 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 154-155 : ill <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17> https://www.ester.ee/record=b5668645*est

Moisture supply in heavyweight detached houses

Salminen, Kati; Korpi, Minna; Salminen, Mikko; Vinha, Juha; Kurnitski, Jarek; Kalamees, Targo IEA Annex 41 MOIST-ENG Working meeting : Lyon France, 25-27 October 2006 / [10] p

MORE-CONNECT : new developments in prefabricated multifunctional building envelope elements and installation platforms for NZE renovation

Op't Veld, Peter; Kalamees, Targo; Rovers, Ronald CLIMA 2016 - proceedings of the 12th REHVA World Congress. Vol. 1 2016 / [10] p. : ill

Märjad ja niisked ruumid puitelamus

Kalamees, Targo Puuinfo 2008 / 2, lk. 39-42 : ill

Märjad ja niisked ruumid vanas majas

Kalamees, Targo Maakodu 2009 / 1, lk. 29-33 : ill https://artiklid.elnet.ee/record=b1071748*est

Nearly zero energy wooden buildings : day-care centres from NERO project

Kuusk, Kalle; Kaiser, Ahmed; Lolli, Nicola; Jan, Johansson; Hasu, Tero; Gunnarshaig Lien, Anne; Arumägi, Endrik; Kalbe, Kristo; Hallik, Jaanus; Kurnitski, Jarek; Kalamees, Targo Proceedings of the I Forum Wood Building Baltic, 2019 : [27.02-1.03.2019, Tallinn] 2019 / p. 54-55 : ill https://www.ester.ee/record=b5197207*est

A new method to estimate point thermal transmittance based on combined two-dimensional heat flow calculation

Hallik, Jaanus; Kalamees, Targo E3S Web Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) 2020 / art. 08005, 8 p. : ill <https://doi.org/10.1051/e3sconf/202017208005> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

New typical meteorological year generation method based on long-term building energy simulations

Seyed Salehi, Seyed Shahabaldin; Kalamees, Targo; Kurnitski, Jarek; Thalfeldt, Martin Building and environment 2024 / art. 111504 <https://doi.org/10.1016/j.buildenv.2024.111504>

Niiskus puitkarkasspiiretes

Kalamees, Targo Puuinfo 2005 / 1, lk. 28-30 : ill

Non-isothermal cup test for liquid and vapour conductivity curve calibration

Klõšeiko, Paul; Margus, Karl; Kalamees, Targo AIP conference proceedings 2023 / art. 020030 <https://doi.org/10.1063/5.0171189>
[Conference proceedings at Scopus](#) [Article at Scopus](#)

A novel approach to quantify crack formation in CLT

Kalbe, Kristo; Kalamees, Targo 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 156-157 : ill <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17>
https://www.ester.ee/record=b5668645*est

NZEB energy performance requirements in four countries vs. European commission recommendations

Kurnitski, Jarek; Ahmed, Kaiser; Hasu, Tero; Kalamees, Targo Proceedings of the REHVA Annual Meeting Conference Low Carbon Technologies in HVAC : 23 April 2018, Brussels, Belgium 2018 / 8 p. : ill
<https://www.rehvam2018atic.eu/images/workshops/4/Kurnitski.pdf>

nZEB renovation of multi-storey building with prefabricated modular panels

Pihelo, Peep; Kalamees, Targo; Kuusk, Kalle IOP conference series : materials science and engineering 2017 / art. 012056, 8 p. : ill <https://doi.org/10.1088/1757-899X/251/1/012056> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

nZEB renovation of multi-storey building with prefabricated modular panels

Pihelo, Peep; Kalamees, Targo; Kuusk, Kalle 3rd International Conference "Innovative Materials, Structures and Technologies" : Riga, Latvia, 27-29 September 2017 : [abstracts] 2017 / p. 129

nZEB renovation with prefabricated modular panels

Pihelo, Peep; Kalamees, Targo; Kuusk, Kalle Energy procedia 2017 / p. 1006-1011 : ill <https://doi.org/10.1016/j.egypro.2017.09.708>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

nZEB retrofit of a concrete large panel apartment building

Kuusk, Kalle; Kalamees, Targo Energy procedia 2015 / p. 985-990 : ill <https://doi.org/10.1016/j.egypro.2015.11.038> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Numerical analysis of additional heat loss induced by air cavities between insulation boards due to non-ideality

Hallik, Jaanus; Klõšeiko, Paul; Piir, Reimo; Kalamees, Targo Journal of building engineering 2022 / art. 05221
<https://doi.org/10.1016/j.jobe.2022.105221> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Nõukaaegsete kodude eluiga pikendab põhjalik remont

Pinn, Mariliis Õhtuleht 2023 <https://dea.digar.ee/article/oh tuleht/2023/04/13/3.10>

Näiteid palkmajade taastamisest

Palolill, Margus; Kalamees, Targo 2016 http://www.ester.ee/record=b4618537*est

On design principles and calculation methods related to air leakages and thermal bridges in well-insulated building envelopes = Õhulekete ja külmasildade mõju hindamise ja arvutamise põhimõtted hästi soojustatud piirdetarindite projekteerimisel

Hallik, Jaanus 2022 <https://doi.org/10.23658/taltech.28/2022> <https://digikogu.taltech.ee/et/Item/cb3446bc-a53c-4fe7-8ae8-4881ae5867ac>
https://www.ester.ee/record=b5501130*est

On site measurement and hygrothermal modelling of degraded ETICS facade with EPS and mineral wool fire breaks

Talvik, Martin; Klõšeiko, Paul; Kalamees, Targo; Liisma, Eneli; Ilomets, Simo Journal of Physics: Conference Series 2023 / 8 p
<https://doi.org/10.1088/1742-6596/2654/1/012124> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Open-source, low-code, no-code : digitalization of renovation processes

Pikas, Ergo; Koskela, Lauri Jaakko; Kalamees, Targo; Iliste, Elisa; Viik, Joosep 5th International Conference Forum Wood Building Baltic : 26-28 February 2024, Tallinn, Estonia : proceedings 2024 / p. 16-17 <https://digikogu.taltech.ee/et/Item/22318c67-e0ef-42f1-88c7-34c9d9677b17> https://www.ester.ee/record=b5668645*est

Overview of air infiltration in the studied church buildings

Väli, Alan; Kalamees, Targo The Final Research Report of the project "Sustainable Management of Historic Rural Churches in the Baltic Sea Region (SMC)" 2013 / p. 52-56 : ill

Overview of damage to facades and interior surfaces of medieval rural churches in Estonia

Klõšeiko, Paul; Kalamees, Targo ISBP 2015 : 1st International Symposium on Building Pathology : conference proceedings : March 24-27, 2015, Porto, Portugal 2015 / p. 579-586 : ill

Overview of damage to medieval rural churches in Estonia

Klõšeiko, Paul; Kalamees, Targo Case studies of building pathology in cultural heritage 2016 / p. 47-68 http://dx.doi.org/10.1007/978-981-10-0639-5_3

Painesuhteet pientalossa

Kalamees, Targo; Kurnitski, Jarek; Jokisalo, Juha; Vinha, Juha Sisäilmastoseminaari 2007 2007 / s. 259-264

Paneelelamute renoveerimisest ei pääse

Kalamees, Targo Kodu & Ehitus : TM 2009 / 8, lk. 38-40, 42 : ill

Performance evaluation and development of prefabricated insulation elements for renovation of apartment buildings with autoclaved aerated concrete external walls

Pihelo, Peep; Kalamees, Targo Energy and buildings 2025 / art. 115439 <https://doi.org/10.1016/j.enbuild.2025.115439>

Performance of heat recovery ventilation system with ground source brine heat exchanger pre-heating system in the context of nZEB

Kuusk, Kalle; Hallik, Jaanus; Kalamees, Targo; Märing, Tõnu Proceedings of REHVA Annual Conference "Advanced HVAC and Natural Gas Technologies" : Riga, Latvia, May 6-9, 2015 2015 / p. 17-22 : ill

Performance of interiorly insulated log wall : Experiences from Estonian cold climate conditions

Kalamees, Targo; Arumägi, Endrik; Alev, Üllar Conference Report : The 3rd International Conference on Energy Efficiency in Historic Buildings 2018 / p. 99-107 : ill <http://eehb2018.com/wp-content/uploads/2018/09/Conference-Report-The-3rd-International-Conference-on-Energy-Efficiency-in-Historic-Buildings.pdf>

Performance of ventilation in Estonian apartment buildings

Mikola, Alo; Kalamees, Targo; Kõiv, Teet-Andrus Energy procedia 2017 / p. 963-968 : ill <https://doi.org/10.1016/j.egypro.2017.09.681>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Performance testing of frost damage model by hygrothermal simulation

Ilomets, Simo; Kalamees, Targo; Raado, Lembi-Merike Proceedings of the 5th International Building Physics Conference (IBPC) : Kyoto, Japan, May 28-31, 2012 2012 / p. 73-80 : ill

Pientalojen vuotoilmanvaihtuvuuden arviointimenetelmä Suomen olosuhteisiin

Jokisalo, Juha; Kurnitski, Jarek; Kalamees, Targo; Eskola, Lari; Jokiranta, Kai; Korpi, Minna; Vinha, Juha Sisäilmastoseminaari 2008 : 05.03.2008 2008 / s. 165-170 <https://research.aalto.fi/en/publications/pientalojen-vuotoilmanvaihtuvuuden-arviointimenetelm%C3%A4-suomen-olos>

Piirete omaduste mõju hoonele ja sisekliimale

Kalamees, Targo Ehitaja 2003 / 10, lk. 18-21 https://artiklid.elnet.ee/record=b1013713*est

Piirete õhutihedus ja selle mõõtmine

Kalamees, Targo Puuinfo 2005 / 1, lk. 25-27 : ill

Potential effects of permeable and hygroscopic lightweight structures on thermal comfort and perceived IAQ in a cold climate

Kurnitski, Jarek; Kalamees, Targo; Palonen, J.; Eskola, Lari; Seppänen, Olli Indoor air 2007 / 1, p. 37-49
<https://pubmed.ncbi.nlm.nih.gov/17257151/>

Potential for finance and energy savings of detached houses in Estonia

Alev, Üllar; Allikmaa, Ats; Kalamees, Targo Energy procedia 2015 / p. 907-912 : ill <https://doi.org/10.1016/j.egypro.2015.11.017>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

The potential of HVAC systems and building envelope on the indoor climate stability in lightweight detached houses

Kalamees, Targo; Vinha, Juha; Kurnitski, Jarek IEA Annex 41 MOIST-ENG Working meeting : Lyon France, 25-27 October 2006 2006 / [12] p

Potential of moisture dry-out from concrete wall in Estonian climate

Pihelo, Peep; Lelumees, Magnus; Kalamees, Targo International RILEM Conference on Materials, Systems and Structures in Civil Engineering 2016 : segment on Moisture in Materials and Structures : Lyngby, Denmark, August 22-24, 2016 2016 / p. 289-298 : ill
https://files.conferencemanager.dk/medialibrary/2A179311-431D-479F-9B86-AC05B769477E/images/Moisture_conf_proceedings.pdf

Prefabricated wooden modular elements for nZEB renovation

Pihelo, Peep; Kalamees, Targo; Kuusk, Kalle Advanced Building Skins : 13th Conference on Advanced Building Skins, 1-2 October, 2018, Bern, Switzerland 2018 / p. 591-598 : ill <https://abs.green/files/pdf/content-2018.pdf> <https://abs.green/conference-proceedings/>

Preliminary assessment of preconditions to deliver carbon neutrality in apartment buildings by 2050

Lihtmaa, Lauri; Kalamees, Targo E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 18004, 6 p. : ill <https://doi.org/10.1051/e3sconf/202017218004> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Preliminary field study on hygrothermal performance of ETICS using thick lime plasters on various insulation materials for historic buildings in wet and cold climate

Realisation of energy performance targets of an old apartment building renovated to nZEB

Hamburg, Anti; Kuusk, Kalle; Mikola, Alo; Kalamees, Targo Energy 2020 / art. 116874, 10 p. : ill
<https://doi.org/10.1016/j.energy.2019.116874> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Realisation of energy renovation targets of Estonian apartment buildings = Eesti korterelamute renoveerimisel energiatõhususe eesmärkide saavutamine

Hamburg, Anti 2022 <https://doi.org/10.23658/taltech.18/2022> <https://digikogu.taltech.ee/et/Item/790db206-2bfe-4ec0-9476-cb1a3dc09400>
https://www.ester.ee/record=b5497566*est

Reliability of interior thermal insulation as a retrofit measure in historic wooden apartment buildings in cold climate

Arumägi, Endrik; Pihlak, Margus; Kalamees, Targo Energy procedia 2015 / p. 871-876 : ill
<https://doi.org/10.1016/j.egypro.2015.11.010> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Renovation alternatives to improve energy performance of historic rural houses in the Baltic Sea region

Alev, Üllar; Eskola, Lari; Arumägi, Endrik; Kalamees, Targo Energy and buildings 2014 / p. 58-66 : ill
<https://doi.org/10.1016/j.enbuild.2014.03.049> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Renovation and energy performance improvement of Estonian wooden rural houses = Eesti puidust maaelamute renoveerimine ja energiatõhususe parandamine

Alev, Üllar 2017 <https://digi.lib.ttu.ee/ii/?7675> https://www.ester.ee/record=b4676434*est

Renovation marathon - pursuing Estonian national climate ambition through smart and resilient renovation (LIFE IP)

Kalamees, Targo; Lomp, Siim Proceedings of the III Forum Wood Building Baltic, Riga Technical University, 09-10.05, 2022, Riga, Latvia 2022 / p. 58-59 <https://forumwoodbuilding.rtu.lv/wp-content/uploads/sites/37/2022/05/FWBB2022-2022.05.09-speakers-day-1-and-2.pdf>

Renovation need and performance of envelopes of concrete apartment buildings in Estonia = Eesti raudbetoon-suurpaneelalamute piirdetarindite renoveerimisvajadus ja toimivus

Ilomets, Simo 2017 <https://digi.lib.ttu.ee/ii/?7670> https://www.ester.ee/record=b4674186*est

Renovation of apartment buildings with prefabricated modular panels

Kuusk, Kalle; Pihelo, Peep; Kalamees, Targo E3S Web of Conferences : CLIMA 2019 Congress, Bucharest, Romania, May 26-29, 2019 2019 / art. 03023, 6 p <https://doi.org/10.1051/e3sconf/201911103023> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Renovation of historic wooden apartment buildings = Ajalooliste puitkorterelamute renoveerimine

Arumägi, Endrik 2015 http://www.ester.ee/record=b4483126*est

Renovation of ventilation in apartment buildings - Estonian experience

Mikola, Alo; Kuusk, Kalle; Hamburg, Anti; Kurnitski, Jarek; Kalamees, Targo The REHVA European HVAC journal 2019 / p. 20-26 : ill <https://www.rehva.eu/rehva-journal/chapter/renovation-of-ventilation-in-apartment-buildings-estonian-experience>

Renovation vs. demolition of an old apartment building : energy use, economic and environmental analysis

Kuusk, Kalle; Ilomets, Simo; Kalamees, Targo; Tuudak, Sten; Luman, Andre NSB 2014 : 10th Nordic Symposium on Building Physics, 15-19 June 2014, Lund, Sweden : full papers 2014 / p. 1213-1220 : ill

Renoveerimine ootab pea iga vanemat eramut – kuidas seda teha?

Kalamees, Targo visionest.institute 2024 [Renoveerimine ootab pea iga vanemat eramut – kuidas seda teha?](#)

Research demand of old apartment buildings in Estonia

Kalamees, Targo; Ilomets, Simo; Arumägi, Endrik; Kuusk, Kalle; Liias, Roode; Kõiv, Teet-Andrus; Öiger, Karl IEA Annex 55 (RAP-RETRO) : working meeting : Holzkirchen, Germany, 15-16 April, 2010 2010 / [8] p

A research project on the temperature and humidity conditions, ventilation and airtightness of Finnish detached houses

Vinha, Juha; Korpi, Minna; Kalamees, Targo; Eskola, Lari; Palonen, J.; Kurnitski, Jarek; Valovirta, I.; Mikkilä, A.; Jokisalo, Juha Final report of the IEA Annex 41 Whole Building Heat Air and Moisture Response - Subtask 3 : Boundary Conditions and Whole Building HAM Analysis 2008 / p. 157-174

Retrofit cost-effectiveness : Estonian apartment buildings

Kuusk, Kalle; Kalamees, Targo Building research & information 2016 / p. 920-934 : ill <https://doi.org/10.1080/09613218.2016.1103117>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Rheology, strength, and durability of concrete and mortar made of recycled calcium silicate masonry

Tuisk, Tanel; Ilomets, Simo; Hain, Tiina; Kalbus, Joosep; Kalamees, Targo Materials 2024 / art. 2790
<https://doi.org/10.3390/ma17122790> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Ringrenoveerimise projekt tõi Tartusse ehitusmaterjalide taaskasutuspanga = В Тарту появился банк по переработке строительных материалов

Ruusutorpan koulun puhallinvusteiden painovoimainen ilmanvaihto

Kurnitski, Jarek; Jokiranta, Kai; **Kalamees, Targo**; Helenius, Tapio; Palonen, J. Sisäilmastoseminaari 2005 : Espoo, Otaniemi, Finland, 16.-17.02.2005 2005 / s. 75-80

Ruusutorpan koulun puhallinvusteiden painovoimainen ilmanvaihto (2005)

Kurnitski, Jarek; Jokiranta, Kai; **Kalamees, Targo**; Helenius, Tapio; Palonen, J.; Airaksinen, M. 2005

Sata miljoonaa ihmistä asuu rapistuvissa neuvostoajaisissa betonikerrostaloissa – Tallinnan teknillisessä yliopistossa keksittiin ratkaisu ongelmaan [Võrguväljaanne]

yle.fi 2019 / fot [Sata miljoonaa ihmistä asuu rapistuvissa neuvostoajaisissa betonikerrostaloissa – Tallinnan teknillisessä yliopistossa keksittiin ratkaisu ongelmaan](#)

Saue kortermaja tegaseline renoveerimine

Vilk, Urve Ehitaja 2022 / lk. 18-21 : fot https://www.ester.ee/record=b1072123*est

A simple adaptive ventilation controller for mediaeval church

Sinivee, Veljo; **Kurik, Lembit**; **Kalamees, Targo** Energy procedia 2017 / p. 957-962 : ill <https://doi.org/10.1016/j.egypro.2017.09.674>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Simulated influence of indoor climate and ventilation on schoolwork performance in Estonian manor schools

Kalamees, Targo; **Väli, Alan**; **Kallavus, Urve**; **Kurik, Lembit**; **Alev, Üllar** International journal of ventilation 2015 / p. 153-164 : ill <https://doi.org/10.1080/14733315.2015.11684077> [Journal metrics at Scopus](#) [Article at Scopus](#)

Sisekliima ja niiskuskooormused puitkarkasseramutes

Kalamees, Targo Puuinfo 2007 / 2, lk. 34-36 : ill

Sisekliima Tallinna Püha Vaimu kirikus

Kalamees, Targo; **Sasi, Lennart** Muinsuskaitse aastaraamat 2006 2007 / lk. 76-77 : ill

Siseõhk ei sõltu seinte valikust

Kalamees, Targo Äripäev 2003 / 19. aug., lk. 13

Sisäilma kosteuslisä suomalaisissa pientalossa

Kalamees, Targo; Vinha, Juha; Korpi, Minna; Valvori, I.; Kurnitski, Jarek Sisäilmastoseminaari : 17-18.03.2004, Espoo 2004 / s. 81 <https://researchportal.tuni.fi/en/publications/sis%C3%A4ilman-kosteuslis%C3%A4-suomalaisissa-pientaloissa>

Sisäilmaongelmaisten koulurakennusten korjaaminen

Aalto, Minna; Asikainen, Vesa; **Kalamees, Targo**; **Kurnitski, Jarek** 2008
<https://research.aalto.fi/en/publications/sis%C3%A4ilmaongelmaisten-koulurakennusten-korjaaminen>

Sisäilmaongelmaisten koulurakennusten korjausratkaisujen kehittäminen

Kurnitski, Jarek; Pirinen, J.; Peltola, S.; **Kalamees, Targo**; Asikainen, V. Rakennusfysiikka 2007 : Tampere (Finland), 18-19.10.2007 2007 / s. 165-174

Sisäolosuhteet ja ilmanvaihto historiallisissa rakennuksissa

Alev, Üllar; Eskola, Lari; **Kalamees, Targo**; **Arumägi, Endrik** Sisäilmastoseminaari 2015 : Messukeskus, Helsinki, 11.3.2015 2015 / s. 271-276 : ill

Solution to the IEA Annex 41 CE4

Kalamees, Targo IEA Annex 41 MOIST-ENG Working meeting : Lyon France, 25-27 October 2006 2006 / [10] p
<https://bwk.kuleuven.be/bwf/projects/annex41/protected/data/TTU%20Oct%202006%20Paper%20A41-T1-EE-06-2.pdf>

Soojustamisest

Kalamees, Targo Pööning : ajalooga majad, aiad ja disainiklassika 2017 / lk. 86-90

Soojustus - milline lahendus valida?

Kalamees, Targo Eramaja rekonstrueerimine : väärt nõuanded, praktilised näpunäited ja kogu vajalik info kodu korrastamiseks 2019 / lk. 16-18 : fot https://issuu.com/sihtasutus_kredex/docs/kredex_eramaja_aprill2019 https://www.ester.ee/record=b5232716*est

Soojustus looduslike materjalidega

Kalamees, Targo Maakodu 2004 / nov., lk. 24 : ill https://artiklid.elnet.ee/record=b2059064*est

Sovetiaja kortermaja sai liginullenergiahooneks tehases toodetud uudsete elementidega

Kalamees, Targo Äripäev 2018 / Korterühistute eri, lk. 14-15 <https://static-pdf.aripaev.ee/r2UVRqSe5wLtiOmkplTq80nQEA.pdf>

Specific retrofitting concepts compared

Kalamees, Targo; Oorschot, John van A Guide into Renovation Package Concepts for Mass Retrofit of Different Types of Buildings with Prefabricated Elements for (N)Zeb Performance 2018 / p. 39-45 : ill [Guide into renovation...](#)

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

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

Status on the ground : overview of existing surveys on energy performance related quality and compliance [Online resource]

Maivel, Mikk; **Kuusk, Kalle**; **Simson, Raimo**; **Kurnitski, Jarek**; **Kalamees, Targo** 2015 <http://qualicheck-platform.eu/wp-content/uploads/2015/06/QUALICHECK-Report-Overview-of-existing-studies.pdf>

Summer thermal comfort compliance assessment in apartment buildings

Simson, Raimo; **Kurnitski, Jarek**; **Maivel, Mikk**; **Kalamees, Targo** Healthy Buildings 2015 : Eindhoven, The Netherlands, May 18-20, 2015 [Electronic resource] 2015 / p. 1-8 : ill. [USB]

Summer thermal comfort in new and old apartment buildings

Maivel, Mikk; **Kurnitski, Jarek**; **Kalamees, Targo** Proceedings : Windsor Conference 2014 : Counting the Cost of Comfort in a Changing World : 8th Windsor Conference, International Conference, held 10th-13th April 2014, Windsor, UK 2014 / p. 42-50 : ill

Suurpaneelalamute renoveerimise õnnestumine eeldab kompleksset lähenemist

Kalamees, Targo Keskkonnatehnika 2010 / 1, lk. 36-37 : ill https://artiklid.elnet.ee/record=b1957974*est

Säästlik käitumine ja renoveerimine aitavad energiakulusid madalamal hoida [Võrguväljaanne]

Kalamees, Targo delfi.ee 2022 ["Säästlik käitumine ja renoveerimine aitavad energiakulusid madalamal hoida"](#)

Taltech'i ehitusprofessorid: Kui tempot ei lisa, siis renoveerime oma hooneid energiatarbeks 100 aastat

Jarne, Aivar pealinn.ee 2023 [Taltech'i ehitusprofessorid: Kui tempot ei lisa, siis renoveerime oma hooneid energiatarbeks 100 aastat](#)

Teadlane: tulevikus võiks elamute vahel tekkida elektri mikrovõrk = Ученый: в будущем между жилыми домами может возникнуть микросеть электроэнергии

Kalamees, Targo Elamu 2022 / lk. 12-15 : fot. ; c. 35-37 : фот https://www.ester.ee/record=b1072137*est

Technical condition of prefabricated concrete large panel apartment buildings in Estonia

Kalamees, Targo; **Õiger, Karl**; **Kõiv, Teet-Andrus**; **Liias, Roode**; **Kallavus, Urve**; **Mikli, Lauri**; **Lehtla, Andres**; **Kodi, Georg**; **Arumägi, Endrik** XII International Conference on Durability of Building Materials and Components : Porto, Portugal, April 12-15, 2011 : proceedings. II 2011 / p. 973-981 : ill

Technical state, renovation need, and performance of renovation solutions of Estonian wooden log houses

Põdra, Alois Andreas; **Allas, Gert Air**; **Ruus, Aime**; **Lutsepp, Elo**; **Kalamees, Targo** Journal of sustainable architecture and civil engineering 2024 / p. 35-52 <https://doi.org/10.5755/j01.sace.34.1.35606>

Tehaselise rekonstrueerimise tehnilised lahendused = Технические решения реконструкции заводскими элементами

Kalamees, Targo Elamu 2021 / lk. 8-9 : fot.; c. 32-33 : фот https://www.ester.ee/record=b1072137*est

Tehnikaülikool alustas rohepööret iseendast

digi.geenius.ee 2024 [Tehnikaülikool alustas rohepööret iseendast](#)

Testing of moisture safety and energy performance quality commission process of nZEB renovation

Pihelo, Peep; **Kalamees, Targo** Proceedings of the I Forum Wood Building Baltic, 2019 : [27.02-1.03.2019, Tallinn] 2019 / p. 66-67 : ill https://www.ester.ee/record=b5197207*est

The analysis of indoor hygrothermal conditions in multi-storey wooden apartment buildings

Kalamees, Targo; **Arumägi, Endrik**; **Ilomets, Simo** IEA Annex 55 (RAP-RETRO), Working meeting, Porto, Portugal, 18-20 April 2011 / [17] p

The effect of combining a relative-humidity-sensitive ventilation system with the moisture-buffering capacity of materials on indoor climate and energy efficiency of buildings

Woloszyn, Monika; **Kalamees, Targo**; **Abadie, Marc Olivier**; **Steeman, Marijke**; **Kalagasidis, Angela Sasic** Building and environment 2009 / 3, p. 515-524 : ill <https://www.sciencedirect.com/science/article/pii/S0360132308000772>

The effect of cracks and voids on heat loss of insulated CLT walls and roofs

Hallik, Jaanus; Kalamees, Targo Proceedings of the III Forum Wood Building Baltic, Riga Technical University, 09-10.05, 2022, Riga, Latvia 2022 / p. 44-45 <https://forumwoodbuilding.rtu.lv/wp-content/uploads/sites/37/2022/05/FWBB2022-2022.05.09-speakers-day-1-and-2.pdf>

The effect of flanking element length in thermal bridge calculation and possible simplifications to account for combined thermal bridges in well insulated building envelopes

Hallik, Jaanus; Kalamees, Targo Energy and buildings 2021 / art. 111397 <https://doi.org/10.1016/j.enbuild.2021.111397> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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 Engin : [indoor-outdoor connections]

Kalamees, Targo; Zemitis, Jurgis; Lupišek, Antonin A Guide into Renovation Package Concepts for Mass Retrofit of Different Types of Buildings with Prefabricated Elements for (N)Zeb Performance 2018 / p. 117-120 : ill [Guide into renovation...](#)

The feasibility of zero-emission neighbourhood renovation of apartment buildings in a cold climate

Kertsmik Kadri-Ann; Kalamees, Targo; Arumägi, Endrik; Hallik, Jaanus Building and Environment 2025 / art. 113004 <https://doi.org/10.1016/j.buildenv.2025.113004>

The first year's results from the first passive house in Estonia

Kalamees, Targo; Kuusk, Kalle; Paap, Leena NSB 2014 : 10th Nordic Symposium on Building Physics, 15-19 June 2014, Lund, Sweden : full papers 2014 / p. 758-765 : ill

The influence of energy renovation on the change of indoor temperature and energy use

Hamburg, Anti; Kalamees, Targo Energies 2018 / art. 3179, p. 1-15 : ill <https://doi.org/10.3390/en11113179> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The influence of heat loss from pipes in an unheated basement on the heating energy consumption of an entire typical apartment building

Hamburg, Anti; Kalamees, Targo E3S Web Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) ; 172 2020 / art. 12005 <https://doi.org/10.1051/e3sconf/202017212005> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

The integration of selected technology to energy activated ETICS - theoretical approach

Heim, Dariusz; Chodak, Ivan; Ilomets, Simo; Knera, Dominika; Wieprzkowicz, Anna; Kalamees, Targo E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 21004, 7 p. : ill <https://doi.org/10.1051/e3sconf/202017221004> [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

The use of microwave method for diagnosis of moisture content of massive dolostone walls of medieval churches

Kurik, Lembit; Kalamees, Targo; Kallavus, Urve ISBP 2015 : 1st International Symposium on Building Pathology : conference proceedings : March 24-27, 2015, Porto, Portugal 2015 / p. 189-196 : ill

Thermal bridge effect of vertical diagonal tie connectors in precast concrete sandwich panels : an experimental and computational study

Klõšeiko, Paul; Piir, Reimo; Jeltsov, Marti; Kalamees, Targo E3S Web of Conferences : 12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020 2020 / art. 08001, 7 p. : ill <https://doi.org/10.1051/e3sconf/202017208001> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Thermal performance of ETICS, energy activated with PCM and PV

Talvik, Martin; Ilomets, Simo; Kalamees, Targo; Klõšeiko, Paul; Heim, Dariusz; Wieprzkowicz, Anna; Knera, Dominika Journal of physics : conference series 2021 / art. 012116, p. 1-8 : ill <https://doi.org/10.1088/1742-6596/2069/1/012116> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Thermal performance of two different PV-ETICS integration solutions in a real environment

Heim, Dariusz; Knera, Dominika; Krempski-Smejda, M.; Wieprzkowicz, Anna; Kalamees, Targo Journal of Physics: Conference Series 2023 / 8 p <https://doi.org/10.1088/1742-6596/2654/1/012098> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Thermal performance of wedge pile slab foundation without frost protection insulation and highly insulated slab on ground floor – first year measurements

Lomp, Siim; Kalamees, Targo; Hallik, Jaanus; Needo, Roomelt Journal of Physics: Conference Series 2023 / art. 012110
<https://doi.org/10.1088/1742-6596/2654/1/012110> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Towards improving the durability and overall performance of PV-ETICS by application of a PCM layer

Heim, Dariusz; Wieprzkowicz, Anna; Knera, Dominika; **Ilomets, Simo; Kalamees, Targo;** Spitalsky, Zdenko Applied sciences 2021 / art. 4667, 13 p. : ill <https://doi.org/10.3390/app11104667> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

TTÜ pereühiselamu lugu : vanast paneelmajast moodsaks liginullenergiahooneks = История семейного общежития ТТУ : современное здание с близким к нулю потреблением энергии из старого панельного дома

Trell, Kristel Elamu 2018 / lk. 10-13, 32-35 : ill https://www.ester.ee/record=b1072137*est https://artiklid.elnet.ee/record=b2865889*est

TTÜ tutvustas ehitajatele laborite kasutamise võimalusi : [ka Tea Varraku, Targo Kalamehe ja Jarek Kurnitski kommentaarid]

Ehitaja 2015 / lk. 24 : fot

12th Nordic Symposium on Building Physics (NSB 2020) : Tallinn, Estonia, September 6-9, 2020

2020 <https://www.e3s-conferences.org/articles/e3sconf/abs/2020/32/contents/contents.html>

Tänapäevane renoveerimine : lodžast saab siseruumi osa = Современная реновация : лоджия может стать частью помещения

Elamu 2017 / lk. 15-18 : ill ; c. 39-42 : ил

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](#)

Uuringu "Eesti eluasemefondi suurpaneel-korterelamute ehitustehniline seisukord ning prognoositav eluiga" lõppraporti kokkuvõte

Kalamees, Targo; Liias, Roode Elamu 2009 / 5, lk. 16-19, 56-59 : ill

Uusi büroohooneid ehitatakse kapitaalselt ümber

Kalamees, Targo EhitusEST 2023 / lk. 28-29 : fot https://www.ester.ee/record=b4442657*est

Vaid kompleksne renoveerimine on õnnestumise eelduseks

Kalamees, Targo Elamu 2009 / 6, lk. 32-35, 66-69 : ill

Validation of a simulation model for hygrothermal performance of log wall with internal thermal insulation in cold climate

Arumägi, Endrik; Kalamees, Targo Proceedings of the 5th International Building Physics Conference (IBPC) : Kyoto, Japan, May 28-31, 2012 2012 / p. 345-352 : ill

Validation of methods for developing typical meteorological years based on future climate models

Seyed Salehi, Seyed Shahabaldin; Männik, Aarne; Kalamees, Targo; Thalfeldt, Martin E3S Web of Conferences : BuildSim Nordic 2024 2024 / art. 07002 ; 12 p <https://doi.org/10.1051/e3sconf/202456207002>

Validation of the method to evaluate the corrosion propagation stage by hygrothermal simulation

Ilomets, Simo; Kalamees, Targo; Lahdensivu, Jukka CESB 16 - Central Europe Towards Sustainable Building 2016 : Innovations for Sustainable Future : [book of abstracts] 2016 / p. 317-318 : ill

Validation of the method to evaluate the corrosion propagation stage by hygrothermal simulation [Online resource]

Ilomets, Simo; Kalamees, Targo; Lahdensivu, Jukka CESB 16 - Central Europe Towards Sustainable Building 2016 : Innovations for Sustainable Future : [electronic proceedings] 2016 / p. 1113-1120 : ill

Vanast paneelmajast saab teadusliku katsega liginullenergiahoone

Käärt, Ulvar Horisont 2017 / lk. 32-35 : fot http://www.ester.ee/record=b1072243*est https://artiklid.elnet.ee/record=b2823548*est

Water vapor generation in residential buildings: comparing probabilistic simulations and field measurements

Glass, Samuel V.; **Kalamees, Targo;** Pallin, S.; Vinha, Juha Thermal performance of the exterior envelopes of whole buildings 2022 / p. 472-482 <https://www.scopus.com/record/display.uri?eid=2-s2.0-85167591181&origin=inward&txGid=6bb7b57e373ee6b64dd8c3c7e54094a1>

Weather exposed CLT construction – observations and improvement concept

Kalbe, Kristo; Kukk, 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>

Ventilation Strategies for Deep Energy Renovations of High-Rise Apartment Buildings : Energy Efficiency and

Implementation Challenges

Hamburg, Anti; Palmiste, Ülar; Mikola, Alo; Kalamees, Targo Energies 2025 / art. 2785 <https://doi.org/10.3390/en18112785>
<https://www.mdpi.com/1996-1073/18/11/2785>

Ventilation system design in three European geo cluster

Zemitis, Jurgis; Borodinecs, Anatolijs; Geikins, Aleksandrs; Kalamees, Targo; Kuusk, Kalle Energy procedia 2016 / p. 285-293 : ill
<https://doi.org/10.1016/j.egypro.2016.09.151> Conference Proceedings at Scopus Article at Scopus Article at WOS

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

What kind of heat loss requirements nZEB and deep renovation sets for building envelope?

Kalamees, Targo; Lupišek, Antonin; Sojkova, Katerina; Kuusk, Kalle CESB 16 - Central Europe Towards Sustainable Building 2016 : Innovations for Sustainable Future : [book of abstracts] 2016 / p. 55-56 : tab

What kind of heat loss requirements nZEB and deep renovation sets for building envelope? [Online resource]

Kalamees, Targo; Lupišek, Antonin; Sojkova, Katerina; Kuusk, Kalle CESB 16 - Central Europe Towards Sustainable Building 2016 : Innovations for Sustainable Future : [electronic proceedings] 2016 / p. 137-144 : ill

Väärtused vanas maamajas

2013

90. juubel: Legendaarne ehitusprofessor Karl Õiger publitseerib ja nõustab

90. juubel: Legendaarne ehitusprofessor Karl Õiger publitseerib ja nõustab
ehitusuudised.ee 2023 [90. juubel: Legendaarne ehitusprofessor Karl Õiger publitseerib ja nõustab](https://ehitusuudised.ee/2023/09/09-juubel-legendaarne-ehitusprofessor-karl-õiger-publitseerib-ja-nõustab)

Üleriigiline uuring elamute kasutusest väljalangevusest ja tühjenemise mustritest : lõppraport [Võrguteavik]

Cerrone, Damiano; Hadaway, John; Männigo, Kristjan; Lehtovuori, Panu; Grišakov, Kristi; Lihtmaa, Lauri; Kalamees, Targo 2022
https://eehitus.ee/wp-content/uploads/2022/04/Tuhjenemise-mustrid_loppraport_2022_compressed.pdf

Ülerõhk siseruumides võib tekitada niiskusprobleeme

Kalamees, Targo Ehitaja 2001 / 1/2, lk. 33-35 : ill https://artiklid.elnet.ee/record=b1006023*est

Альтернативные теплоизоляционные материалы для зданий с деревянным каркасом

Kalamees, Targo Строитель 2002 / 4, с. 12-15 https://artiklid.elnet.ee/record=b1010942*est

Влияние ограждений на здание и его микроклимат

Kalamees, Targo Строитель 2003 / 4, с. 11-13 : ил https://artiklid.elnet.ee/record=b1014222*est

Избыточное давление во внутренних помещениях может создать проблему с влажностью

Kalamees, Targo Строитель 2001 / 3, с. 23-25 : ил https://artiklid.elnet.ee/record=b1007728*est

Энергетическая реновация типового бетонного жилого дома в Эстонии с использованием деревянного модульного элемента

Kalamees, Targo; Pihelo, Peep; Kuusk, Kalle Строительные материалы 2018 / с. 13–17 : илл <https://doi.org/10.31659/0585-430X-2018-764-10-13-17>