Intressant från konferenserna
12DBMC
NSB2011

Lars-Erik Harderup
Lunds Universitet
Byggnadsfysik

12DBMC

Äger rum vart tredje år

12DBMC

3-6 parallella sessioner

Åtta olika teman

1. Building Physics and Durability (Byggnadsfysik och hållbarhet)
2. Service Life Prediction Methodologies (Metoder för förväntad livslängd)
3. The Durability Approach for Historical and Old Buildings (Hållbart tillvägagångssätt för historiska och gamla byggnader)
4. Building Pathology vs. Durability (Sjuka hus versus hållbarhet)
5. Asset and Maintenance Management (Hantering av tillgångar och underhåll)
6. The Durability of Material, Systems and Components (Hållbarhet hos material, system och komponenter)
7. Life Cycle Analysis and Durable Construction (Livscykelanalys och hållbara konstruktioner)
8. Information Technology as a Tool for Durable Construction Design (Informationsteknologi som ett verktyg för hållbara konstruktioner)

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3-6 parallella sessioner

Åtta olika teman

1. Building Physics and Durability
   - Degradation mechanisms
   - Environmental characterisation
   - Natural and accelerated ageing tests
2. Service Life Prediction Methodologies
   - Predictive models
   - Field studies
   - Risk analysis
3. The Durability Approach for Historical and Old Buildings
   - Durability of traditional materials
   - Durability of refurbishment
4. Building Pathology vs. Durability
   - Methodologies of research
   - Case of failure

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5. Asset and Maintenance Management
   - Service life planning
   - Inspection routines and repair actions
6. The Durability of Material, Systems and Components
   - Mortars and cement based materials
   - Concrete (strength and durability)
   - Waterproofing systems
   - Masonry walls and external coatings
   - Innovative material and external coatings
7. Life Cycle Analysis and Durable Construction
8. Information Technology as a Tool for Durable Construction Design

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Diverse om fukt:

T11 Degradation mechanisms

- Control of Moisture Safety Design by Comparison Between Calculations and Measurements in Passive House Walls Made of Wood. (Sweden, LTH)
- Watertightness of Masonry Walls: An Overview (Belgium & Canada)
- Hygric Performance of Different Interior Insulation Systems: an Experimental Comparison (Belgium)
- Thermal Diffusion of Water Vapour in Porous Materials: a Critical Review (Denmark)
- Reducing the Risk of Microbial Growth on Insulated Walls by PCM Enhanced Renders and IR Reflecting Paints (Germany)
- Development of a Risk Assessment Procedure Applied on Building Physics: Part One; Model Development (Sweden, CTH)
- Full-Range Modelling of Heat and Moisture Transfer Coefficients in Damaged Building Materials (France)

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Diverse om fukt:

T12 Environmental characterisation

- Probabilistic Analysis of Hygrothermal Conditions and Mould Growth Potential in Cold Attics. Impact of Weather, Building System and Construction Design Characteristics (Sweden, C-E Hagentoft)
- Wireless in Situ Measurements of Moisture Content and Temperature in Timber Constructions (Sweden, SP-Trätek)

T13 Natural and accelerated ageing tests

- Effects of Ageing and Moisture on Dynamic Thermal Performance of ETICS Cladding (Italy)
- Accelerated Test Procedure to Assess the Microbial Growth Resistance of Exterior Finishes (Germany)
- Hygrothermal Behaviour Testing of External Thermal Insulation Composite Systems with Rendering in Nordic Climate (Finland)

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Diverse om fukt:

T21 Predictive models

- Biological Defacement of ETICS - A Risk Assessment Methodology (Portugal). ETICS= External Thermal Insulation Composite Systems
- Mould Growth Modelling to Evaluate Durability of Materials (Finland)
- Improving the Durability and Service Life of Wooden Components in Outdoor Applications: the French Approach (France)
- Development of Service Life Model for Wooden Structures (Finland)

T22 Field studies

- Moisture Conditions in Coated Glulam Beams and Columns During Weathering (Sweden, SP-Trätek & LON)
- Retrofitting of timber frame walls by application of vacuum insulation panels and investigation of moisture robustness (Norway)

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Diverse om fukt:

T23 Risk analysis

- Moisture risk assessment related to energy retrofitting of existing buildings: method and case studies (France)

T31 Durability of traditional materials

- Characterisation of Damages of Ceiling Joists Caused By Wood-damaging Fungi (Czech Republic)
- Application of the “Moisture Buffering” Approach to Improve the Durability of Historical Wooden Elements (Italy)

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Diverse om fukt:

T32 Durability of refurbishment solutions

- Case Studies: Preliminary Investigation on Diagnosis and Repair Measures to Prevent Capillary Water Rise in Historical Buildings (Portugal)
- Degradation Control of Walls with Rising Damp Problems: Numerical and Mathematical Analysis of the Evaporative Process (Portugal)
- Field Study of Hygrothermal Performance of Log Wall with Internal Thermal Insulation (Estonia)
- Performance and Durability of External Post-Insulation and Added Roof Constructions (Denmark)

T41 Methodologies of research

- Technical Condition of Prefabricated Concrete Large Panel Apartment Buildings in Estonia (Estonia)
- Characterization of Wood Mould Fungi by FTIR – A Valuable Step for Prediction of Initiation of Decay (Norway)

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Diverse om fukt:

T42 Case of failure

- Reduced Service Life of Bathrooms Due to Leaks Around Floor Gullies and Pipe Penetrations (Denmark)

T52 Inspection routines and repair actions

- In Situ Testing Techniques for Evaluation of Water Penetration in Rendered Facades - the Portable Moisture Meter and Karsten Tube (Portugal)

Sammanfattning:
Mycket om tilläggsisolering, skador, riskanalys, utvändig mikrobiell påväxt, riskbedömningar, material (trä, puts, betong)och hållbarhet (t.ex. mögel).

NSB2011

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NSB 2011
9th Nordic Symposium on Building Physics
Tampere, Finland 29 May – 2 June 2011

NSB2011

160 papers were accepted after review for the final proceedings


Samuelson, I.

Keynote session 1
Forty years of building physics research – for what benefit?

- För att få byggnader som uppfyller våra krav på god komfort, energi-effektivitet och till rimliga kostnader så har de blivit mer och mer komplicerade.
- Ju mer vi forskar, desto fler skador får vi i våra byggnader.
- Har vi haft fokus på rätt problemområden, dvs. har forskningen varit relevant och har resultaten kommit branschen tillgodo?

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Volume 1
Sessions

A1 - Air-tightness of buildings
A2 - Regulations and air-tightness of constructions
A3 - Validation of calculation methods and results
A4 - Roof and floor simulations
A5 - Roof solutions in lab and field experiments
A6 - ETICS and new wall solutions
A7 - Walls in field measurements
A8 - Wall simulations
A9 - Walls in lab tests
A10 - Simulation methods and snow-on-roof models
A11 - Night-time cooling and moisture buffering experiments

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Volume 2
Sessions

B1 - Computational fluid dynamics simulations
B2 - HAM transport in porous material
B3 - Material properties and determination methods
B4 - Hysteresis effect
B5 - Water vapour transport
B6 - Material damages and durability
B7 - Moisture problems and design solutions
B8 - Moisture problems and technical solutions
B9 - Effects of climate change simulations
B10 - Mould growth models
B11 - Durability of structures

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Volume 3
Sessions

C1 - Thermal bridge calculations
C2 - Thermal bridge standards and calculations
C3 - Energy standards and life-cycle analysis
C4 - Thermal comfort
C5 - Indoor climate
C6 - Cooling and other low energy systems
C7 - Energy efficiency in office buildings
C8 - Energy efficiency in schools and day-care buildings
C9 - Windows and solar shadings
C10 - Energy efficiency in residential buildings
C11 - Energy efficiency in single-family houses

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Diverse om fukt:

A1 - Air-tightness of buildings

- Important factors to achieve an airtight building (Sweden, CTH).
- Measurements and modelling of airflows in houses using passive sampling and HAM software (UK).

A2 - Regulations and air-tightness of constructions

- Air leakage through cross laminated timber (CLT) constructions (Norway).
- Experimental testing of rain tighness of wind barrier and sealing of window joints (Norway).

A3 - Validation of calculation methods and results

- Comparison of measured and calculated temperature and relative humidity with varied and constant air flow in the façade air gap (Sweden, LTH).
- Importance of moisture transport, snow cover and soil freezing to ground temperature predictions (China & US).

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Diverse om fukt:

A4 - Roof and floor simulations

- Vapour control design of wooden structures including moisture sources due to air exfiltration (Germany).
- Frost insulation of the Finnish slab on ground foundation (Finland).
- Probabilistic analysis of hygrothermal conditions and mould growth potential in cold attics (Sweden, CTH).

A5 - Roof solutions in lab and field experiments

- Technical analysis of moisture transfer qualities of mildly sloping roofs (Finland).

A6 - ETICS and new wall solutions

- Hygrothermal behavior of ETICS – Numerical and experimental study (Portugal).
- Development of moisture safe connections for stud walls (Sweden, LTH).

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Diverse om fukt:

A7 - Walls in field measurements

- Rehabilitation of basement walls with moisture problems by the use of vapour open exterior thermal insulation (Norway).
- Long–term measurements and hygrothermal simulation consisting of reed panels and clay plaster (Austria).
- Moisture and mould in prefabricated timber frame constructions during production until enclosure of the house (Sweden, SP).

A8 - Wall simulations

- Assessment of the Risk for Mould Growth in a Wall Retrofitted with Vacuum Insulation Panels (Sweden, CTH).
- A Numerical Study of the Hygrothermal Performance of Capillary Active Interior Insulation Systems (Belgium).
- Walls with Rising Damp Problems: Predicting Water Capillary Rise (Portugal).
- Considerations to the Hygrothermal Behavior of External Walls in Timber Frame Construction with Direct Rendering (Germany).

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Diverse om fukt:

A9 - Walls in lab tests

- Rising Damp in Historic Buildings: The Wall Base Ventilation System (Portugal).
- Hygrothermal response of highly insulated timber frame walls with an exterior air barrier system: laboratory investigation (Belgium)
- Tensile cracking of ventilated rendered rain-screen cladding systems (Sweden, LTH & SP)
- An experimental method for assessing heat and moisture response of massive timber wall exposed to summer climatic conditions (France).
- Water penetration through clay brick veneer wall (Canada).

A10 - Simulation methods and snow-on-roof models

- Snow melting and freezing on older townhouses (Sweden, CTH & SP).

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Diverse om fukt:

B4 - Hysteresis effect

- Critical moisture contents – during water absorption and drying (Slovakia).

B5 - Water vapour transport

- Vapour permeability and water absorption of different exterior paint systems (Lithuania).
- A transient method for determination of water vapour diffusion coefficient of building materials as function of relative humidity (Czech Republic).

B6 - Material damages and durability

- Influence of moisture sorption on deformation of building materials (Lithuania).

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Diverse om fukt:

B7 - Moisture problems and design solutions

- Methods for investigation of technical status before renovation and evaluation of renovation measures for the building envelope (Sweden, SP).
- Interior Mould Growth Risk Reduction – Application of Nonlinear Programming for Envelope Optimisation (Portugal).
- Rising damp, a reoccurring problem in basements – a case study with different attempts to stop the moisture (Denmark).
- Testing methods for moisture content in concrete, dealing with floor coverings: State-of-the-Art in Finland (Finland).

B8 - Moisture problems and technical solutions

- Humidity Control in Historic Buildings through Adaptive Ventilation – A case Study (Sweden, Gotland University & CTH).

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Diverse om fukt:

B9 - Effects of climate change simulations

- Modeling multiple indoor climates in historic buildings due to the effect of climate change (Netherlands).
- Mould Growth inside an Attic concerning Four different Future Climate Scenarios (CTH).

B10 - Mould growth models

- Mould growth on building materials in laboratory and field experiments (Finland).
- Classification of material sensitivity – New approach for mould growth modeling (Finland).
- Modelling reliability of structure with respect to incipient mould growth (Sweden, SP).
- m-model: a method to assess the risk for mould growth in wooden structures with fluctuating hygrothermal conditions (Sweden, Skanska).
- Mould Growth in Attics and Crawlspaces (Sweden, SP).

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Diverse om fukt:

C5 - Indoor climate

- Indoor climate and Humidity Loads in Old rural Houses with Different Usage Profiles (Estonia).
- Investigation on Moisture and Indoor Environment in Eight Danish Houses (Denmark).

Sammanfattning:

- Mögel och mögelmodeller
- Ombyggnad, renovering, tilläggsisolering
- Byggnadsdelar (grunder, ytterväggar och tak)
- Kallt klimat
- Klimatförändring

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