

EBC



IEA EBC Annex 58

Reliable building energy performance characterisation based on full scale dynamic measurements

Operating Agent: Staf Roels, KU Leuven Belgium
staf.roels@bwk.kuleuven.be

How to determine the real performance of buildings?
Building characterisation by coheating

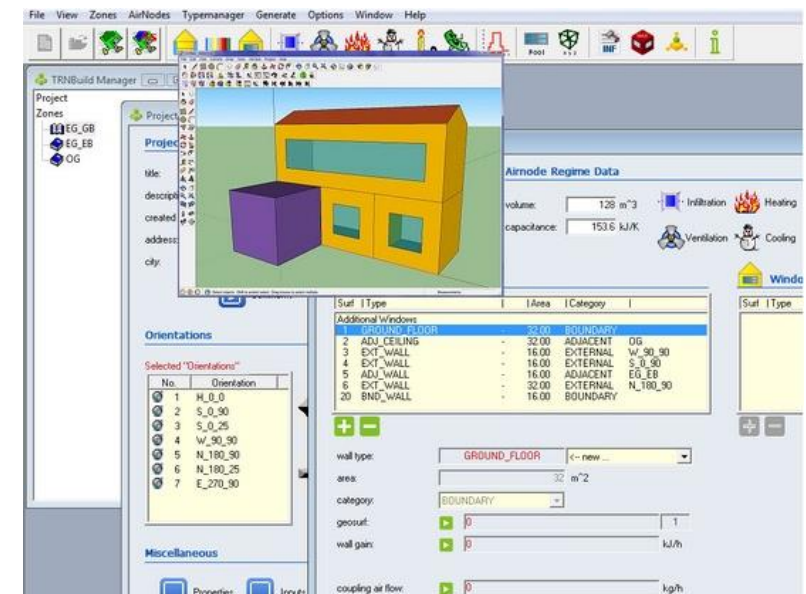
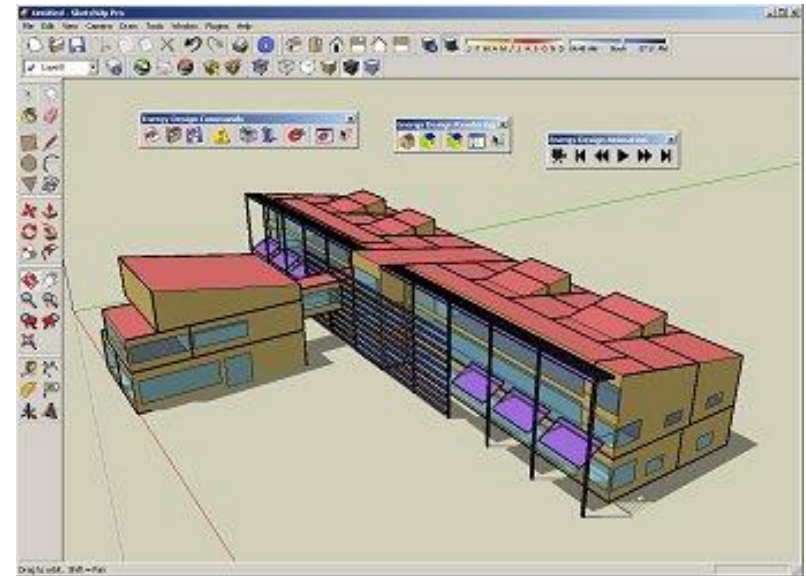
Webinar DYNASTEE __ February 6, 2014

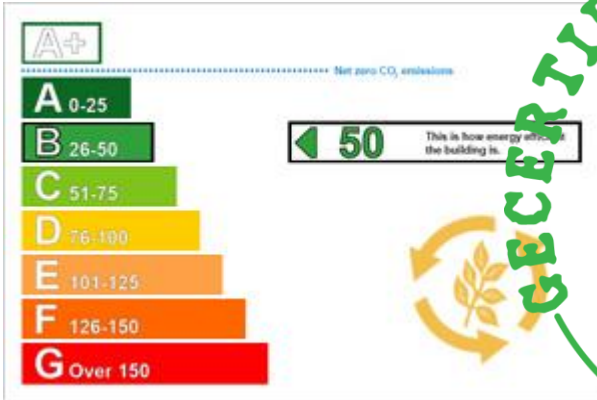
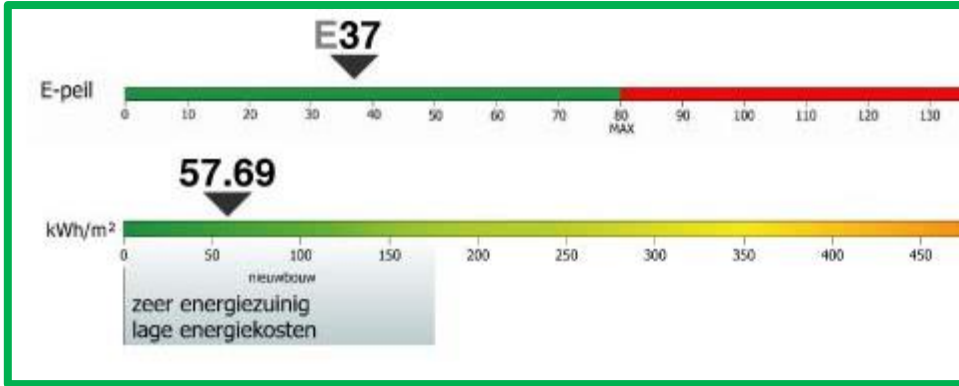
EBC



Annex 58

Background





breem The Code for Sustainable Buildings

This is to certify that

**Dragonfly House,
No 2 Gilders Way,
Norwich NR3 1UB**

has achieved a score of 75.81%, and a BREEAM rating of

EXCELLENT

Pass Excellent

This Post Construction assessment was carried out under the 2006 version of BREEAM Offices

Signed on behalf of BRE Global Ltd Lauren Williams Licensed Assessor WSP UK Ltd Building Services Engineer R G Carter Ltd Contractor Jarrod (St James) D1/D2 Ltd Certificate Reference: FABM-OFF-LW06-9	22nd January 2009 Date Faber Maunsell On behalf of Aukett Fitzroy Robinson Architect Bidwells Project Manager
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Measurements of thermal performance of newly erected dwellings in UK:
measured vs. predicted overall heat losses (W/K)

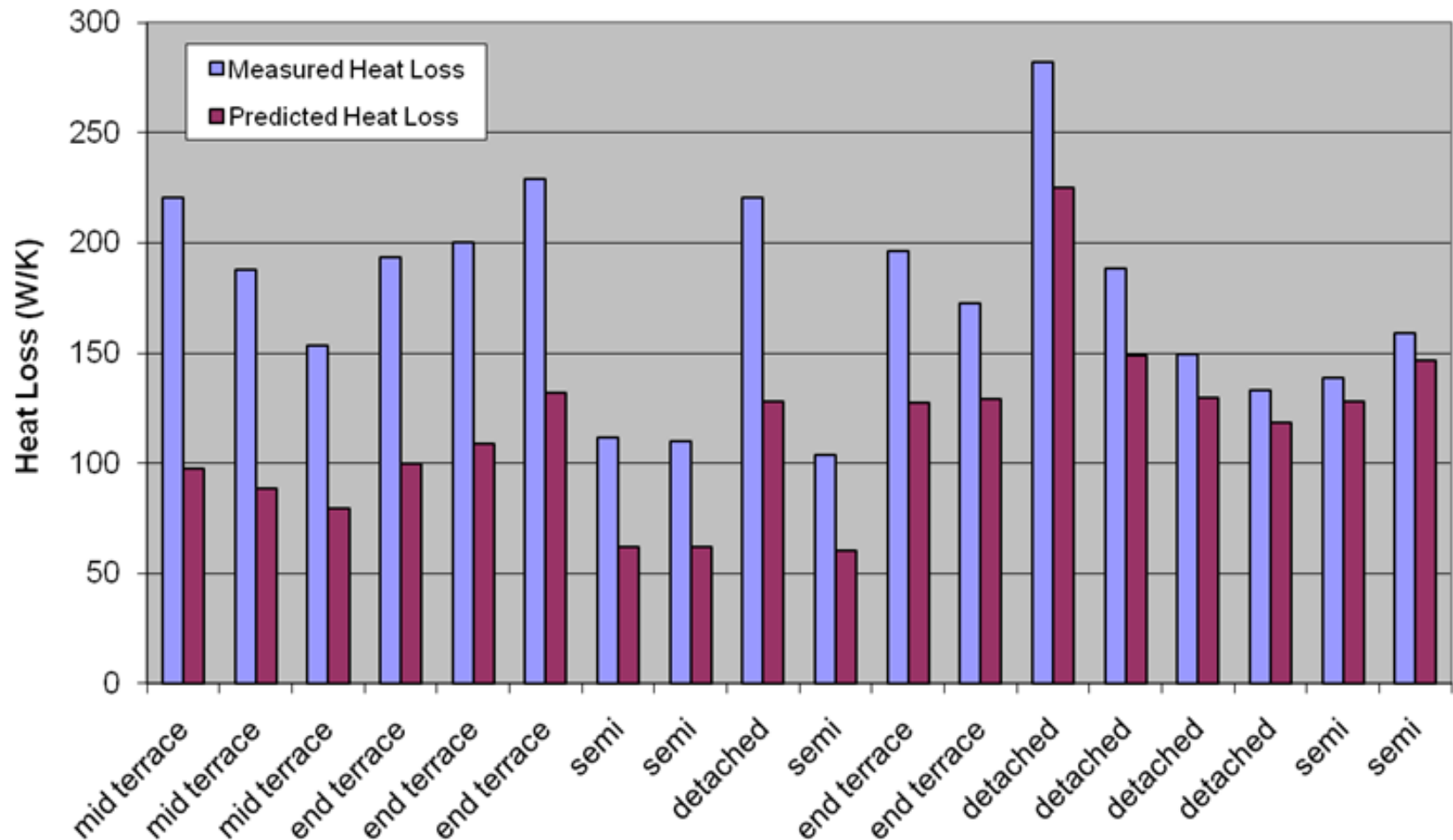
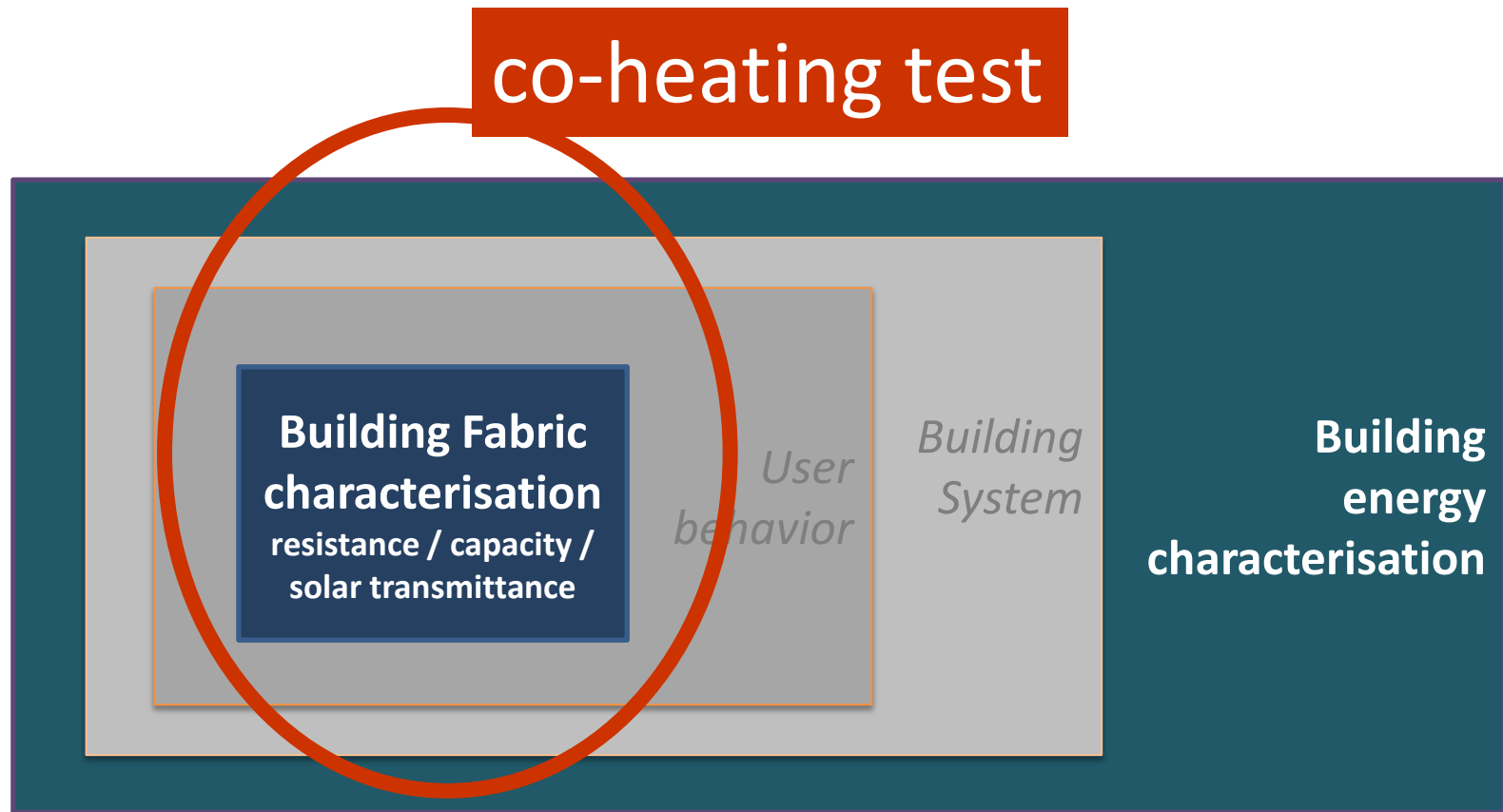


Figure from [Wingfield et al., 2011]

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Reliable building energy performance characterisation based on full scale dynamic measurements

- Determine the actual energy performance of buildings
- Characterise the dynamic behaviour of buildings (grey box models)
- Validate our numerical BES-models
- Guarantee quality of measurements / data analysis / use of the results



From quasi-static tests towards dynamic characterisation.

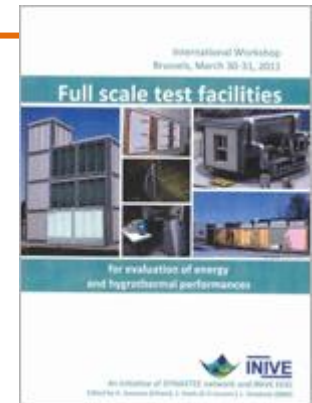
DYNASTE



Network of Excellence

Interaction with the target groups: info, tools, expertise
Dissemination activities of Annex 58:

- Website www.dynastee.info
- Reports
- Newsletter
- Training: Summer school Dynamic analysis methods, Leuven, September 2014
- Workshops: Ghent, 16 April 2014
Berkeley, 17 Sept. 2014
- Webinars



Foreword

Dear reader,

With pleasure we present you the 3rd DYNASTE Newsletter. DYNASTE is a platform of information exchange on dynamic analysis, simulation and testing of the energy performance of buildings. DYNASTE is closely linked with the activities of the IEA/EBC Annex 58 project; it is responsible for the bulletin on dissemination and the Network of Excellence. This is done through activities such as training of researchers on dynamic methods (see the Summer School 2013), bringing its expertise from earlier projects (PASOYS/PALINK) into the Annex 58 project, organising workshops (see the High Performance Buildings event in Brussels, June 2013), and the newsletter. This issue is dealing largely with the intermediate results and the progress made in the Annex 58 project. Still to be done is the expertise in growing and we are confident that the research community involved will find the right answers how to bridge the gap between the real performance of a building and the calculated or designed ones. The building industry is welcome to forward its questions to this growing Network of Excellence.



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Foreword

Summary report of the workshop on High Performance Buildings Design and Evaluation Methodologies

IEA/EBC Annex 58-project "Reliable building energy performance characterisation based on full scale dynamic measurements"

Subtask 1: State of the art on full scale testing and dynamic data analysis

Subtask 2: Decision tree

Outcomes of Summer School 2013 that took place 8-10 September in Aachen, Spain

Summary report of the workshop on HIGH PERFORMANCE BUILDINGS Design and Evaluation Methodologies

The EU Sustainable Energy Week (EUSEW) is an initiative of the European Commission coordinated by the Executive Agency for Competitiveness and Innovation. In close cooperation with the European Commission's Directorate-General for Energy, it promotes activities dedicated to energy performance, efficiency and renewable energy solutions. During that week, INIVE/DYNASTE, EC-JRC, IET and ENEA organised a series of 4 half-day workshops on the theme "High Performance Buildings - Design Evaluation Methodologies". The workshop was held in Brussels at the B20E office from 24 - 28 of June 2013. About 125 experts from all around the world registered for the workshop. The aim of the event was to focus on the energy related part of the design process of new or renovated buildings. Four consecutive sessions dealt with dynamic aspects of performance assessment including cost analysis, monitoring, evaluation and modelling

necessary knowledge, tools and networks to characterise the actual energy performance and thermal response of building components and whole buildings based on full scale dynamic measurements. This activity is highly relevant for achieving in-depth knowledge to the properties and features of different approaches to energy performance assessment. Statistical methodologies were presented which are applicable for modelling building energy performance assessment based on measurements of heating in buildings, e.g. from smart metering. The range of methods applied from modelling based on sparse daily readings of heat loss, to detailed modelling based on high time-resolution data. Key performance indicators need to be coupled with knowledge of uncertainty provided by statistical techniques. All papers and presentations from the workshop are available. Find the link on



WEBINAR

How to determine the real performances of buildings? Building characterisation by co-heating

Experiences with co-heating in UK - Building Performance and Coheating Tests

Chris Gorse, Dominic Miles-Shenton and Dr. David Johnston, Leeds Metropolitan University

State of the art on the co-heating test methodology

Geert Bauwens, KULeuven, Building Physics Lab, Belgium – Frederic Delcuve, Knauf Insulation

Rapid Building Thermal Diagnosis: Presentation of the QUB Method

Guillaume Pandraud, Isover Saint-Gobain CRIR, France