



Co-operation offer



Department of Building and Building Physics
Faculty of Civil Engineering
Cracow University of Technology

Low energy building design and thermal refurbishment of existing buildings.

Our main goals

Tools and good practice procedures for low energy building design, enabling to reduce demand on heating and prevent cooling demand while maintaining high indoor air quality.

Because of the big volume of poor quality prefabricated apartment buildings, that still exist in Poland, one of our goals is also to elaborate a scenario of holistic revitalisation of those buildings in accordance with the requirements of sustainable development.

Specific research interests:

Low energy building: passive solar energy use, rational window sizing strategy, passive measures of indoor climate control to avoid overheating, influence of thermal storage on heating and cooling demand, use of PCM to reduce demand on cooling energy, air tightness of building. Integrated approach to low energy building design. Design tools for low energy integrated design.

Thermal refurbishment of the existing buildings: reduction of thermal losses, air tightness control,

maximization of solar gains, moisture aspects of thermal refurbishment, building shell diagnostics in-situ, protection against overheating.

Modeling and simulation of building components and the whole objects (EnergyPlus). Experimental testing in climate chamber and in-situ. Infrared diagnostics and testing. quantitative infrared testing.

At present, the main and unique thermal research facility of the department is the climate chamber with hot-box, sample dimension 1.8 by 1.8 m. This chamber is not only used for a standard steady state testing but also for dynamic tests (e.g. PCM use efficiency). Besides, we use dozens of standard research equipment, as thermal imaging cameras, thermal conductance meters, thermal comfort meter etc.

Contact details:

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Scientist + Entrepreneur = Success

If you are planning to develop your company on the basis of the latest scientific findings and you would like to collaborate with experienced scientific experts check the offer of Cracow University of Technology for the industry www.s2b.transfer.edu.pl.

Our online database includes:

- technology offers, patents and industrial designs
- listing of University commercial services including laboratory expertise and research
- database of experts with experience in the implementation of services for the industry

As an internal unit of Cracow University of Technology, our team of consultants is specialized in the commercialization processes. On the other hand long term active cooperation with entrepreneurs allows us to identify precisely industry needs and expectations. Experiences gained through the last two decades on the edge of industry and science collaboration, let TTC formulate optimal models of commercialization and suitable methods of development projects support.



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