

Project no. 340-045

Application of phase-changing materials in future buildings

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This project covers introductory phases in an initial Danish trial of phase-changing materials (PCM) which have been used in German construction projects over the past few years. Building structures with PCM are tested in a climate chamber, dynamic models are created, and the effects on energy consumption and indoor climate are calculated in BSim and Be06.

Project status:

The knowledge amassing phase and implementation of a calculation model in BSim have been completed. Testing and model construction are still ongoing and will continue until the project is completed. Analyses of the potential for improvement in energy savings and the indoor climate have recently commenced.

When the energy and indoor climate analyses have been completed, an analysis will take place of the potential for use and further development.

Anticipated final project results:

It is anticipated that the project will research the options and develop the general foundation for future use of phase-changing materials in construction in Denmark. The project will also identify further potential applications for PCM which may lead to further energy savings and comfort enhancements in Danish construction. The project will hereby create the foundation for future product development of construction materials and demonstration buildings in which the properties of phase-changing materials are exploited as effectively as possible.