

## Quantitative analysis of thermal insulation coatings - DTU Orbit (08/11/2017)

### Quantitative analysis of thermal insulation coatings

This work concerns the development of simulation tools for mapping of insulation properties of thermal insulation coatings based on selected functional filler materials. A mathematical model, which includes the underlying physics (i.e. thermal conductivity of a heterogeneous two-component coating and porosity and thermal conductivity of selected fillers) was recently developed. The model has been validated against data from a previous experimental investigation with hollow glass sphere-based epoxy and acrylic coatings. In this presentation, a concise introduction to the model and some of the simulation results are provided. A practical case story with an insulation coating applied to a hot water pipe is included. Further development of the simulation tool to other types of fillers will be shortly discussed.

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