

## **HeatTransmission**

**Simulation-Software for Heat Transmission** 

Main Features:

- Calculation of transient heat transmission through multilayered walls.
- Arbitrary number of layers.
- Takes into account the temperature dependence of material properties.
- Expandable Database for thermodynamic Properties of Materials.
- Boundary conditions can be given for convection, radiation and explicit heat flux, also combinations of the three.
- Input of material properties and boundary conditions as constants or functions in time as tabulat data, import of such data from files.
- Computing time dependent on problem from below one second to a few minutes.
- Runs with the *Mathematica* runtime environment *Mathematica Player Pro*
- Ease of use with a tailor cut graphical user interface in English or German.

ad Save Refresh Run Abort         Documentation         Within this window, you can define the input parameters for your calculation. There are sections for the wall, the ambience and the solver settings. You can open these sections by clicking on the small triangles to the left of each section heading. Once you are done, you can start the calculation by clicking the "Run"-Button in the toolbar on the top. You can also save your parameter set to a file with the "Save"-Button or restore existing parameter sets with the "Load"-Button. For further details, please read the documentation.	
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Wall	
StartTemperature  Constant O Interpolating Function	
Layers	
Sketch 1.0 0.8 0.6 0.4 0.2	
0.0 0 2 4 6 8 10 x [mm] Summary V [Laver   Material   1 [mm]   M [ko/m <sup>2</sup> ]   C <sub>0</sub> [J/(K m <sup>2</sup> )]   J [W//(K m)]   Costs [€/m <sup>2</sup> ]	
1         Steel         10.00         50000.00         30000.00         0.20         0.00           Ambience         Left         Left	

## Input and Sketch of Layer Construction

the second second	300 Temperature
t h v     T c v       1     0.     20.       2     2.     300.       3     44     20.	220 200 200 200 100 30 0 1 2 100 30 0 1 2 3 4 (p)
HeatTransferCoefficient  Constant Interpolating Function 5. W/(mark)	
r Radiation AmbientTemperature ▼	

## Definition of Boundary Conditions



Please feel free to ask for any further information:

SmartCAE Stefan Braun Am Mitterfeld 3 81829 München Tel.: 089-4510887810 Fax: 089-43738061 Email: stefan.braun@smartcae.de