



TASEF/TASEFplus

TASEF Plus Ltd

TASEF is a computer program for the analysis of temperature distribution within sections exposed to fire or to other sources of high temperatures.

TASEF handles plane or axi-symmetric cross-sections. Material properties used are thermal conductivity and specific volumetric enthalpy, which can vary with temperatures. Thermal properties of certain materials are built into TASEFplus. These include properties for steel and concrete based on Eurocodes 2-4. Completely customised material properties can also be defined. Any specific material properties defined by the user can be stored in a user library for inclusion in another problem later, saving valuable time for data preparation.

The fire is defined as a time-temperature characteristic. Certain standard fires are built into the program TASEFplus. These include ISO834, ASTM E119, and the Eurocode Hydrocarbon fire. Eurocode parametric fires can also be defined using two simple input parameters. A completely customised fire can also be defined. User selects the times at which the temperature output is desired. A unique feature of the program is to handle multiple fires at a given boundary. Any specific fire defined by the user can be stored in a user library for use in another problem later, saving valuable time for data preparation in the same manner as for material properties.

TASEF uses the finite element method for thermal analysis. It solves the Fourier equation for heat conduction in 2 dimensions. The meshing of the cross-section is achieved through a graphical interface. There is complete flexibility in defining the boundary conditions. These include typical fires with heat flux, boundaries with prescribed temperatures that may follow a fire curve, internal voids, as well as ambient non-fire boundaries.

Data for TASEF is prepared using a graphical user interface program TASEFplus which integrates TASEF seamlessly. TASEFplus has facility to view colour contours of temperature distributions. The temperature data is also output in the form of an ASCII file, which can be read into spreadsheets like Excel. In addition, a completely annotated text file output is generated, which includes echo-printing of input data as well as calculated temperature values at all the nodes in the cross-section.

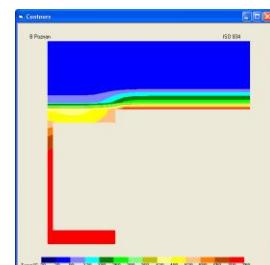
TASEFplus (including TASEF) is supplied with a detailed User Manual and some Example Manuals are also supplied in which typically the user is guided step-by-step through a specific problem.

Programs are also available which adopt the output from TASEF for purposes of structural analysis of beams and columns. Please contact us for more information.

TASEF was developed by Ulf Wickström.

TASEFplus was developed by Kuldeep Virdi.

Current version runs on Win10.



Example output Composite Beam