



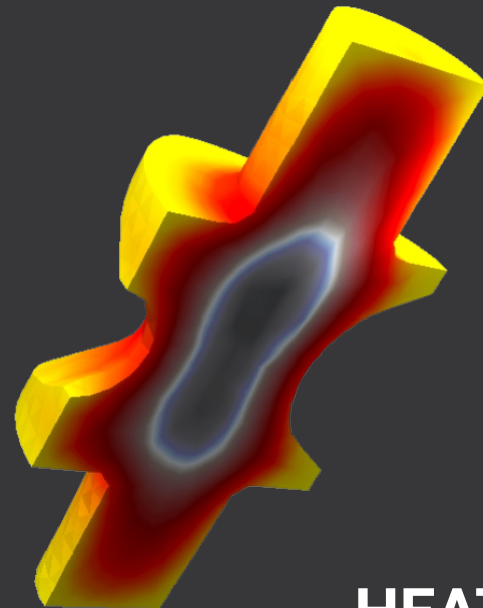
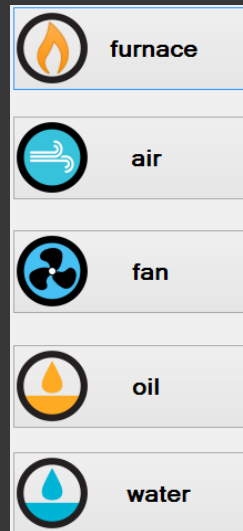
**DynaWeld GmbH & Co. KG**

E-Mail: [info@dynaweld.de](mailto:info@dynaweld.de)

Web: [www.dynaweld.eu](http://www.dynaweld.eu)

<http://www.dynaweld.info/produkte/MatPlusHQ/>

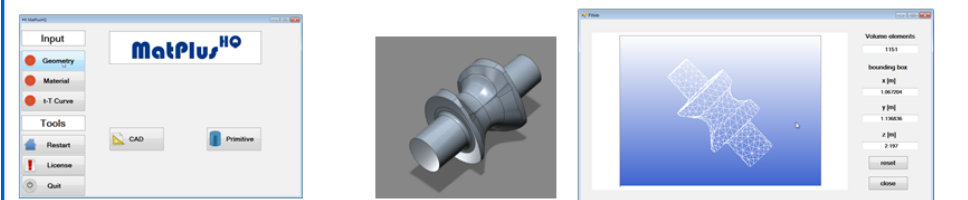
<b>DynaWeld Süd:</b>	Herdweg 13	D-75045	Wössingen	Tel: +49 7203 329 023
<b>DynaWeld Nord:</b>	Hermann-Löns-Straße 3A	D-21382	Brietlingen	Tel: +49 4133 400 88 63
<b>DynaWeld Kamen:</b>	Herbert-Wehner-Straße 2	D-59174	Kamen	Tel: +49 2307 500 05 05



# MatPlus<sup>HQ</sup>

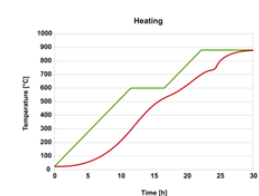
## FAST AND EASY HEAT TREATMENT SIMULATION

## Input: few parameters and geometry from CAD

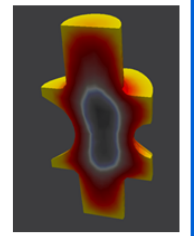


**automatic FEM calculation**

## Output: visible after a few seconds computing time



- heating of the complex component
- options to optimize the process



## Your Benefit:

- Increased productivity and efficiency in heat treatment processes
- Reduced energy costs in the heating process of complex parts
- Identification of thermal cycles and cooling rates to determine changes of microstructure and hardness

## Our Solution

- MatPlus HQ - the fast and easy to use simulation software: Shop-floor ready
- Increase of efficiency by tuning the process: 10-30%
- Customizing and extending MatPlus HQ to your requirements

## Outlook And Next Step:

- Identification of thermal stresses and deformation

## Process

MatPlus HQ allows the calculation of heating and cooling processes for individual components. Temperature curves for the heating and heat transfer coefficients for different heating and cooling conditions can be adjusted by the user.

## Geometry

MatPlus HQ can handle any 3D geometry from CAD-systems using STEP or IGES format. In addition, predefined and scalable standard forms can be selected from a part library.

## Meshing

The meshing of the geometry for the FEM calculations is fully automated. Optional adjustments by the user and a visualisation of meshing results is possible.

## Materials data

MatPlus HQ uses precise, temperature-dependent material data for density, heat capacity and thermal conductivity taken from JMatPro®-calculations or measurements.

## Simulation

MatPlus HQ calculates the temperature profiles and temperature differences in the component, both for heating and cooling—easy to read output is generated automatically and can be saved for documentation.

