# Simulation Software CarboDiS

Diffusion Calculation Software for carburizing processes with Simulation and Optimization



## Diffusion calculation with extendable material database

The CarboDiS diffusion calculation is integrated into the new program management software. It also contains a material database which is extendable by the user. The material database calculates the alloy factor as well the carbide limit of the material if needed.

CarboDiS is applicable as an offline and online version. Its appearance follows the principles of current office software, enabling fast entry by the user.

For simulation, several factors such as grain size, quenching rate and the carbon content of the limit hardness are considered. Further factors for different component diameters are integrated.

The way to input a program is based on the intuitive look and feel which has distinguished hardware and software from STANGE Elektronik for many years. Here the user will be guided by menus to make the input of programs easier and avoid faults during the programming. The segment times can be programmed as a gradient or absolute.
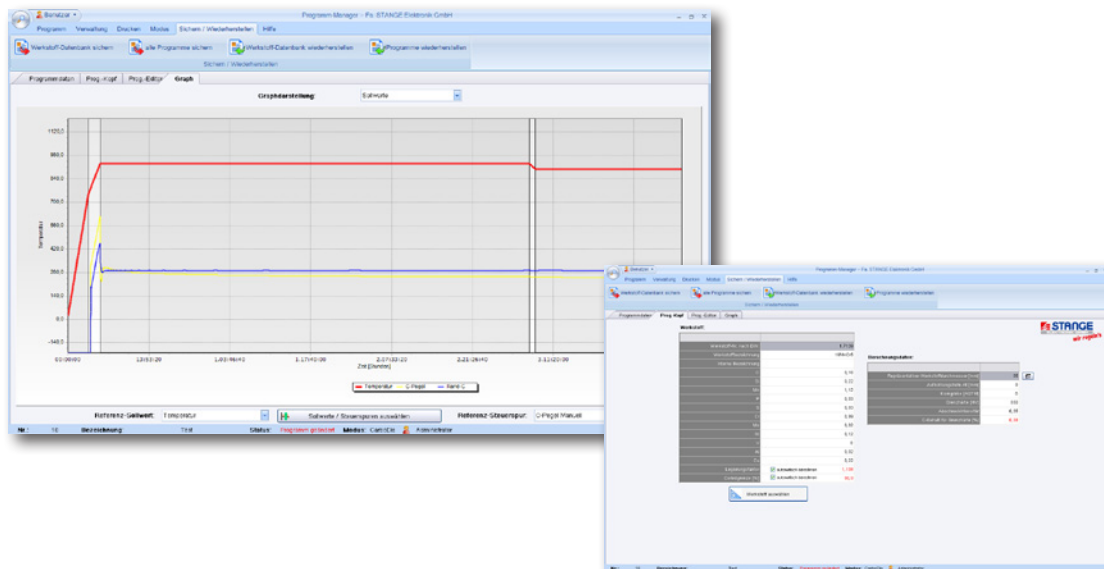
The simulation can be spooled by the play, pause, forward or rewind button to the desired position.

Options for achieving a mostly horizontal hardness curve are also integrated. The result of the simulation is shown in two separate diagrams. The first one shows the carbon level and the hardness curve in the depth of the component. It also shows values for limit hardness and carbide limit amongst others.

The second diagram provides information about the program curve over the time and shows values such as the soot limit and carbide limit.

Under the bottom line, all interesting dates are shown on one page in a clearly arranged way.
The created program can be transferred to a STANGE controller.

To meet the needs of various markets, the software has an integrated online language switch.

**Functions**

- Integrated material database with alloy factor and carbide limit calculation
- Varied calculation factors
- Menu guided programming
- Consideration of soot limit and carbide limit
- Simulation with play, pause, forward and rewind buttons
- Diagram for hardness and C profile
- Options for optimizations

Component Database
- Identifiable by material number, name and internal identification
- Copy function for easier extension of the database
- Most common steel marks are already integrated
- Separate backup module for the component database