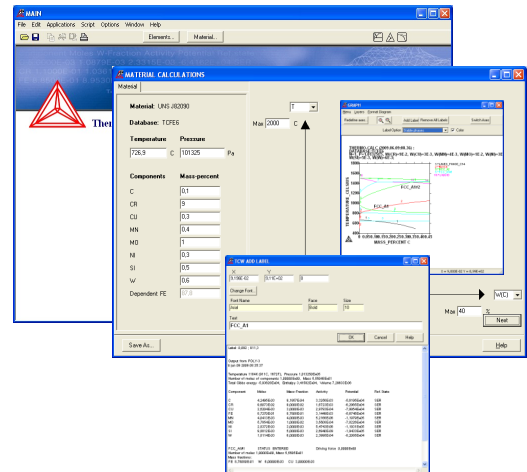


Thermo-Calc (TCW)

Thermo-Calc Windows is the user friendly version of the Thermo-Calc Classic version (TCC) that is available for Microsoft Windows operating systems. TCW has provided easy computational thermodynamics for nearly 10 years and has gained world-wide reputation as a superior software for calculations of multi component thermodynamics and phase diagrams. Today there are hundreds of industrial, research and university sites using TCW all over the world, in a high number of various technical applications.



Benefits

- **Thermo-Calc** is highly versatile with multiple applicability in the field of materials science and engineering.
- **Thermo-Calc** can provide better understanding of the factors that affect material behavior.
- **Thermo-Calc** can help reduce costs by quickly identifying control parameters or alloy compositions.
- **Thermo-Calc** is multi-functional. With the continuous development of new databases, additional new fields and applications are becoming suitable for study. Several departments at the same organization can use the software for different purposes.
- **Thermo-Calc** is backed by dedicated technical support services with offices located in both Sweden and the United States, and with agents in many countries and regions. Training courses with skilled experts as teachers are held regularly all over the world.

Powerful & Flexible User-Interface with Specialized Modules

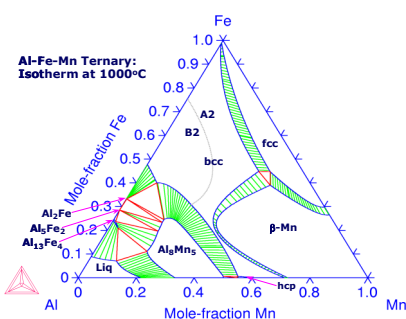
Thermo-Calc contains several different modules for performing specialized tasks e.g. performing specific materials calculations, binary/ternary phase diagrams, Scheil simulations and many more. With Thermo-Calc you can save files and create scripts. The GUI-driven user-interface is user friendly and comes with a sophisticated help guide.

Databases

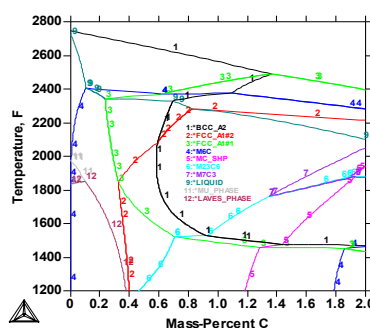
The Thermo-Calc calculations are based on high-quality thermodynamic databases developed by critical assessments and systematical evaluations of various experimental data and theoretical information. Currently, there are accurate thermodynamic databases available for many different types of materials, such as:

Steels/Fe-alloys	Ni-based superalloys	Al-based alloys	Mg-based alloys	Ti-based alloys
Solders	Nobel metals	Semi-conductors	Nuclear materials	Zr-based alloys
Slags	Ceramics	Super-conductors	TBC, SOFC	Molten salts
Minerals	Aqueous solutions	Gases	... and many more ...	

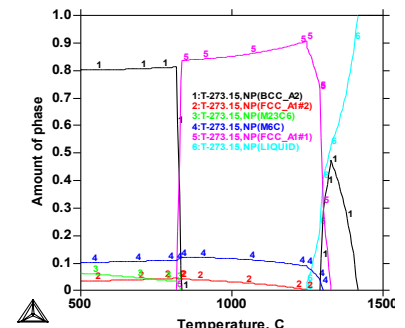
For detailed information regarding all of our available databases, please visit our web site www.thermocalc.com.



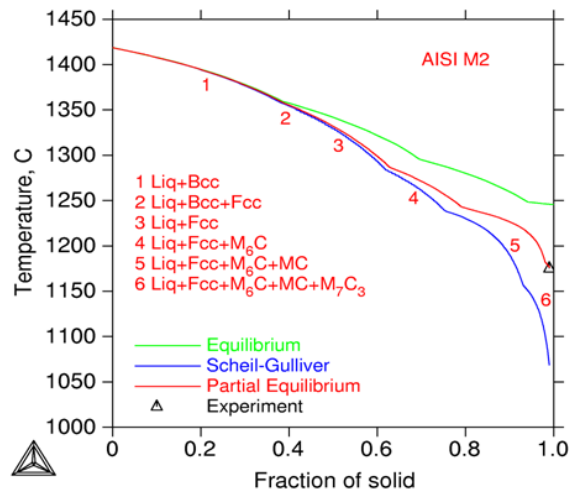
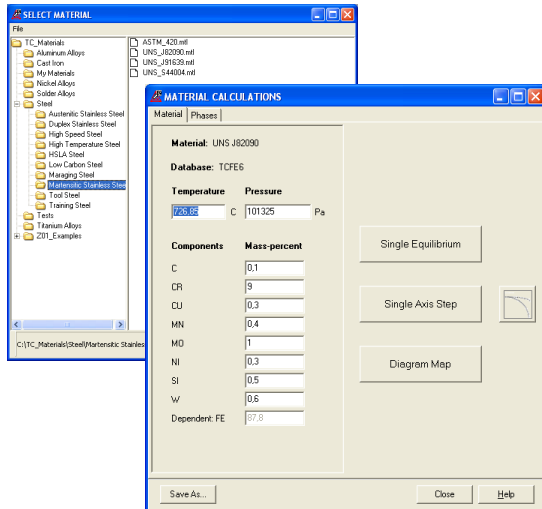
Binary and Ternary Phase Diagrams can be calculated manually or by using quick modules



Phase Diagrams for multicomponent systems



Property Diagrams for multicomponent systems

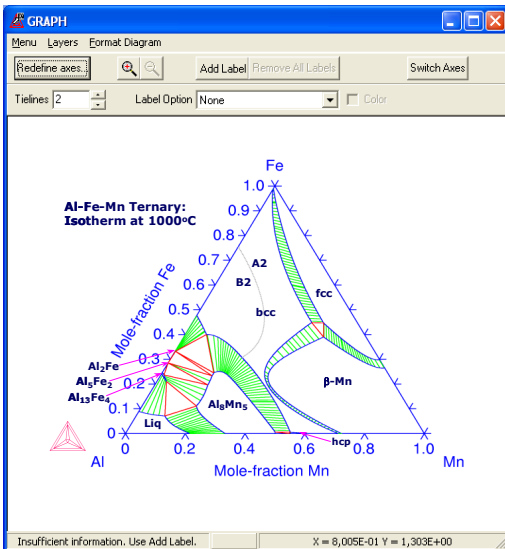


Materials Organizer

With the Thermo-Calc Materials Organizer you keep control of your materials and compositions. Here you can edit or create new materials, and use the materials for any Thermo-Calc simulation. Quick buttons makes it easy to run Scheil simulations, compute single equilibrium, Step and Map calculations. The Materials Organizer comes with a set of commercial standard alloys, for you to start with. You can also copy, share and use the materials files in an easy way.

Advanced SCHEIL Module

Available in the latest versions of TCC and TCW, the improved SCHEIL module can also simulate alloy solidification processes using partial equilibrium conditions that allow back diffusion of interstitials.



Examples of TCW Applications

- Phase diagrams (binary, ternary, isothermal, isoplethal, etc. up to 3 independent variables)
- Thermodynamic properties of pure substances, compounds and solution phases
- Thermodynamic properties of chemical reactions
- Property diagrams (Fraction of phases, Gibbs Energy, Enthalpy, Cp, volume, etc.) (up to 20 components)
- Partial gaseous pressures, chemical potentials of volatile species (up to 1000 species)
- Scheil-Gulliver solidification simulations
- Liquidus surfaces for multi-component alloys
- Thermodynamic factors, driving forces
- Heterogeneous equilibria (up to 20 components)
- Metastable equilibria
- Transport properties of aqueous solutions
- Special quantities: e.g., T₀, A₃-temperature, adiabatic T, chill factors, $\partial T/\partial X$, etc.
- Oxide-layer formation on steel surfaces, steel/alloy refining, so-called PRE numbers
- Evolution of hydrothermal, metamorphic, volcanic, sedimentary, weathering processes
- Combustion, incineration, sintering, remelting, recycling
- CVD diagrams, thin-film formation

Powerful and Flexible

Thermo-Calc is a powerful and flexible scientific and engineering tool. Many types of property and phase diagrams can be plotted, including many advanced applications.

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For a list of local agents and affiliates in your region, please visit our website and look under *Contact*.

