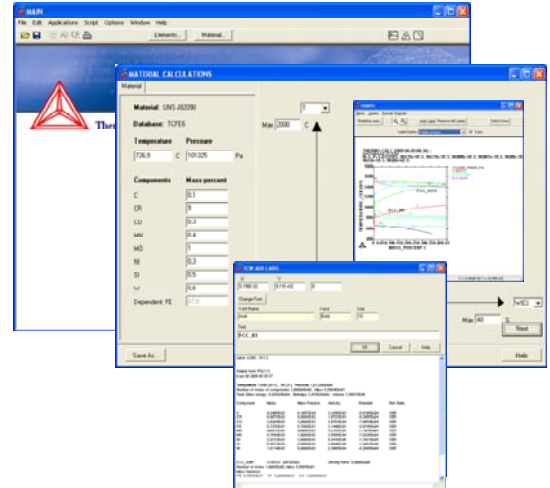




Thermo-Calc (TCW)

Thermo-Calc is the user friendly version of the classic version that is available for Microsoft Windows operating systems. Thermo-Calc 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 Thermo-Calc 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.
- **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 user-support with offices located both in Europe and the United States.
- Training courses with skilled experts as teachers are held regularly.

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 user interface is user friendly and comes with a sophisticated help guide.

Databases

The calculations are based on thermodynamic data created by critical assessments of experimental data and consolidated in thermodynamic databases. Today there are accurate thermodynamic data available for many different types of materials, such as for example:

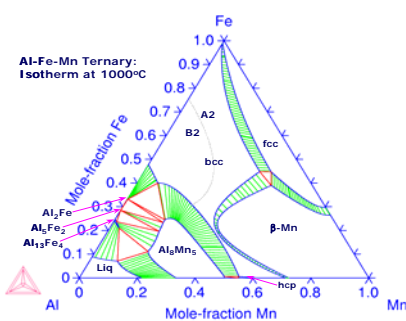
Steels
Nickel alloys
Aluminum alloys

Titanium alloys
Minerals
Nuclear materials

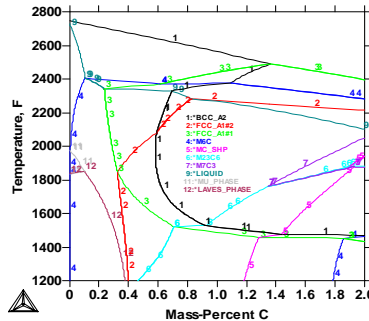
Slags
Salts
Aqueous solutions

Ionic solutions
Ceramics
And many more

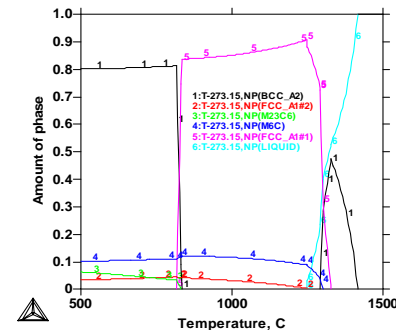
For detailed information regarding all of our available databases, please visit our web site www.thermocalc.com.



Binary and Ternary Phase-diagrams can be calculated manually or by using quick modules.

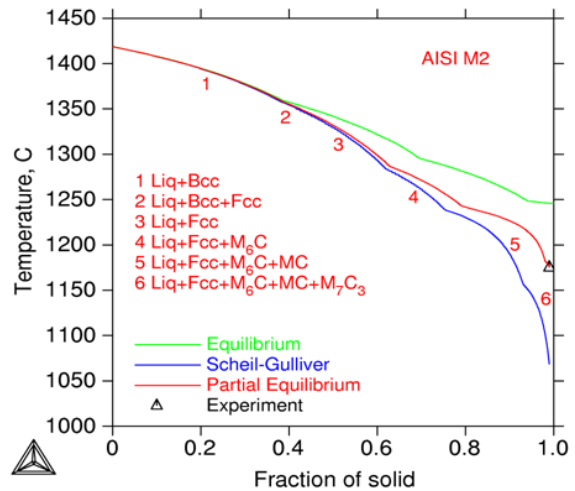
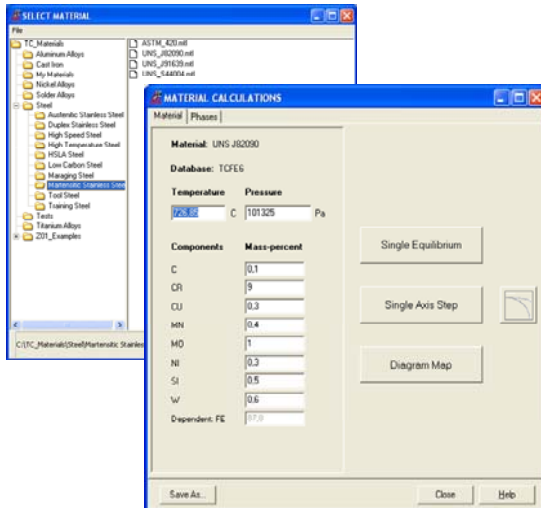


Multicomponent Phasediagram for multicomponent systems



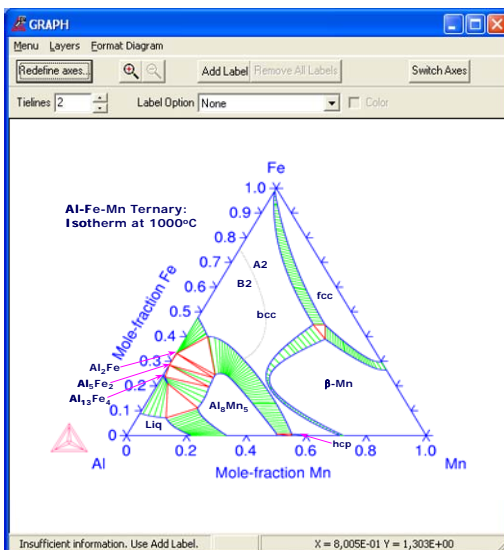
Property diagrams for multicomponent systems





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.



Powerful and Flexible

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

Advanced Scheil Module

The advanced Scheil module can simulate alloy solidification processes using partial equilibrium conditions that allow back diffusion of interstitials.

Examples of applications

- Phase diagrams (binary, ternary, isothermal, isoplethal, etc. up to 5 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 incineration, combustion
- CVD diagrams, thin-film formation

For further information, please contact Thermo-Calc Software

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