

Usage of Thermochemical Calculations in SMS Siemag AG

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ABSTRACT

In the Research & Development sector of SMS Siemag AG, thermodynamic calculations are indispensable for the optimization of existing metallurgical processes as well as for the prediction and testing of new ones.

A deep understanding of the metallurgical processes and a better prediction of the progression of the melt during the process are one to the most important tasks.

In this presentation, some applications examples of FactSage calculations in the areas of process control and process modeling will be introduced, such as:

- The generation of multi-phase diagrams for example for the purpose of avoiding partial and full slag solidification during the process.
- Determination of the optimal conditions for favouring particular reactions or whether they occur in the first place.
- Equilibrium calculations help predict end point conditions and define the process limitations.
- Verification of the process models calculation results with the thermodynamic equilibrium results.