

Using Computational Thermochemistry in a Steelmaking Environment

R. Großterlinden

ThyssenKrupp Steel AG, Germany

Abstract

In this presentation, some applications of the use of computational thermochemistry in the steel industry are given:

- Influence of pre-heating temperature on the effect of micro-alloying elements in steels with respect to mechanical properties
- Effect of traces of Ti on the solubility of Nb-(C,N)
- Bake Hardening potential of steels
- Interplay between $Ti_4S_2C_2$ and TiS in IF-steels
- The role of thermodynamic conditions for modelling of microstructure formation
- Effect of C-content on the yield point of steels at higher temperatures
- Use of c_p and DH of super-heated or super-cooled states for calculations of thermal conduction