

Application of Thermodynamic Modeling in Steel Metallurgy

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Abstract

ThyssenKrupp Steel Europe AG is an advanced user of numerous thermodynamic applications to help invent and produce the highest steel quality. Our department is focused on the support of 12Mtpa steel mills and thus prefers FactSage as a tool for practice related calculations. These thermodynamic calculations are used as a basis for decision making e.g. with regard to raw materials and process technology. The presentation shows examples of applied thermodynamic calculations using *FactSage* for solubility limits in TBM-steel, precipitation reactions, peritectic solidifications, heat balance calculations for BOS and phase diagrams for slag systems.