

Centre of High-Temperature Studies of Metals and Alloys

Studies and research on:

- ▶ high-temperature investigation of the wetting kinetics and flow behaviour of liquid metals and alloys in contact with solid bodies,
- ▶ high-temperature investigation of the reactivity and chemical stability of metal/metal, metal/ceramic, metal/glass, and glass/ceramic systems,
- ▶ examination of materials by the method of thermal analysis enabling identification and analysis of phase transformations, determination of heat treatment parameters of cast alloys, plotting of TTT curves; determination of the specific heat/density - temperature relationships, determination of the coefficients of linear expansion, determination of the heat (enthalpy) of phase transformations, and of the parameters of phase transformation kinetics.

Service and assistance in:

- ▶ selecting components of composite materials,
- ▶ selecting technological parameters of the process of bonding different materials from the metal/ceramic, metal/metal, metal/glass, and glass/ceramic system,
- ▶ selecting materials for metallurgical facilities (crucibles, foundry moulds, mixers, etc.)
- ▶ selecting technological and protective coatings,
- ▶ checking and control of thermocouples and instruments for comparative temperature measurements, proved by respective conformity certificates,
- ▶ determination of temperature-related changes in thermophysical properties of metals, alloys and ceramic materials.

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