

## ABSTRAKT

PAŠÁK, Matej: Termodynamické modelovanie interdifúzie v Fe-Ni a Fe-Co spojoch. [Diplomová práca] - Slovenská technická univerzita v Bratislave. Materiálovotechnologická fakulta so sídlom v Trnave; Ústav materiálov.- Školiteľ prof. Ing. Jozef Janovec DrSc.- Trnava: MTF STU, 2009. 60 s.

Kľúčové slová: difúzia, modelovanie, DICTRA, koncentračný profil

Cieľom diplomovej práce je experimentálne overiť difúzne koncentračné profily vypočítané pomocou termodynamického databázového programu DICTRA pre rôzne dvojice materiálov. Predmetom experimentov boli difúzne spoje vytvorené medzi čistým kobaltom resp. niklom na jednej strane a technicky čistým železom resp. austenitickou korozivzdornou oceľou (18/10) na strane druhej. Po žíhaní vzoriek boli difúzne koncentračné profily merané pomocou EDX/SEM. Medzi nameranými a vypočítanými koncentračnými profilmi bola zistená dobrá zhoda.

## ABSTRACT

PAŠÁK, Matej: Thermodynamic modelling of interdiffusion in Fe-Ni and Fe-Co bonds. [Diploma Thesis]- Slovak University of Technology Bratislava. Faculty of Materials Science and Technology; Institute of Material Science- Supervisor: prof. Ing. Jozef Janovec DrSc.- Trnava: MTF STU, 2009. 60 p.

Keywords: diffusion, modelling, DICTRA, concentration profile

The aim of the diploma thesis is the experimental verification of diffusion concentration profiles calculated by the thermodynamic database program DICTRA for various couples of materials. Pure cobalt and nickel on the one side, and technical pure iron, and austenitic stainless steel (18/10) on the other side were used to form the experimental diffusion bonds. After the samples were annealed, EDX/SEM was used to measure the diffusion concentration profiles. Good agreement between the experimental and calculated concentration profiles was found.

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