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Influence of tempering on the deformation level of the multi-layer hard faced samples

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Abstract

Results of determination of the longitudinal, lateral and angular deformations in hard faced samples are presented in this paper, as well as the influence of the additional heat treatment on the level of residual deformations. Investigation assumed multi-layer hard facing of the two plates (thicknesses 7.4 and 29 mm) made of steel 55CrMo8. Deformations were measured before the hard facing – after the plates' preparation by grinding, immediately after hard facing and after tempering. The objective was to determine if and how much the additional heat treatment (tempering) influences the level of residual deformations in the hard faced joints.

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1. Introduction

Reparatory hard facing of forging dies is related to solving numerous tasks including proper selection of filler metals (FM), optimal technology of welding, what also includes decision, which, if any, preheating is necessary. The post hard facing heat treatment is also very important problem, since it influences the level of eventual residual

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