

Heat treatment process effect on the fatigue properties of selected steels

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Abstract:

Heat treatment of steels is a technological process used to increase the strength of steels. There is a wide variety of different heat treatment procedures. The choice of a suitable technological process depends mainly on the chemical composition and the target properties of the material being processed.

The relatively less explored area is the effect of heat treatment on the cyclic properties of steels. The paper will present the results of cyclic tests on two different steels. Cyclic properties of C55 steel will be analysed before and after heat treatment procedure. For high strength steel 34CrNiMo-6, the effect of the heat treatment process itself on the resulting cyclic loading properties will be analysed. Experimental results will be supported by microstructure analysis of investigated materials.

Key words:

Heat treatment, fatigue properties, steels