

## Effect of heat treatment conditions on tensile properties of a low alloy steel

Mehdi Ghobeiti-Hasab<sup>1,\*</sup>, Seyyed Rasoul Khayyam Nekouei<sup>2</sup>

<sup>1</sup> Department of Metallurgy and Materials, Faculty of Engineering, Dezful Branch, Islamic Azad University, Dezful, Iran

<sup>2</sup> M.Sc. Graduated Student, School of Metallurgy and Materials Engineering, College of Engineering, University of Tehran, Tehran, Iran

Received: May 2016, Revised: June 2016, Accept: June 2016

### Abstract

In this research, the effect of tempering parameters on the mechanical properties of a Cr-Mn-Si low alloy steel (AISI 4130) was investigated. Temperature/time of austenitizing, first tempering and second tempering were selected 880 °C/20 min, 480 °C/120 min and 430 °C/60 min, respectively. The fracture surfaces of the heat treated samples under different conditions were observed using a scanning electron microscope (SEM).

---

\*Corresponding author: ghobeiti@iaud.ac.ir

**Keywords:** Low alloy steel, Two step tempering, Tensile test, Fracture surface.

Please cite this article as:

M. Ghobeiti-Hasab, S.R. Khayyam Nekouei, Effect of heat treatment conditions on tensile properties of a low alloy steel, *Journal of Energy Conversion*, (1-2) (2011) 19-23 [In Persian]