INVESTIGATION OF AUSTEMPERING TEMPERATURE ON GGG70 DUCTILE IRON FOR CRANKSHAFT OF PEUGEOT 405

OMRANIAN MOHAMMADI Peiman, MOHAMMADPOUR Abolghasem, KHALILPOUR Meghdad, ALAVI Nabi

University of Applied Science and Technology, Center of FZA, Amol, Islamic Republic of Iran

Abstract

Austempering is a special isothermal heat treatment that can be applied to ferrous materials for increased strength and toughness. The properties of austempered ductile iron are dependent on both chemistry and heat treatment. In this study Different cycles of austempering process applied Due to the effect of heat treatment cycle on the metal matrix structure and tensile properties of GGG70 S.G. iron for of Peugeot 405 crankshaft. This process has been done in different temperature 280, 300, 320, 350 and 365°C the microstructure and mechanical properties of samples have been studied by OEM and tensile test respectively. Finally Surface fraction investigated by SEM. The results show, ductile cast iron undergoes a remarkable transformation when subjected to the austempering heat process. According to tensile and hardness test yield strength, tensile strength and hardness decrease with increasing of austempering temperature.

Keywords: Austempering, S.G. Iron, Crankshaft, SEM

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