Title (en)

A method of heat treating high chromium cast ferrous-based alloys and a wearing element formed of a high chromium cast ferrous based alloy.

Title (de)

Verfahren zur Wärmebehandlung hochchromhaltiger Gusseisenlegierungen und Verschleissteil aus einer hochchromhaltigen Gusseisenlegierung.

Title (fr)

Procédé de traitement thermique de fonte à haute teneur en chrome et une pièce d'usure en fonte à haute teneur en chrome.

Publication

EP 0178894 A2 19860423 (EN)

Application

EP 85307389 A 19851015

Priority

GB 8426222 A 19841017

Abstract (en)

A method of heat treating a component formed of a high-chromium cast ferrous-based alloy consisting of 11-28 wt% chromium, 1 - 3.6 wt% carbon and at least 0.2 wt% molybden um and/or at least 0.6 wt% tungsten, the remainder (apart from any incidental ingredients and impurities) being iron, said method comprising the steps of:- a) holding said component at a temperature between the solidus temperature of the alloy and 1050 DEG C for a period of time not exceeding 3 days in a non-oxidising atmosphere or vacuum so as to produce a partially spheroidised hard carbide phase in an austenitic matrix throughout the component, and b) quenching the component at a mean rate of from 40 DEG C/min to 3 DEG C/min in the critical temperature range in order to retain the austenitic matrix. Before heat treament, carbon and chromium form a hard sharp, angular carbide phase and the molybdenum and/or tungsten serves to increase the rate of change in the morphology of the carbidge phase during heat treatment from sharp angularity to a partly spheroidised morphology.

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C21D 5/04

IPC 8 full level

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