

Title (en)
PROCESS FOR PRODUCING HIGH-CONCENTRATION CARBURIZED STEEL

Title (de)
VERFAHREN ZUR HERSTELLUNG VON HOCHKONZENTRIERTEM AUFGEKOHLTEM STAHL

Title (fr)
PROCÉDÉ DE FABRICATION D'ACIER CÉMENTÉ À HAUTE CONCENTRATION

Publication
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Application
EP 07830687 A 20071026

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Abstract (en)
[origin: EP2085493A1] The subject of the present invention is to provide a manufacturing method for high-concentration carburized steel which does not cause reduction of life of a furnace, deformation of steel materials, and reduction of working efficiency and which enables dispersion of fine and spherical carbides in a large amount. This subject can be solved by the manufacturing method for high-concentration carburized steel comprises (i) a primary carburization step of carburizing a steel material having a certain composition at a primary carburization temperature T1(°C) till a surface carbon concentration C becomes a certain carbon concentration, (ii) a cooling step of cooling the steel material to Ar1 point or less at a cooling rate of 1°C/min or more after completion of the primary carburization step, (iii) a secondary carburization initial step of raising the temperature of the steel material to a secondary carburization start temperature T2s lower than the primary carburization temperature T1 by 100°C or more to carburize the steel material at a secondary carburization temperature T2, (iv) a secondary carburization later step of raising the temperature, after completion of the secondary carburization initial step, to a quenching temperature Tq to further carburize at the quenching temperature of Tq and perform further carburization of the steel material at the quenching temperature Tq, and (v) a quenching step of quenching the steel material after completion of the secondary carburization.

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Citation (search report)
• [A] JP S5569252 A 19800524 - KOMATSU MFG CO LTD
• [A] US 2006130935 A1 20060622 - HATTORI ATSUSHI [JP], et al
• [A] JP H083629 A 19960109 - SUMITOMO METAL IND
• See references of WO 2008056552A1

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