

Title (en)

Process of nitriding and/or carbonitriding of high-alloyed steel

Title (de)

Verfahren zum Nitrieren und/oder Nitrocarburieren von höher legierten Stählen

Title (fr)

Procédé pour la nitruration et/ou carbonitruration d' acier fortement allié

Publication

EP 1122331 B1 20030326 (DE)

Application

EP 00102359 A 20000204

Priority

EP 00102359 A 20000204

Abstract (en)

[origin: US6328819B1] A method is provided for heat treatment of metal workpieces obtain a substantially uniform nitride layer, even in workpieces comprising high alloy iron articles. The following method steps are provided:a) heating the workpieces to a temperature between 400° C. and 500° C. in a gas atmosphere comprising only ammonia;b) continuing to heat the workpieces to a temperature between 500° C. and 700° C. in a gas atmosphere containing ammonia and an added oxidizing agent;c) maintaining the workpieces at this temperature and in this gas atmosphere for a period of between 0.1 hour and 5 hours;d) continuing to maintain the workpieces at this temperature for a period of between 1 hour and 100 hours in a gas atmosphere containing ammonia or containing ammonia and a carbon-releasing substance; and,e) cooling the workpieces to room temperature.

IPC 1-7

C23C 8/34; C21D 1/613; C21D 6/00

IPC 8 full level

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CPC (source: EP US)

C23C 8/26 (2013.01 - EP US); **C23C 8/34** (2013.01 - EP US)

Cited by

WO2014002120A1; DE102013226091A1; US10281042B2; DE102013226090A1; US9970093B2; DE102016221891A1; WO2018086930A1

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