Title (en)

CARBURIZED LOW SILICON STEEL ARTICLE AND PROCESS

Title (de)

ZEMENTIERTER STAHL MIT NIEDRIGEM SILIZIUMGEHALT UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

ARTICLE EN ACIER CEMENTE A FAIBLE TENEUR EN SILICIUM ET PROCEDE

Publication

EP 0393137 B1 19960911 (EN)

Application

EP 89901165 A 19881214

Priority

- US 8703450 W 19871221
- US 13577587 A 19871221
- US 8804470 W 19881214

Abstract (en)

[origin: WO8905865A1] A process for forming a carburized steel article includes carburizing a steel material containing not more that 0.10% silicon and less than 1.1% chromium to form an austenitic surface matrix having a high density of carbides dispersed therein. After quenching, the carburized steel article is characterized by an outer surface having a high ratio of carbides and is substantially free of intergranular oxides. As a result of preventing undesirable surface oxide formations and simultaneously providing a beneficial surface carbide structure, the bending fatigue strength, wear properties, and contact fatigue strength of articles such as gears, shafts, bearings and couplings are greatly enhanced.

IPC 1-7

C21D 1/74; C22C 38/02

IPC 8 full level

C23C 8/22 (2006.01); **C21D 1/06** (2006.01); **C21D 1/18** (2006.01); **C21D 1/74** (2006.01); **C21D 1/78** (2006.01); **C21D 6/00** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/18** (2006.01); **C22C 38/24** (2006.01)

CPC (source: EP KR)

C21D 1/74 (2013.01 - KR); **C21D 1/78** (2013.01 - EP); **C23C 8/22** (2013.01 - EP)

Citation (examination)

- JP S61104065 A 19860522 - DAIDO STEEL CO LTD
- JP S5973860 A 19840426 - TOSHIBA KK

Cited by

WO2006122731A1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

WO 8905865 A1 19890629; AU 2913489 A 19890719; AU 631528 B2 19921203; CA 1300472 C 19920512; EP 0393137 A1 19901024; EP 0393137 A4 19910320; EP 0393137 B1 19960911; KR 900700630 A 19900816; KR 960005595 B1 19960426

DOCDB simple family (application)

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