

Title (en)

Process and apparatus for carburizing steel in an atmosphere of low pressure

Title (de)

Verfahren und Vorrichtung zum Aufkohlen von Stahl in einer Atmosphäre von niedrigem Druck

Title (fr)

Procédé et dispositif de cémentation d'un acier dans une atmosphère à basse pression

Publication

**EP 0532386 B1 19960417 (FR)**

Application

**EP 92402395 A 19920903**

Priority

FR 9111304 A 19910913

Abstract (en)

[origin: EP0532386A1] The carburising process according to the invention consists in heating the articles to be treated to a temperature of between 800 DEG C and 1100 DEG C, preferably above 900 DEG C, in an oxygen-free gaseous atmosphere maintained by pumping at a pressure of between 1 and 5 mbar and in performing a plurality of successive carbon-enrichment stages (C1, C2), each obtained by an injection for a limited period of a treatment gas containing one or a number of pure hydrocarbons, each enrichment stage (C1, C2) having a duration shorter than the time for the change of austenite into a saturation stage, these enrichment stages being separated by vacuum diffusion stages (D1, D2) of longer duration making it possible to adjust the surface carbon content. The invention makes it possible to simplify the mechanism of carbon transfer and to avoid the detrimental effects of overcarburising.

IPC 1-7

**C23C 8/22**

IPC 8 full level

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Cited by

FR2821362A1; AT404029B; EP0781858A1; FR2836689A1; FR2832735A1; US6165597A; EP2218803A1; FR2847591A1; FR2813892A1; US6093303A; US6461448B1; US6547888B1; WO02068707A1; US10156006B2; US10934611B2; US7118634B2; US9617632B2; US10246766B2; US11035032B2

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