

Title (en)

METHOD OF HEAT TREATING FERROUS WORKPIECES

Publication

EP 0024106 B1 19860102 (EN)

Application

EP 80302236 A 19800702

Priority

- US 5585379 A 19790709
- US 9943979 A 19791203

Abstract (en)

[origin: EP0024106A1] A method of gas heat treating ferrous materials comprises mixing air in a predetermined proportion with a hydrocarbon gas (such as methane or propane) and slowly introducing the mixture to a treating chamber which is held at a temperature of 1500-2000 DEG F (816-1093 DEG C), so that the gas atmosphere is similar in composition to an independently generated endothermic gas-base atmosphere. The flow through the furnace chamber of the gas atmosphere is controlled to be low so that preferably the ratio of furnace chamber volume (cubic feet) to flow rate (cubic feet/hour) is always at least 0.2 hours. This carburizing process can also be run in a mode in which the atmosphere composition is automatically controlled. In carrying out the process, it is preferred that a constant flow of air be introduced into the furnace chamber and the hydrocarbon flow be regulated to maintain a constant value of furnace atmosphere CO2 content or oxygen potential.

IPC 1-7

C21D 1/76; **C23C 8/22**; **C23C 8/32**

IPC 8 full level

C21D 1/76 (2006.01); **C23C 8/22** (2006.01)

CPC (source: EP)

C21D 1/76 (2013.01); **C23C 8/22** (2013.01)

Cited by

EP2578704A1; DE19738653A1; US5194228A; EP0751234A1; BE1006007A3; US5827375A; US6375762B1; WO9702367A1; WO0114611A1

Designated contracting state (EPC)

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