

Title (en)  
PROCESS FOR SPEEDILY AND HOMOGENEOUSLY CARBURIZING A CHARGE IN A FURNACE

Publication  
**EP 0213011 B1 19890125 (FR)**

Application  
**EP 86401585 A 19860716**

Priority  
FR 8512379 A 19850814

Abstract (en)  
[origin: ES8707310A1] The process comprises opening the door of the furnace, introducing a charge into the furnace which was previously conditioned at the carburization temperature, closing the door of the furnace, subjecting the charge to a first phase, termed carburization phase, in the course of which the rate of transfer of the carbon of the atmosphere to the surface of the workpiece is preponderant relative to the rate of diffusion of the carbon from the surface of the workpiece to the interior of the workpiece, then to a second phase, termed diffusion phase, in the course of which said rate of diffusion becomes preponderant relative to said rate of transfer, the charge being possibly cooled before the opening of the door of the furnace so as to permit its extraction and the introduction of a new charge, a carrier gas, to which hydrocarbon may be added, being introduced into the furnace throughout the duration of the process. According to the invention, the flow rate D1 of carrier gas during the carburization phase is related to the flow rate D2 of carrier gas during the diffusion phase by the relation  $1.2 D2 \leq D1 \leq 2 D2$ , the flow rate D2 being higher than or equal to the minimum safety limit of the considered furnace.

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IPC 8 full level  
**C23C 8/20** (2006.01); **C23C 8/22** (2006.01)

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