

Title (en)

METHOD FOR HEAT TREATING METALLIC WORK PIECES

Title (de)

VERFAHREN ZUR WÄRMEBEHANDLUNG METALLISCHER WERKSTÜCKE

Title (fr)

PROCÉDÉ DE TRAITEMENT THERMIQUE DE PIÈCES MÉTALLIQUES

Publication

EP 3168314 A1 20170517 (EN)

Application

EP 15194562 A 20151113

Priority

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Abstract (en)

According to the method for heat treating at least one metallic work piece according to the present invention said at least one metallic work piece is subjected to a predetermined temperature time profile (1) in a furnace, wherein at least intermittent a process gas is introduced into the furnace atmosphere to define the composition of said furnace atmosphere, wherein the introduction of the process gas is controlled regarding at least one of the following parameters: the volume of the process gas introduced into the furnace and the composition of the process gas in such a way that during at least one of the following operations: heating up and cooling down the at least one work piece while the temperature of the furnace is within a predetermined critical temperature range in which internal oxidation occurs within the metal of the work piece being defined by a lower critical temperature (T L) and an upper critical temperature (T U)the furnace atmosphere is low in oxygen whereas above said upper critical temperature (T U) the furnace atmosphere is defined independently of the oxygen content in the furnace atmosphere. The method according to the present invention allows heat treatment processes with a significantly reduced internal oxidation while allowing a broad choice of process gases for temperatures above the upper critical temperature (T U).

IPC 8 full level

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CPC (source: EP)

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Citation (applicant)

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