

Title (en)

Method for producing an anti-wear layer on a magnetic component

Title (de)

Verfahren zur Herstellung einer Verschleißschuttschicht an einem weichmagnetischen Bauteil

Title (fr)

Procédé de fabrication d'une couche de protection contre l'usure sur un composant magnétique mou

Publication

**EP 2034038 B1 20130710 (DE)**

Application

**EP 08104705 A 20080710**

Priority

DE 102007038983 A 20070817

Abstract (en)

[origin: EP2034038A2] The method for the production of a wear-resistant layer on a soft-magnetic component, comprises forming an outer layer by nitriding at 1100[deg] C with a nitrogen partial pressure of  $0.2 \times 10^5$  to  $1.5 \times 10^5$  Pa, hardening the nitrided outer layer, and tempering the component at 520-550[deg] C for 1 minute to 2 hours in order to reduce the voltage in the component and magnetic characteristics of the component. The soft-magnetic component is made of chromium-containing ferritic steel. The nitrided outer layer has a thickness of 30  $\mu$  m. The hardening takes place by single or double hardening. The method for the production of a wear-resistant layer on a soft-magnetic component, comprises forming an outer layer by nitriding at 1100[deg] C with a nitrogen partial pressure of  $0.2 \times 10^5$  to  $1.5 \times 10^5$  Pa, hardening the nitrided outer layer, and tempering the component at 520-550[deg] C for 1 minute to 2 hours in order to reduce the voltage in the component and magnetic characteristics of the component. The soft-magnetic component is made of chromium-containing ferritic steel. The nitrided outer layer has a thickness of 30  $\mu$  m. The hardening takes place by single or double hardening. The nitriding process takes place in a pure nitrogen atmosphere, a pure ammonia atmosphere, a nitrogenous and/or ammonia containing gas mixture or in a gas mixture from methane or propane or a hydrocarbon, and nitrogen and/or ammonia. The nitrogen partial pressure and the temperature are varied during the nitriding process. The process steps are carried out directly one after the other. The hardened outer layer is cooled at below 0[deg] C.

IPC 8 full level

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Cited by

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