

Title (en)

Surface hardened soft magnetic actuator part and fabrication process

Title (de)

Oberflächengehärtetes weichmagnetisches Aktuorteil und dessen Herstellverfahren

Title (fr)

Actuateur magnétique magnétiquement doux durci en surface et son procédé de fabrication

Publication

**EP 1318529 A2 20030611 (DE)**

Application

**EP 02027301 A 20021206**

Priority

DE 10160550 A 20011210

Abstract (en)

Soft magnetic actuator part has a surface hardness of at least 150 HV 0.01 increased by nitriding. The N concentration has the following deep profile: a top value of maximum N concentration of at least 0.2 wt.% in the depth region of up to 1  $\mu$ m, an N-concentration of at least 0.25 wt.% in the depth region of 1  $\mu$ m, an N-concentration of at least 0.1 wt.% in the depth region of 2  $\mu$ m and an N-concentration of at least 0.05 wt.% in the depth region of 5  $\mu$ m. <??>An Independent claim is also included for a process for the surface treatment of an electromagnetic actuator part comprising nitriding at 380-480 degrees C at a nitriding number KN of approximately 10, preferably in an oxygen atmosphere (oxynitriding) at an oxidation number KO of approximately 0.20.

Abstract (de)

Weichmagnetisches Aktuorteil mit durch Nitrieren gesteigerter Oberflächenhärte von mindestens 150 HV0,01, gekennzeichnet durch folgendes Tiefenprofil der N-Konzentration: im Tiefenbereich bis 1  $\mu$ m einen Spitzenwert der maximalen N-Konzentration von mindestens 0,2%, bei einer Tiefe von 1  $\mu$ m eine N-Konzentration von mindestens 0,25% und bei einer Tiefe von 2  $\mu$ m eine N-Konzentration von mindestens 0,1%. <IMAGE>

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**H01F 7/06**; **H01H 71/32**

IPC 8 full level

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CPC (source: EP)

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