

Title (en)

MANUFACTURE METHOD OF ORIENTED SILICON STEEL HAVING GOOD MAGNETIC PERFORMANCE

Title (de)

HERSTELLUNGSVERFAHREN FÜR EINEN KORNIORIENTIERTEN SILIZIUMSTAHL MIT HOHER MAGNETKRAFT

Title (fr)

PROCÉDÉ DE PRODUCTION D'ACIER AU SILICIUM À GRAINS ORIENTÉS PRÉSENTANT DE BONNES PERFORMANCES MAGNÉTIQUES

Publication

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Application

EP 11842864 A 20110428

Priority

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Abstract (en)

[origin: EP2644715A1] A method for manufacturing a grain-oriented silicon steel having excellent magnetic performance, comprising steps as follows 1) conventionally melting and casting into a steel blank; 2) heating the steel blank and hot rolling the same into a strip of steel; 3) normalizing process; carrying out the normalizing process having two stages, wherein the strip is firstly heated to 1100#1/41200°C, then cooled to 900#1/41000°C within 50-200s; and next, the strip is rapidly cooled in water having a temperature of 10#1/4100; in this period, a tension force is applied to the strip of steel, the strip of steel in the temperature range of 900°C#1/4500°C has a stress of 1#1/4200N/mm²; 4) cold rolling, i.e. carrying out a primary cold rolling, or a double cold rolling with intermediate annealing; 5) carrying out primary recrystallizing annealing, then coating an annealing separator, whose main composition is MgO, to carry out final product annealing comprising secondary recrystallizing annealing and purifying annealing. The invention optimizes the content and distribution of martensite in the steel plate after normalization by adjusting the tension force applied to the steel plate while normalization transformation, so as to make the content of martensite in the range ensuring a better magnetic performance of the final product and to optimize the magnetic performance of final products.

IPC 8 full level

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CPC (source: EP KR)

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Cited by

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