

Title (en)

Method of producing a grain-oriented electrical steel sheet excellent in magnetic characteristics

Title (de)

Verfahren zur Herstellung eines kornorientierten Elektrobleches mit ausgezeichneten magnetischen Eigenschaften

Title (fr)

Procédé de fabrication d'une tôle d'acier à grains orientés présentant d'excellentes caractéristiques magnétiques

Publication

EP 0947597 B1 20050112 (EN)

Application

EP 99105071 A 19990323

Priority

- JP 8400798 A 19980330
- JP 30750798 A 19981028

Abstract (en)

[origin: EP0947597A2] A method for producing a grain-oriented electrical steel sheet excellent in magnetic characteristics is provided wherein differentiated use of primary and secondary inhibitors enables production without high temperature slab heating, few glass film defects and no lack of uniformity in secondary recrystallization. A slab containing 0.025 SIMILAR 0.10% of C, 2.5 SIMILAR 4.0% of Si as well as acid-soluble Al, Mn, Cu, N, and $Se_q = (S + 0.406 Se)$ of 0.008 SIMILAR 0.05% is reheated to a temperature of more than 1050 DEG C and lower than 1350 DEG C and hot-rolled into a hot-rolled strip. The hot-rolled strip is optionally annealed, subjected to at least one cold rolling with intermediate annealing, whereafter the sheet is decarburization annealed to have primary recrystallization grains after completion of the decarburization annealing of an average diameter of not less than 7 μm and less than 18 μm , nitrided up to the start of secondary recrystallization, coated with an annealing separator composed mainly of MgO, and subjected to final finish annealing.

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IPC 8 full level

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Cited by

DE102011054004A1; EP1162280A3; DE10311215A1; DE10311215B4; KR100501002B1; KR100501003B1; CZ305521B6; US9663839B2; US6893510B2; WO2013045339A1; US8202374B2; US8303730B2; WO0250314A3; WO2019096736A1

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