

Title (en)

MAGNETIC STEEL SHEET HAVING EXCELLENT MAGNETIC PROPERTIES AND METHOD FOR MANUFACTURING THE SAME

Title (de)

STAHLBLECH MIT HERVORRAGENDEN MAGNETISCHEN EIGENSCHAFTEN UND HERSTELLUNGSVERFAHREN

Title (fr)

TOLE D'ACIER MAGNETIQUE AYANT D'EXCELLENTE PROPRIETES MAGNETIQUES, ET SON PROCEDE DE FABRICATION

Publication

EP 0870843 A1 19981014 (EN)

Application

EP 96942675 A 19961227

Priority

- JP 9603877 W 19961227
- JP 34174495 A 19951227

Abstract (en)

A grain-oriented electromagnetic steel sheet comprising an electromagnetic steel sheet with recesses, subdividing magnetic domains, formed by irradiating the surface of the electromagnetic steel sheet with a pulsed laser beam, wherein rows of recesses provided along the widthwise direction of the steel sheet are provided at predetermined spacings in the rolling direction and the recesses satisfy the following requirements: length of recesses in rolling direction, d_l : $50 \mu m \leq d_l \leq 300 \mu m$, length of recesses in widthwise direction of sheet, d_c : $100 \mu m \leq d_c \leq 3000 \mu m$, provided that $d_l/d_c < 1$ depth of recess, d : $10 \mu m \leq d \leq 30 \mu m$, row pitch of recess in rolling direction, P_l : $3 \text{ mm} \leq P_l \leq 10 \text{ mm}$, and pitch of recesses in widthwise direction of sheet, P_c : $d_c - 50 \mu m \leq P_c \leq d_c + 50 \mu m$, and a process for producing a grain-oriented electromagnetic steel sheet, characterized by focusing a pulsed laser beam in a rectangular or elliptical form on the surface of an electromagnetic steel sheet to form the recesses.

IPC 1-7

C21D 8/12; **H01F 1/16**

IPC 8 full level

C21D 8/12 (2006.01); **H01F 41/02** (2006.01)

CPC (source: EP)

C21D 8/1294 (2013.01); **H01F 41/0233** (2013.01)

Cited by

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Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

WO 9724466 A1 19970710; EP 0870843 A1 19981014; EP 0870843 A4 19981028

DOCDB simple family (application)

JP 9603877 W 19961227; EP 96942675 A 19961227