

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

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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, dl : $50 \mu m \leq dl \leq 300 \mu m$, length of recesses in widthwise direction of sheet, dc : $100 \mu m \leq dc \leq 3000 \mu m$, provided that $dl/dc < 1$ 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 : $dc - 50 \mu m \leq P_c \leq dc + 50 \mu m$, 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.

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IPC 8 full level

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CPC (source: EP)

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