

Title (en)
NON-ORIENTED ELECTROMAGNETIC STEEL SHEET AND METHOD FOR MANUFACTURING SAME

Title (de)
NICHT ORIENTIERTES ELEKTROMAGNETISCHES STAHLBLECH SOWIE VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)
TÔLE D'ACIER ÉLECTROMAGNÉTIQUE NON ORIENTÉ ET SON PROCÉDÉ DE FABRICATION

Publication
EP 2679695 B1 20160518 (EN)

Application
EP 11859212 A 20110224

Priority
JP 2011001074 W 20110224

Abstract (en)
[origin: US2013306200A1] The present invention provides a non-oriented electrical steel sheet at low cost that has excellent magnetic properties and mechanical properties as well as excellent quality of steel sheet. The non-oriented electrical steel sheet has a chemical composition containing, by mass %, Si: 5.0% or less, Mn: 2.0% or less, Al: 2.0% or less, and P: 0.05% or less, in a range satisfying formula (1), and furthermore, C: 0.008% or more and 0.040% or less; N: 0.003% or less, and Ti: 0.04% or less, in a range satisfying formula (2), with the balance composed of Fe and incidental impurities: $300@85[\text{Si} \%]+16[\text{Mn} \%]+40[\text{Al} \%]+490[\text{P} \%]$ @430(1) $0.008@\text{Ti}^*<1.2[\text{C} \%]$ (2), where $\text{Ti}^*=\text{Ti}-3.4[\text{N} \%]$.

IPC 8 full level
C21D 8/12 (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/10** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **C22C 38/60** (2006.01); **H01F 1/16** (2006.01)

CPC (source: EP KR US)
C21D 8/12 (2013.01 - KR US); **C21D 8/1227** (2013.01 - EP KR US); **C21D 8/1266** (2013.01 - EP KR US); **C21D 8/1272** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/004** (2013.01 - EP US); **C22C 38/005** (2013.01 - EP KR US); **C22C 38/008** (2013.01 - EP KR US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/08** (2013.01 - EP US); **C22C 38/10** (2013.01 - EP KR US); **C22C 38/14** (2013.01 - EP KR US); **C22C 38/16** (2013.01 - EP KR US); **C22C 38/60** (2013.01 - EP KR US); **H01F 1/16** (2013.01 - EP KR US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
US 2013306200 A1 20131121; BR 112013020657 A2 20161018; BR 112013020657 B1 20190709; CA 2822206 A1 20120830; CA 2822206 C 20160913; CN 103392021 A 20131113; CN 103392021 B 20141029; EP 2679695 A1 20140101; EP 2679695 A4 20141029; EP 2679695 B1 20160518; KR 101412363 B1 20140625; KR 20130087611 A 20130806; MX 2013009670 A 20131028; RU 2536711 C1 20141227; WO 2012114383 A1 20120830

DOCDB simple family (application)
US 201113981955 A 20110224; BR 112013020657 A 20110224; CA 2822206 A 20110224; CN 201180068413 A 20110224; EP 11859212 A 20110224; JP 2011001074 W 20110224; KR 20137017530 A 20110224; MX 2013009670 A 20110224; RU 2013143127 A 20110224