Title (en)

HIGH-STRENGTH NON-ORIENTED MAGNETIC STEEL SHEET AND PROCESS FOR PRODUCING THE HIGH-STRENGTH NON-ORIENTED MAGNETIC STEEL SHEET

Title (de)

HOCHFESTES NICHTORIENTIERTES MAGNETISCHES STAHLBLECH UND VERFAHREN ZUR HERSTELLUNG DES HOCHFESTEN NICHTORIENTIERTEN MAGNETISCHEN STAHLBLECHS

Title (fr)

TÔLE D'ACIER MAGNÉTIQUE NON ORIENTÉE À HAUTE RÉSISTANCE ET PROCÉDÉ DE FABRICATION DE LA TÔLE D'ACIER MAGNÉTIQUE NON ORIENTÉE À HAUTE RÉSISTANCE

Publication

EP 2278034 A4 20170125 (EN)

Application

EP 09732579 A 20090413

Priority

- JP 2009057453 W 20090413
- JP 2008104940 A 20080414

Abstract (en)

[origin: EP2278034A1] A high-strength non-oriented electrical steel sheet contains: by mass%, C: not less than 0.002% nor more than 0.05%; Si: not less than 2.0% nor more than 4.0%; Mn: not less than 0.05% nor more than 1.0%; N: not less than 0.002% nor more than 0.05%; and Cu: not less than 0.5% nor more than 3.0%. An Al content is 3.0% or less, and when a Nb content (%) is set to [Nb], a Zr content (%) is set to [Zr], a Ti content (%) is set to [Ti], a V content (%) is set to [V], a C content (%) is set to [C], and an N content (%) is set to [N], Formula (1) and Formula (2) are satisfied. A balance is composed of Fe and inevitable impurities, a recrystallization area ratio is 50% or more, yield stress at a tensile test is 700 MPa or more, fracture elongation is 10% or more, and an eddy current loss We 10/400 (W/kg) satisfies Formula (3) in relation to a sheet thickness t (mm) of the steel sheet. 2.0 × 10 - 4 #¦ Nb / 93 + Zr / 91 + Ti / 48 + V / 51 1.0 × 10 - 3 #¦ C / 12 + N / 14 - Nb / 93 + Zr / 91 + Ti / 48 + V / 51 #¦ 3.0 × 10 - 3 We 10 / 400 #¦ 70 × t 2

IPC 8 full level

C22C 38/00 (2006.01); **C21D 8/12** (2006.01); **C21D 9/46** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **H01F 1/147** (2006.01); **H01F 1/16** (2006.01)

CPC (source: EP KR US)

C21D 8/1222 (2013.01 - EP KR US); **C21D 8/1272** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP US); **C22C 38/004** (2013.01 - EP KR US); **C22C 38/008** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/08** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP KR US); **C22C 38/14** (2013.01 - EP KR US); **C22C 38/16** (2013.01 - EP KR US); **H01F 1/147** (2013.01 - KR); **H01F 1/16** (2013.01 - EP KR US); C21D 2201/05 (2013.01 - EP US); C21D 2211/004 (2013.01 - EP KR US); H01F 1/147 (2013.01 - EP US)

Citation (search report)

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