

Title (en)  
HIGH-STRENGTH STEEL SHEET AND MANUFACTURING METHOD THEREOF

Title (de)  
HOCHFESTES STAHLBLECH UND VERFAHREN ZUR SEINER HERSTELLUNG

Title (fr)  
TÔLE D'ACIER À HAUTE RÉSISTANCE ET SON PROCÉDÉ DE FABRICATION

Publication  
**EP 3495523 B1 20210630 (EN)**

Application  
**EP 17836781 A 20170721**

Priority  
• JP 2016153110 A 20160803  
• JP 2017026569 W 20170721

Abstract (en)  
[origin: EP3495523A1] Disclosed is a high-strength sheet including: C: 0.15% by mass to 0.35% by mass, total of Si and Al: 0.5% by mass to 3.0% by mass, Mn: 1.0% by mass to 4.0% by mass, P: 0.05% by mass or less, and S: 0.01% by mass or less, with the balance being Fe and inevitable impurities, wherein the steel structure satisfies that: a ferrite fraction is 5% or less, the total fraction of tempered martensite and tempered bainite is 60% or more, the amount of retained austenite is 10% or more, MA has an average size of 1.0  $\mu\text{m}$  or less, a half-width of the concentration distribution of Mn in the carbon-concentrated region that is equal to the amount of retained austenite is 0.3% by mass or more, and a scattering intensity at the q value of 1 nm<sup>-1</sup> X-ray small angle scattering is 1.0 cmor less.

IPC 8 full level  
**C22C 38/00** (2006.01); **C21D 1/18** (2006.01); **C21D 1/19** (2006.01); **C21D 6/00** (2006.01); **C21D 9/46** (2006.01); **C21D 9/48** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01)

CPC (source: EP US)  
**C21D 1/18** (2013.01 - EP US); **C21D 1/19** (2013.01 - EP); **C21D 6/005** (2013.01 - EP US); **C21D 6/008** (2013.01 - EP US); **C21D 9/46** (2013.01 - US); **C21D 9/48** (2013.01 - EP); **C22C 38/00** (2013.01 - US); **C22C 38/002** (2013.01 - US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US)

Cited by  
EP4180546A4; EP4206344A4; EP4180545A4; EP4206343A4

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)  
**EP 3495523 A1 20190612; EP 3495523 A4 20200226; EP 3495523 B1 20210630**; CN 109477182 A 20190315; CN 109477182 B 20210618; JP 2018021233 A 20180208; JP 6762798 B2 20200930; US 2019185958 A1 20190620; WO 2018025675 A1 20180208

DOCDB simple family (application)  
**EP 17836781 A 20170721**; CN 201780046036 A 20170721; JP 2016153110 A 20160803; JP 2017026569 W 20170721; US 201716321157 A 20170721