

Title (en)

STEEL PLATE, PLATED STEEL PLATE, AND PRODUCTION METHOD THEREFOR

Title (de)

STAHLPLATTE, PLATTIERTE STAHLPLATTE SOWIE HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

PLAQUE D'ACIER, PLAQUE D'ACIER PLAQUÉE ET PROCÉDÉ POUR LES PRODUIRE

Publication

**EP 3447159 A1 20190227 (EN)**

Application

**EP 17785691 A 20170308**

Priority

- JP 2016084049 A 20160419
- JP 2017009300 W 20170308

Abstract (en)

A high-strength steel sheet with excellent formability and high yield ratio and hole expansion formability that has TS of 590 MPa or more and YR of 68 % or more is obtained by providing a predetermined chemical composition and a steel microstructure that contains, in area ratio, 20 % or more and 65 % or less of polygonal ferrite, 8 % or more of non-recrystallized ferrite, and 5 % or more and 25 % or less of martensite, and that contains, in volume fraction, 8 % or more of retained austenite, where an average aspect ratio of crystal grains of each phase (polygonal ferrite, martensite, and retained austenite) is 2.0 or more and 15.0 or less, wherein the polygonal ferrite has an average grain size of 6  $\mu\text{m}$  or less, the martensite has an average grain size of 3  $\mu\text{m}$  or less, the retained austenite has an average grain size of 3  $\mu\text{m}$  or less, and a value obtained by dividing a Mn content in the retained austenite in mass% by a Mn content in the polygonal ferrite in mass% equals 2.0 or more.

IPC 8 full level

**C22C 38/00** (2006.01); **C21D 9/46** (2006.01); **C22C 38/14** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR US)

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