

Title (en)

Ultra-high strength steel sheet having excellent hydrogen embrittlement resistance, and method for manufacturing the same

Title (de)

Ultrahochfester Stahl mit ausgezeichneter Beständigkeit gegenüber Wasserstoffversprödung und Verfahren zu seiner Herstellung

Title (fr)

Acier à très haute résistance mécanique ayant une excellente résistance à la fragilisation par l'hydrogène et son procédé de production

Publication

**EP 1553202 A1 20050713 (EN)**

Application

**EP 05250049 A 20050107**

Priority

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Abstract (en)

The present invention provides an ultra-high strength steel sheet having excellent hydrogen embrittlement resistance, which includes: 0.06 to 0.6% of C; 0.5 to 3% of Si+Al; 0.5 to 3% of Mn; 0.15% or lower of P; and 0.02% or lower of S in terms of mass percentage, and also includes 3% or higher of residual austenite structure, 30% or higher of bainitic ferrite structure, and preferably 50% or lower of polygonal ferrite in terms of an areal ratio to the entire structure, wherein a mean grain size of bainite blocks is smaller than 20  $\mu$  m as determined by comparing observations of the same region of the bainitic ferrite structure by EBSP (electron back scatter diffraction pattern) and SEM.

IPC 1-7

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