

Title (en)

High-tensile strength hot-rolled steel sheet excellent in elongation properties and stretch flangeability, and producing method thereof

Title (de)

Zugfestes warmgewalztes Stahlblech mit ausgezeichneter Bruchdehnung und Streckbördelverformfähigkeit und dessen Herstellungsverfahren

Title (fr)

Tôle d'acier laminée à chaud résistant à la traction, ayant une allongement et une déformabilité de bordage par étirage excellente et son procédé de fabrication

Publication

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Application

EP 03006195 A 20030319

Priority

- JP 2002081451 A 20020322
- JP 2003039099 A 20030218

Abstract (en)

A high-tensile strength hot-rolled steel sheet that satisfies, in addition to TS of 780 MPa or more or furthermore 980 MPa or more, $TS \times EL \geq 20000$ MPa% and $TS \times \lambda \geq 82000$ MPa%, and a method of producing the same are provided. Specific resolution means are as follows. That is, a high-tensile strength hot-rolled steel sheet including a composition that includes C of 0.04% by mass or more and 0.25% by mass or less; Si of 0.4% by mass or more and 2.0% by mass or less; Mn of 3.0% by mass or less; Al of 0.2% by mass or less; S of 0.007% by mass or less; Ti of 0.08% by mass or more and 0.3% by mass or less; and the balance of Fe and inevitable impurities, in the above, the contents of the C, the Si and the Ti satisfying $(\%C \times 12 - \%Ti \times 48) / (\%Si \times 28) \leq 0.4$; and a microstructure that includes ferrite; bainite; and retained austenite; in the above a fraction of the ferrite in an entire microstructure is 40% or more and an average grain size of the ferrite is 5 μm or less; a fraction of the bainite is in the range of 20% to 48% with respect to an entire microstructure; and a fraction of the retained austenite is in the range of 2% to 7% with respect to an entire microstructure is produced.

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IPC 8 full level

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Citation (search report)

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