Title (en)

PROCESS FOR MANUFACTURING STEEL SHEET HAVING VERY HIGH STRENGTH, DUCTILITY AND TOUGHNESS CHARACTERISTICS, AND SHEET THUS PRODUCED

Title (de)

VERFAHREN ZUR HERSTELLUNG EINES STAHLBLECHS MIT SEHR HOHEN FESTIGKEITS-, BIEGBARKEITS- UND HÄRTEEIGENSCHAFTEN UND AUF DIESE WEISE PRODUZIERTES BLECH

Title (fr)

PROCÉDÉ DE FABRICATION DE TÔLES D'ACIER À TRES HAUTES CARACTERISTIQUES DE RESISTANCE, DE DUCTILITE ET DE TENACITE, ET TÔLES AINSI PRODUITES

Publication

**EP 1994192 A1 20081126 (FR)**

Application

**EP 07730968 A 20070214**

Priority

- FR 2007000256 W 20070214
- EP 06290386 A 20060307
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Abstract (en)

[origin: EP1832667A1] Hot rolled steel sheet comprises (in %): carbon (0.1-0.25); manganese (1-3); aluminum (>= 0.015); silicon (1.985); molybdenum (= 0.3); chromium (= 1.5); sulfur (= 0.015); phosphorus (= 0.1); cobalt (= 1.5); boron (= 0.005); and iron and impurities (rest), where the sum of silicon and aluminum is 1-2 and the sum of chromium and molybdenum is greater than 0.3. The sheet has a strength of greater than 1200 MPa and a Re/Rm ratio of 0.75 (where Re is an elastic limit of the steel, and Rm is mechanical resistance of the steel) with elongation at rupture of greater than 25%. An independent claim is included for a process of manufacturing the steel comprising supplying the steel composition, casting the steel composition, heating the steel composition at greater than 1150[deg]C, hot rolling the semi-finished product until the microstructure of steel is entirely austenite in nature, cooling the obtained stainless steel at a temperature greater than the austenite transformation temperature i.e. at a cooling speed of 50-90[deg]C/second, a bainite transformation temperature or at Ms+50[deg]C, (where Ms is a transformation temperature of martensite) and cooling the stainless steel at a cooling speed of 0.08-600[deg]C/minute until the ambient temperature is reached, where the bainite transformation temperature is 0.08-2[deg]C/minute or is Bs+60[deg]C, when the speed is greater than 2-600[deg]C/minute.

IPC 8 full level

**C22C 38/02** (2006.01); **C21D 1/19** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/34** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP KR US)

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Citation (search report)

See references of WO 2007101921A1

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