

Title (en)
Low alloy steel plate and process for production thereof.

Title (de)
Niedriglegierte Stahlplatte und Herstellungsverfahren.

Title (fr)
Plaque en acier faiblement allié et procédé de production.

Publication
EP 0123406 A2 19841031 (EN)

Application
EP 84301762 A 19840315

Priority
US 47635383 A 19830317

Abstract (en)
Low alloy steel shape of at least 4.8 mm thickness is produced by providing a steel consisting essentially of from about 0.02% to 0.07% carbon, 1.2% to 2.0% manganese, 0.020% maximum sulfur, up to 0.5% silicon, 0.1% to 0.4% molybdenum, 0.01% to 0.1% columbium, about 0.01% to 0.10% acid soluble aluminum, about 0.8% to 2.0% copper, about 0.4% to 2.0% nickel, residual chromium, and balance iron; hot reducing the steel to a desired final thickness with a total reduction in thickness of at least 30% while within the temperature range of about 760 DEG to 927 DEG C whereby to avoid substantial recrystallization of austenite and to obtain a predominant heavily deformed austenite phase; and cooling at a rate which transforms the austenite phase to a predominantly fine acicular ferrite and lower-bainite phase. The steel may also be precipitation hardened, or may be hot reduced either by the above-described controlled hot reduction or by conventional hot reduction, austenitized, quenched, and precipitation hardened. The product has high strength, improved low temperature toughness and excellent weldability.

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C21D 8/02; **C22C 38/16**

IPC 8 full level
C21D 8/02 (2006.01); **C22C 38/00** (2006.01); **C22C 38/08** (2006.01); **C22C 38/16** (2006.01); **C21D 6/02** (2006.01)

CPC (source: EP KR)
C21D 1/00 (2013.01 - KR); **C21D 8/0226** (2013.01 - EP); **C22C 38/08** (2013.01 - EP); **C22C 38/16** (2013.01 - EP); **C21D 6/02** (2013.01 - EP); **C21D 2211/002** (2013.01 - EP); **C21D 2211/005** (2013.01 - EP)

Cited by
CN115838904A; US5810951A; EP1473376A4; EP0288054A3; EP0481575A3; EP2162252A4; US6309482B1; US6264767B1; WO9515405A1; WO9617099A1; WO9641024A1; US7935197B2; US8147626B2

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DOCDB simple family (application)
EP 84301762 A 19840315; BR 8401222 A 19840316; CA 449354 A 19840312; ES 530726 A 19840316; JP 5082284 A 19840316; KR 840001338 A 19840316