

Title (en)
LOW ALLOY STEEL PLATE AND PROCESS FOR PRODUCTION THEREOF

Publication
EP 0123406 A3 19871007 (EN)

Application
EP 84301762 A 19840315

Priority
US 47635383 A 19830317

Abstract (en)
[origin: EP0123406A2] 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
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