

Title (en)

Ferritic steel and its manufacture and use

Title (de)

Ferritischer Stahl und Verfahren zu seiner Herstellung und Verwendung

Title (fr)

Acier ferritique; sa fabrication et son utilisation

Publication

EP 0750049 A1 19961227 (DE)

Application

EP 96107884 A 19960517

Priority

- DE 19521836 A 19950616
- DE 19605696 A 19960216

Abstract (en)

A ferritic steel contains (wt. %) 0.05-0.3 C, 0.8-3.0 Mn, 0.4-2.5 Al, < 0.2 Si, < 0.08 P, < 0.05 S, balance Fe and unavoidable impurities. $C_{eq} = \%C + <1>/20\%Mn + <1>/20\%Cr + <1>/15\%Mo = 0.1-0.325$. $Al \geq 7.6C_{eq} - 0.36$ wt. %. Also claimed is a process for producing the above steel having high strength, good cold workability and surface quality in the hot-rolled state and good cold-rollability with a structure consisting predominantly of pre-eutectic ferrite and smaller proportions of martensite and/or bainite and/or residual austenite, which is cast into a blank, hot rolled with a starting temperature of above 1000 degrees C and an end temperature (ET) in the region $Ar3 - 50$ degrees C < ET < $Ar3 + 100$ degrees C, cooled from the ET at a rate of 15-70 K/s to the coiling temperature which is below 500 degrees C, and coiled.

Abstract (de)

Die Erfindung betrifft einen Dualphasenstahl mit überwiegend polygonal-ferritischem Gefüge, in dem eine kohlenstoffangereicherte perlitfreie harte zweite Phase eingelagert ist, die aus Martensit und/oder Bainit und/oder Restaustenit besteht, mit hoher Festigkeit und guter Umformbarkeit sowie verbesserter Oberflächenqualität nach einer Warmverformung, ein Verfahren zu seiner Herstellung und Verwendung. <IMAGE>

IPC 1-7

C21D 8/02; **C22C 38/06**

IPC 8 full level

C21D 8/02 (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01)

CPC (source: EP)

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Citation (applicant)

- DE 2924340 C2 19851017
- EP 0072867 B1 19860416
- DE 3440752 C2 19870806

Citation (search report)

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- [A] FR 2253841 A1 19750704 - CENTRO SPERIMENT METALLURG [IT]
- [A] US 4316753 A 19820223 - KANEKO KUNISHIGE, et al
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- [PX] US 5470529 A 19951128 - NOMURA SHIGEKI [JP], et al
- [X] PATENT ABSTRACTS OF JAPAN vol. 018, no. 668 (C - 1289) 16 December 1994 (1994-12-16)
- [X] PATENT ABSTRACTS OF JAPAN vol. 017, no. 373 (C - 1083) 14 July 1993 (1993-07-14)

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