Title (en)

CASE-HARDENED STEEL PIPE EXCELLENT IN WORKABILITY AND PROCESS FOR PRODUCTION THEREOF

Title (de)

EINSATZGEHÄRTETES STAHLROHR MIT HERVORRAGENDER BEARBEITBARKEIT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

TUYAU EN ACIER CÉMENTÉ AYANT UNE EXCELLENTE APTITUDE AU FAÇONNAGE ET SON PROCÉDÉ DE FABRICATION

Publication

EP 2135962 A4 20150304 (EN)

Application

EP 08739140 A 20080328

Priority

- JP 2008056016 W 20080328
- JP 2007088283 A 20070329

Abstract (en)

[origin: EP2135962A1] A case hardening steel tube which has a hardness of 72 - 80 HRB and which gives a carburized layer with a high strength and high wear resistance and adequate resistance to impact fracture when it is formed into a final product by working and subsequent carburizing and quenching under relatively mild conditions is manufactured by forming a tube from a steel having a steel composition comprising, in mass percent, C: 0.1 - 0.25%, Si: 0.2 - 0.4%, Mn: 0.3 - 0.9%, P: at most 0.02%, S: 0.001 - 0.15%, Cr: 0.5 - 0.9%, Mo: 0.15 - 1%, Al: 0.01 - 0.1%, B: 0.0005 - 0.009%, N: less than 0.006%, and a remainder essentially of Fe, then subjecting the resulting steel tube to normalizing by soaking at a temperature of 880 - 980 °C followed by cooling at a cooling rate of at most 70 °C per minute, carrying out cold working of the normalized steel tube, and then annealing the cold worked steel tube at a temperature of 700 - 820 °C.

IPC 8 full level

C21D 8/10 (2006.01); **C22C 38/00** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR US)

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