

Title (en)
COMPLEX-PHASE STEEL HAVING HIGH HOLE EXPANSIBILITY AND MANUFACTURING METHOD THEREFOR

Title (de)
KOMPLEXER PHASENSTAHL MIT HOHER LOCHAUSDEHNBARKEIT UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)
ACIER À PHASE COMPLEXE AYANT UNE FACULTÉ D'EXPANSION DE TROUS ÉLEVÉE ET PROCÉDÉ DE FABRICATION POUR CELUI-CI

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Application
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Abstract (en)
Disclosed in the present invention is complex-phase steel having high hole expansibility. The complex-phase steel has a microstructure of ferrite and bainite. The complex-phase steel having high hole expansibility comprises the following chemical elements in percentage by mass: C: 0.06-0.09%, Si: 0.05-0.5%, Al: 0.02-0.1%, Mn: 1.5-1.8%, Cr: 0.3-0.6%, Nb≤0.03%, Ti: 0.05-0.12%, and the balance of Fe and inevitable impurities. In addition, also disclosed in the present invention is a manufacturing method for the foregoing complex-phase steel having high hole expansibility. The method comprises the following steps: (1) smelting and casting; (2) heating; (3) hot-rolling; (4) phosphorous removal; (5) laminar cooling: a relaxation time period is controlled to be 0-8s, and a laminar cooling rate is 40-70°C/s; (6) coiling; (7) leveling; and (8) pickling. The complex-phase steel having high hole expansibility can simultaneously satisfy the requirements for hole expansibility and good plasticity.

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