

Title (en)
HIGH STRENGTH SEAMLESS STEEL PIPE EXCELLENT IN HYDROGEN-INDUCED CRACKING RESISTANCE AND ITS PRODUCTION METHOD

Title (de)
HOCHFESTES NAHTLOSES STAHLROHR MIT HERVORRAGENDER BESTÄNDIGKEIT GEGEN DER WASSERSTOFFINDUZIERTER RISSBILDUNG UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
TUYAU EN ACIER SANS SOUDURE A HAUTE RESISTANCE, S'AGISSANT NOTAMMENT DE RESISTANCE AUX CRAQUELURES PROVOQUEES PAR L'HYDROGENE ET PROCEDE DE FABRICATION

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Abstract (en)
[origin: WO2004031420A1] The present invention relates to a high strength seamless steel pipe excellent in hydrogen-induced cracking resistance, characterized by consisting of, by mass %, C: 0.03 - 0.11 %, Si: 0.05 - 0.5 %, Mn: 0.8 - 1.6 %, P: 0.025 % or less, S: 0.003 % or less, Ti: 0.002 - 0.017 %, Al: 0.001 - 0.10 %, Cr: 0.05 - 0.5 %, Mo: 0.02 - 0.3 %, V: 0.02 - 0.20 %, Ca: 0.0005 - 0.005 %, N: 0.008 % or less and O (Oxygen): 0.004 % or less, and the balance Fe and impurities, and also characterized in that the microstructure of the steel is bainite and/or martensite, ferrite is precipitated at grain boundaries and yield stress is 483 MPa or more. Further, to ensure high strength of the steel, the seamless steel pipe preferably contains, by mass %, at least one of Cu: 0.05 - 0.5 % and Ni: 0.05 - 0.5 %. To produce the above-mentioned steel pipe, it is desirable to limit a starting temperature of quenching after rolling, a cooling rate and a tempering temperature. By this configuration a seamless steel pipe having an yield stress of 483 MPa or more and excellent HIC resistance, which is suitable for a pipeline, can be provided.

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