

ABSTRACT

HEAT-RESISTANT ALLOY CAPABLE OF DEPOSITING FINE
Ti-Nb-Cr CARBIDE OR Ti-Nb-Zr-Cr CARBIDE

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Disclosed is an alloy having the following composition (by weight): C: exceeding 0.6% and not more than 0.9%; Si: 2.5% or less; Mn: 3.0% or less; Cr: 20-28%; Ni: 8-55%; Ti: 0.01-0.8%; Nb: 0.05-1.5%; and the remainder: Fe and
10 unavoidable impurities, wherein the (Ti+Nb)/C ratio is 0.12-0.29 atom %. The alloy may additionally comprise Zr in an amount of 0.5% or less, wherein the (Ti+Nb+Zr)/C ratio is 0.12-0.29 atom %. When heated to a temperature of about 800°C or higher, the alloy can deposit a fine Ti-Nb-Cr carbide or a
15 Ti-Nb-Zr-Cr carbide in its particle, leading to the delayed creep deformation and the improvement in creep rupture strength. Therefore, the alloy can be used suitably as a material for a reforming tube for use in the production of hydrogen.

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Figure 2