

Title (en)
CREEP RESISTANT STEEL

Title (de)
KRIECHFESTER STAHL

Title (fr)
ACIER RÉSISTANT AU FLUAGE

Publication
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Application
EP 08717748 A 20080313

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Abstract (en)
[origin: WO2008119638A1] The invention relates to a creep resistant steel which is characterized by the following chemical composition (given in % by weight): 9.0 to 12.0 Cr, 0.1 to 0.5 Mn, 2.3 to 3 Ni, 1.5 to 2.0 Mo, 0.1 to 0.4 V, 0.01 to 0.06 Nb, 0.08 to 0.16 C, 0.02 to 0.08 N, 0.004 to 0.012 B, 0.001 to 2 Ta, 0.001 to 0.5 La, 0.0001 to 1 Pd, maximum 0.005 P, maximum 0.005 S, maximum 0.05 Si, maximum 0.005 Sn, and the balance iron and unavoidable impurities. This steel distinguishes itself from other commercial steels by a much improved creeping behavior at temperatures of 550°C and higher. The steel also has an improved resistance to embrittlement after long-term aging, and a comparatively high tensile strength. The steel can be advantageously utilized as a material for gas turbine rotors which is exposed to high entrance temperatures for the purpose of increasing efficiency of the gas turbine, but can also be utilized in steam turbines.

IPC 8 full level
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