Title (en)

COBALT-CONTAINING AUSTENITIC STAINLESS STEEL, HIGHLY RESISTANT AGAINST IMPRINGEMENT ATTACK

Publication

EP 0171336 B1 19880817 (FR)

Application

EP 85420115 A 19850624

Priority

CA 457755 A 19840628

Abstract (en)

[origin: US4588440A] A soft, austenitic stainless steel alloy showing a high cavitation erosion resistance making it particularly useful for the manufacture and/or repair of hydraulic machine components. The alloy comprises from 8 to 30% by weight of Co; from 13 to 30% by weight of Cr; from 0.03 to 0.3% by weight of C; up to 0.3% by weight of N; up to 3% by weight of Si; up to 1% by weight of Ni; up to 2% by weight of Mo; and up to 9% by weight of Mn; the balance being substantially Fe. The amount of the above mentioned elements that are respectively known as ferrite formers (Cr, Mo, Si) and as austenite formers (C, N, Co, Ni, Mn) and, among said austenite and ferrite formers, the amount of each of the elements that are respectively known to increase and lower the stack fault energy, are respectively selected and balanced so that at least 60% by weight of the alloy is, at ambient temperature, in a metastable, face centered cubic phase having a stack fault energy low enough to make it capable of being transformed under cavitation exposure to a fine deformation twinning, hexagonal close pack epsilon -phase and/or alpha -martensitic phase.

IPC 1-7

C22C 38/30; B23K 35/30

IPC 8 full level

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