Title (en)

STEEL WITH HIGH MECHANICAL STRENGTH AND WEAR RESISTANCE

Title (de)

STAHL MIT HOHER MECHANISCHER FESTIGKEIT UND VERSCHLEISSFESTIGKEIT

Title (fr)

ACIER A HAUTE RESISTANCE MECANIQUE ET A L'USURE

Publication

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Application

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Abstract (en)

[origin: WO2005123975A2] The invention relates to a steel with high mechanical strength and wear resistance. More specifically, the invention relates to a method of reducing the segregated veins of a steel having high mechanical strength, high wear resistance and the following weight composition: 0.30 % = C = 1.42 %; 0.05 % = Si = 1.5 %; Mn = 1.95 %; Ni = 2.9 %; 1.1 % = Cr = 7.9 %; 0.61 % = Mo = 4.4 %; optionally V = 1.45 %, Nb = 1.45 %, Ta = 1.45 % and V+Nb/2 + Ta/4 = 1.45 %; less than 0.1 % borium, 0.19 % (S + Se/2 + Te/4), 0.01 % calcium, 0.5 % rare earths, 1 % aluminium, 1 % copper; the remainder being iron and impurities resulting from the production thereof. The composition also comprises: 800 = D = 1150, where D = 540(C)<0.25> + 245 (Mo + 3 V + 1.5 Nb + 0.75 Ta)<0.30> + 125 Cr<0.20 >+ 15.8 Mn + 7.4 Ni + 18 Si. According to the invention, all or part of the molydenum is replaced by a double proportion of tungsten, such that W > 0.21 %, and Ti, Zr, C are adjusted so that, after said adjustment, Ti + Zr/2 = 0.2 W, (Ti + Zr/2) X C = 0.07, Ti + Zr/2 = 1.49 % and D is unchanged at 5 %. The invention also relates to the steel obtained and to a method of producing a steel part.

IPC 8 full level

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