

Title (en)
AUSTENITIC-FERRITIC STAINLESS STEEL WITH IMPROVED MACHINABILITY

Title (de)
AUSTENITISCH-FERRITISCHER EDEHLSTAHL MIT VERBESSERTER VERARBEITBARKEIT

Title (fr)
ACIER INOXYDABLE AUSTÉNO-FERRITIQUE À USINABILITÉ AMÉLIORÉE

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Application
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Abstract (en)
[origin: WO2012004464A1] The invention relates to an austenitic-ferritic stainless composition, wherein the composition includes, by weight percent: 0.01% = C < 0.10% 20.0% = Cr < 24.0% 1.0% = Ni = 3.0% 0.12% = N = 0.20% 0.5% < Mn = 4.0% 1.6% < Cu = 3.0% 0.05% = Mo = 1.0% W < 0.15% 0.05% = Mo +W/2 < 1.0% 0.2% = Si = 1.5% Al = 0.05% V = 0.5% Nb < 0.5 % Ti = 0.5% B = 0.003% Co = 0.5% REM = 0.1% Ca < 0.03 % Mg < 0.1 % Se = 0.005% O = 0.01% S = 0.030% P = 0.040%, the remainder being iron and impurities resulting from production, and the microstructure consisting of austenite and 35 to 65 vol % of ferrite, wherein the composition further satisfies the following relations: 40 < IF = 65, where IF = 10%Cr + 5.1%Mo + 1.4%Mn + 24.3%Si + 35%Nb + 71.5%Ti - 595.4%C - 245. 1%N - 9.3%Ni - 3.3%Cu - 99.8 and IRCGCU > 32.0, where IRCGCU = %Cr+ 3.3%MO + 2%Cu +16%N + 2.6%Ni - 0.7%Mn, and 0 = IU < 6.0, where IU = 3%Ni + %Cu + %Mn -100%C -25%N - 2(%Cr + %Si) -6%Mo +45. The invention also relates to a method for manufacturing sheets, strips, coils, bars, wires, profile sections, forged parts, and molded parts made of said steel.

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