

Title (en)
Stainless austenitic steel suitable for the manufacture of wires

Title (de)
Rostfreier austenitischer Stahl, geeignet zur Herstellung von Drähten

Title (fr)
Acier inoxydable austénitique pour l'élaboration notamment de fil

Publication
EP 0947591 A1 19991006 (FR)

Application
EP 99400602 A 19990312

Priority
FR 9803263 A 19980318

Abstract (en)
An austenitic stainless steel contains only vitreous inclusions which are deformable during hot working. The stainless steel has the composition (by wt.) 5 x 10⁻³-200 x 10⁻³% C, 5 x 10⁻³-400 x 10⁻³% N, 0.2-10% Mn, 12-23% Cr, 0.1-17% Ni, 0.1-2% Si, 0-100 x 10⁻⁴% S, 40 x 10⁻⁴-120 x 10⁻⁴% total O, 0-5 x 10⁻⁴% Al, 0-0.5 x 10⁻⁴% Mg, 0-5 x 10⁻⁴% Ca, 0-4 x 10⁻⁴% Ti, balance Fe and impurities. The steel contains oxide inclusions in the form of a vitreous mixture containing 40-60% SiO₂, 5-50% MnO, 1-30% CaO, 0-4% MgO, 5-25% Al₂O₃, 0-4% Cr₂O₃ and 0-4% TiO₂, the sum of Cr₂O₃ + TiO₂ + MgO being less than 10%.

Abstract (fr)
Acier inoxydable austénitique pour la réalisation de fil pouvant être utilisé dans le domaine du tréfilage en diamètre inférieur à 0,3 mm et dans le domaine de la réalisation de pièces soumises à la fatigue, caractérisé en la composition pondérale suivante : 5.10-3% <= carbone <= 200. 10⁻³% , 5.10-3% <= azote <= 400. 10⁻³%, 0,2% <= manganèse <= 10%, 12% <= chrome <= 23%, 0,1% <= nickel <= 17%, 0,1% <= silicium <= 2%, dans lequel les éléments résiduels sont contrôlés de façon à obtenir des inclusions d'oxydes sous forme de mélange vitreux dont les proportions pondérales sont les suivantes : 40% <= SiO₂ <= 60%, 5% <= MnO <= 50%, 1% <= CaO <= 30%, 0% <= MgO <= 4%, 5% <= Al₂O₃ <= 25%, 0% <= Cr₂O₃ <= 4%, 0% <= TiO₂ <= 4%.

IPC 1-7
C21D 8/06; **C22C 38/40**

IPC 8 full level
C22C 38/00 (2006.01); **C22C 38/02** (2006.01); **C22C 38/38** (2006.01); **C22C 38/40** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR US)
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Citation (search report)
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