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)

C22C 38/02 (2013.01 - EP US); **C22C 38/38** (2013.01 - EP US); **C22C 38/40** (2013.01 - KR); **C22C 38/58** (2013.01 - EP US); Y10T 428/12431 (2015.01 - EP US)

Citation (search report)

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US 6123784 A 20000926; AT E258999 T1 20040215; AU 2036799 A 19990930; AU 737767 B2 20010830; BR 9903041 A 20010320; CA 2266597 A1 19990918; CN 1098372 C 20030108; CN 1238392 A 19991215; DE 69914517 D1 20040311; DE 69914517 T2 20041223; EP 0947591 A1 19991006; EP 0947591 B1 20040204; ES 2212483 T3 20040716; FR 2776306 A1 19990924; FR 2776306 B1 20000519; HK 1026923 A1 20001229; ID 23217 A 20000330; JP H11315350 A 19991116; KR 19990077924 A 19991025; TW 476795 B 20020221; ZA 992060 B 19990927

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