

Title (en)

Austenitic stainless steel sheet and method for obtaining this sheet

Title (de)

Rostfreies austenitisches Stahlblech und Herstellungsverfahren eines solchen Blechs

Title (fr)

Toile en acier inoxydable austénitique et procédé d'obtention de cette toile

Publication

EP 2072631 A1 20090624 (FR)

Application

EP 07291575 A 20071220

Priority

EP 07291575 A 20071220

Abstract (en)

Stainless steel sheet comprises: carbon (0.05-0.3 wt.%); silicon (0.3-1 wt.%); manganese (0.5-3 wt.%); nickel (4-10 wt.%); chromium (15-20 wt.%); nitrogen (less than 0.2 wt.%); phosphorus (0.05 wt.%); sulfur (0.015 wt.%); optionally vanadium (0.1-0.5 wt.%); optionally molybdenum (3 wt.%); optionally copper (0.5 wt.%); and the rest of the composition consisting of iron and inevitable impurities resulting from processing, where a microstructure of the steel is mainly austenitic steel, and average size of austenite grains is less than 2 mm. Independent claims are included for: (1) a process for preparing the stainless steel sheet, comprising supplying steel composition, casting the steel in the form of slab, hot rolling the slab to obtain a hot-rolled sheet, annealing the hot rolled sheet at a temperature of greater than 1000[deg] C, pickling the hot-rolled sheet, cold rolling the hot-rolled sheet at a reduction rate of greater than 40%, and carrying out a heat treatment on the cold rolled sheet; (2) an installation for a recrystallization annealing of austenitic stainless steel sheet, comprising a rapid heating device for heating the sheet during the heating phase by electromagnetic induction; and (3) a stainless steel mechanical component obtained from the sheet.

Abstract (fr)

L'invention a pour objet une tôle en acier inoxydable dont la composition comprend, les teneurs étant exprimées en poids : 0,05 % C, 0,30 %, 0,3 % Si, 1 %, 0,5 % Mn, 3 %, 4 % Ni, 10 %, 15 % Cr, 20 %, N 0,2 %, P 0,05 %, S 0,015 %, optionnellement 0,1 % V, 0,5 %, optionnellement Mo 3 %, optionnellement Cu 0,5 %, le reste de la composition étant constitué de fer et d'impuretés inévitables résultant de l'élaboration, la microstructure dudit acier étant essentiellement austénitique, la taille moyenne des grains d'austénite étant inférieure à 2 micromètres.

IPC 8 full level

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CPC (source: EP)

C21D 8/04 (2013.01); **C21D 9/48** (2013.01); **C22C 38/02** (2013.01); **C22C 38/04** (2013.01); **C22C 38/24** (2013.01); **C22C 38/40** (2013.01); **C22C 38/58** (2013.01)

Citation (search report)

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