Title (en)

HIGH STRENGTH AUSTENITIC STAINLESS STEEL, AND PREPARATION METHOD THEREOF

Title (de)

HOCHFESTER AUSTENITISCHER ROSTFREIER STAHL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

ACIER INOXYDABLE AUSTÉNITIQUE À RÉSISTANCE ÉLEVÉE ET SON PROCÉDÉ DE PRÉPARATION

Publication

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Application

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Abstract (en)

The present invention relates to control of the components of a metastable austenitic stainless steel capable of being used as a steel for a high strength spring, and a preparation method thereof. The austenitic stainless steel comprises 0.05-0.15 % of C, 0.05-0.09 % of N, 15-18 % of Cr, 6-8 % of Ni, Si in an amount exceeding 1.0 % and of no more than 1.5 %, 0.5-0.9 % of Mo, 0.4-1.2 % of Mn, 1.5 % or less of Cu, and the balance of Fe and other inevitable impurities by weight, wherein the Md30 temperature represented by the following formula (1) satisfies the temperature range of 25-30 °C, the solid solution strengthening property of the delta ferrite phase is maximized through the production of a coil using strip casting, the tensile strength is 2200 Mpa or higher at a cold rolling reduction ratio of 80%, and the hardness exceeds 570 Hv.

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