

Title (en)

METHOD FOR TEMPERATURE-TREATING A MANGANESE STEEL INTERMEDIATE PRODUCT.

Title (de)

VERFAHREN ZUM TEMPERATURBEHANDELN EINES MANGAN-STAHLZWISCHENPRODUKTS.

Title (fr)

PROCÉDÉ DE TRAITEMENT THERMIQUE D'UN PRODUIT INTERMÉDIAIRE EN ACIER AU MANGANÈSE.

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Application

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Abstract (en)

[origin: WO2017162450A1] The invention relates to a method for temperature-treating a manganese steel intermediate product, the alloy of which comprises the following: · a manganese content which lies in the range of 3 wt.% < Mn < 12 wt.%, · a content of one or more alloy elements of the following group: silicon (Si), aluminum (Al), nickel (Ni), chromium (Cr), molybdenum (Mo), phosphorus (P), sulfur (S), nitrogen (N), copper (Cu), boron (B), cobalt (Co), and tungsten (W), · an optional carbon content (C) of less than 1 wt.%, · an optional content of one or more micro-alloying elements, wherein the entire content of the micro-alloying elements is less than 0.45 wt.%, and · as the remainder, an iron content (Fe) and unavoidable impurities. The temperature treatment of the steel intermediate product has a first temperature treatment process and a subsequent second temperature treatment process. The first temperature treatment process is a high-temperature process in which the steel intermediate product is exposed to a first annealing temperature during a first hold time, said annealing temperature lying above a critical temperature threshold which is defined as follows: $CTT = (856 - SK * \text{manganese content})$ degrees Celsius, in which SK is a gradient value, and the second temperature treatment process is an annealing process in which the steel intermediate product is exposed to a second annealing temperature which is lower than the first annealing temperature.

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