

Title (en)
PROCESS FOR MANUFACTURING HIGH MANGANESE CONTENT STEEL WITH HIGH MECHANICAL RESISTANCE AND FORMABILITY, AND STEEL SO OBTAINABLE

Title (de)
VERFAHREN ZUR HERSTELLUNG EINES HOCH MANGAN STAHL MIT GUTER VERFORMBARKEIT UND GUTEN ZUGEIGENSCHAFTEN

Title (fr)
PROCÉDÉ DE FABRICATION D'UN ACIER À HAUTE TENEUR EN MANGANÈSE PRÉSENTANT UNE RÉSISTANCE MÉCANIQUE ET UNE APTITUDE AU FORMAGE ÉLEVÉES, ET ACIER OBTENU PAR LE PROCÉDÉ

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Application
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• IT RM20100641 A 20101207
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Abstract (en)
[origin: WO2012077150A2] The subject of the present invention is a process for the production of an austenitic steel with high mechanical resistance and formability. The proposed steel has the following chemical composition in percentage by weight: C 0.2-1.5; Mn 10-25; optionally Ni<2; 0.05-2.00; Al 0.01-2.0; N<0.1; P+Sn+Sb+As<0.2; S+Se+Te<0.5; and optionally Nb+Co<1 and/or Re+W<1, the balance being Fe apart from unavoidable impurities, and is subjected to a specific recrystallization annealing treatment. Another subject of the present invention is the so obtainable austenitic steel product and the use thereof in the automotive industry. Figure 2 shows the microstructure - of a TWIP steel according to the invention after deformation - wherein the geminates presence is observed.

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Citation (search report)
See references of WO 2012077150A2

Cited by
EP3173504A1; WO2017081072A1; US11247252B2; EP3095889A1; WO2016188948A1; US10774395B2

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