

Title (en)
LOW DENSITY COLD ROLLED AND ANNEALED STEEL SHEET, METHOD OF PRODUCTION THEREOF AND USE OF SUCH STEEL TO PRODUCE VEHICLE PARTS

Title (de)
KALTGEWALZTES UND GEGLÜHTES STAHLBLECH VON NIEDRIGER DICHT, VERFAHREN ZUR HERSTELLUNG DAVON UND VERWENDUNG SOLCH EINES STAHLS ZUR HERSTELLUNG VON FAHRZEUGTEILEN

Title (fr)
FEUILLE D'ACIER À BASSE DENSITÉ LAMINÉE À FROID ET RECUITE, SON PROCÉDÉ DE PRODUCTION ET UTILISATION D'UN TEL ACIER POUR PRODUIRE DES PIÈCES DE VÉHICULE

Publication
EP 4259835 A1 20231018 (EN)

Application
EP 20825255 A 20201210

Priority
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Abstract (en)
[origin: WO2022123299A1] A low density cold rolled and annealed steel sheet comprising of $0.12\% \leq \text{carbon} \leq 0.25\%$, $3\% \leq \text{manganese} \leq 10\%$, $3.5\% \leq \text{aluminum} \leq 6.5\%$, $0\% \leq \text{phosphorus} \leq 0.1\%$, $0\% \leq \text{sulfur} \leq 0.03\%$, $0\% \leq \text{nitrogen} \leq 0.1\%$, $0\% \leq \text{silicon} \leq 2\%$, $0.01\% \leq \text{niobium} \leq 0.03\%$, $0.01\% \leq \text{titanium} \leq 0.2\%$, $0\% \leq \text{molybdenum} \leq 0.5\%$, $0\% \leq \text{chromium} \leq 0.6\%$, $0.01\% \leq \text{copper} \leq 2.0\%$, $0.01\% \leq \text{nickel} \leq 3.0\%$, $0\% \leq \text{calcium} \leq 0.005\%$, $0\% \leq \text{boron} \leq 0.01\%$, $0\% \leq \text{Magnesium} \leq 0.005\%$, $0\% \leq \text{Zirconium} \leq 0.005\%$, $0\% \leq \text{Cerium} \leq 0.1\%$, and the balance including iron, the steel sheet having a microstructure comprising 60% to 90% Delta ferrite, 8% to 30% of residual austenite having average grain size between 0.6 and 2 microns, 1.0% to 10% of alpha-ferrite having average grain size between 0.6 and 2 microns and 0% to 2% of kappa precipitates $(\text{Fe,Mn})_3\text{AlC}_x$, where x is strictly lower than 1.

IPC 8 full level
C21D 8/02 (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/14** (2006.01); **C22C 38/16** (2006.01); **C22C 38/38** (2006.01)

CPC (source: EP KR US)
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