

Title (en)

LOW ALLOY STEEL SHEET HAVING EXCELLENT STRENGTH AND DUCTILITY

Title (de)

NIEDRIGLEGIERTES STAHLBLECH MIT HERVORRAGENDER FESTIGKEIT UND DUKTILITÄT

Title (fr)

TÔLE D'ACIER FAIBLEMENT ALLIÉ AYANT UNE RÉSISTANCE ET UNE DUCTILITÉ EXCELLENTE

Publication

EP 3556892 A1 20191023 (EN)

Application

EP 17881659 A 20170524

Priority

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- KR 2017005381 W 20170524

Abstract (en)

The present invention minimizes the addition of alloying elements to reduce surface cracking during hot rolling, ensures corrosion resistance by constituting Cr as one of the main components, and realizes a TRIP or TWIP phenomenon through a high Mn design, thereby providing a low alloy steel sheet with excellent hot workability, strength and ductility. The low alloy steel sheet excellent in strength and ductility according to an embodiment of the present invention comprises, in percent (%) by weight of the entire composition, 0.05 to 0.3 % of carbon (C), 0.7 to 2.5 % of silicon (Si), 8 to 12 % of manganese (Mn), 13 to 15.5 % of chromium (Cr), 0.5 to 3.0 % of copper (Cu), 0.1 to 0.2 % of nitrogen (N), 0.25 % or less of aluminum (Al), 0.25 % or less of tin (Sn), and the remainder of iron (Fe) and other inevitable impurities. The microstructure of the low alloy steel sheet comprises at least one of a ferrite phase and a martensite phase at a volume fraction of 5% or less, and the remainder includes an austenite phase.

IPC 8 full level

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