

Title (en)  
METHOD FOR ROLLING HIGH-TOUGHNESS HIGH-STRENGTH LOW-ALLOY STEEL

Title (de)  
VERFAHREN ZUM WALZEN VON HOCHFESTEM, NIEDRIGLEGIERTEM STAHL MIT HOHER ZÄHIGKEIT

Title (fr)  
PROCÉDÉ DE LAMINAGE D'ACIER FAIBLEMENT ALLIÉ À HAUTE RÉSISTANCE ET HAUTE TÉNACITÉ

Publication  
**EP 4338862 A1 20240320 (EN)**

Application  
**EP 22784173 A 20220511**

Priority  
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Abstract (en)  
The method for rolling a high-toughness high-strength low-alloy steel, sequentially comprising the following steps: heating, descaling, rough rolling, continuous rolling, first water cooling, finish rolling, second water cooling, and cold hearth cooling; and using a converter continuous casting billet as a raw material, the continuous casting billet comprising the following chemical components in percentage by mass: C≤0.20, Si≤0.60, Mn: 1.00-1.70, Cr≤0.30, P≤0.020, S≤0.020, V: 0.05-0.10, Al≤0.03, and N≤0.025, with the balance being Fe and inevitable impurities. By using the rolling method, the actual grain size of the high-strength low-alloy steel can be refined; the comprehensive performance of the high-strength low-alloy steel is excellent; the metallographic structure is fine ferrite and pearlite; the grain size reaches 9.0 or above; the impact energy at -20 °C is greater than 100 J, and the impact energy at -40 °C is greater than 80 J.

IPC 8 full level  
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