

Title (en)  
ULTRAHIGH-STRENGTH COLD-ROLLED STEEL SHEET WITH EXCELLENT DUCTILITY AND DELAYED-FRACTURE RESISTANCE, AND  
PROCESS FOR PRODUCING SAME

Title (de)  
ULTRAHOCHFESTES KALTGEWALZTES STAHLBLECH MIT HERVORRAGENDER DUKTILITÄT UND VERZÖGERTER BRUCHFESTIGKEIT  
SOWIE HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
TÔLE D'ACIER LAMINÉE À FROID À ULTRAHAUTE RÉSISTANCE PRÉSENTANT UNE EXCELLENTE DUCTILITÉ ET RÉSISTANCE À LA  
RUPTURE DIFFÉRÉE, ET SON PROCÉDÉ DE PRODUCTION

Publication  
**EP 2589674 A4 20170621 (EN)**

Application  
**EP 11800982 A 20110624**

Priority  
• JP 2010148531 A 20100630  
• JP 2011065135 W 20110624

Abstract (en)  
[origin: EP2589674A1] Provided is an ultra-high-strength cold-rolled steel sheet having excellent delayed fracture resistance and a tensile strength of 1320 MPa or more and a method for manufacturing the same. The ultra-high-strength cold-rolled steel sheet has a steel composition that does not excessively contain a transition metal element, such as V or Mo, causing a significant increase in allowing cost or Al, which may possibly cause casting defects. An ultra-high-strength cold-rolled steel sheet with excellent ductility and delayed fracture resistance contains 0.15% to 0.25% C, 1.0% to 3.0% Si, 1.5% to 2.5% Mn, 0.05% or less P, 0.02% or less S, 0.01% to 0.05% Al, and less than 0.005% N on a mass ratio, the remainder being Fe and unavoidable impurities, and has a metal microstructure containing 40% to 85% of a tempered martensite phase and 15% to 60% of a ferrite phase on a volume fraction basis and a tensile strength of 1320 MPa or more.

IPC 8 full level  
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CPC (source: EP KR US)  
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• [XI] JP H11350038 A 19991221 - NIPPON KOKAN KK  
• See references of WO 2012002520A1

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