

Title (en)  
Electrical steel sheet.

Title (de)  
Elektroblech.

Title (fr)  
Tôle d'acier électrique.

Publication  
**EP 0601549 A1 19940615 (EN)**

Application  
**EP 93119720 A 19931207**

Priority  
• JP 2856293 A 19930125  
• JP 35185992 A 19921208

Abstract (en)  
An electrical steel sheet contains 0.01 wt.% or less C, 4 to 10 wt.% Si, 0.5 wt.% or less Mn, 0.01 wt.% or less P, 0.01 wt.% or less S, 0.2 wt.% or less Sol. Al, 0.01 wt.% or less N, 0.02 wt.% or less O, and the balance being Fe and inevitable impurities, the electrical steel sheet containing crystal grains and grain boundaries, said grain boundary having an oxygen content of 30 atomic % or less. The electrical steel sheet may contain 4 to 10 wt.% (Si + Al) instead of 4 to 10 wt.% Si. The grain boundaries may have the oxygen content of 30 atomic % or less and a sulfur content of 0.2 atomic %.

IPC 1-7  
**C22C 38/02**; **C21D 8/12**

IPC 8 full level  
**C21D 8/12** (2006.01); **C22C 38/02** (2006.01); **C21D 1/76** (2006.01); **C21D 1/773** (2006.01)

CPC (source: EP KR)  
**C21D 8/12** (2013.01 - KR); **C21D 8/1272** (2013.01 - EP); **C22C 38/02** (2013.01 - EP); **C21D 1/76** (2013.01 - EP); **C21D 1/773** (2013.01 - EP); **C21D 8/1227** (2013.01 - EP); **C21D 8/1255** (2013.01 - EP)

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• [A] EP 0254932 A2 19880203 - ALLIED CORP [US]  
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• [X] PATENT ABSTRACTS OF JAPAN vol. 15, no. 27 (C - 0797) 22 January 1991 (1991-01-22)  
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**EP 93119720 A 19931207**; CN 93120804 A 19931208; DE 69312233 T 19931207; KR 930026779 A 19931207