

Title (en)  
HIGH-STRENGTH ELECTROMAGNETIC STEEL SHEET AND PROCESS FOR PRODUCING THE SAME

Title (de)  
HOCHFESTE ELEKTROMAGNETISCHE STAHLPLATTE UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)  
TÔLE EN ACIER ÉLECTROMAGNÉTIQUE À GRANDE RÉSISTANCE ET SON PROCÉDÉ DE FABRICATION

Publication  
**EP 2031079 A1 20090304 (EN)**

Application  
**EP 06767202 A 20060616**

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Abstract (en)  
The present invention has as its object the production of high strength electrical steel sheet, having a high strength of a tensile strength TS of for example 500 MPa or more, having wear resistance, and having superior magnetic properties of magnetic flux density and iron loss, that is, provides a method of production of high strength electrical steel sheet containing, by mass%, C: 0.060% or less, Si: 0.2 to 6.5%, Mn: 0.05 to 3.0%, P: 0.30% or less, S or Se: 0.040% or less, Al: 2.50% or less, N: 0.020% or less, and further one or more of Cu: 0.001 to 30.0% and Nb: 0.03 to 8.0% and having worked structures remaining inside the steel sheet, said method of production of high strength electrical steel sheet coarsening an average crystal grain size D ( $\mu\text{m}$ ) of a sheet right before a step of forming the worked structures to finally remain inside the steel sheet to  $D \geq 20 \mu\text{m}$ , imparting strain in the final working step as a preferred process, then not performing any heat treatment causing the worked structures to disappear and high strength electrical steel sheet obtained by that method.

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