

## Title (en)

High strength thin steel sheet having high hydrogen embrittlement resisting property and high workability

## Title (de)

Bearbeitungsfähiges hochfestes dünnes Stahlblech mit hohem Widerstand gegen Wasserstoffversprödung

## Title (fr)

Tôle d'acier mince à haute résistance, possédant une résistance à la fragilisation par l'hydrogène et une aptitude au façonnage élevées

## Publication

**EP 1676933 A1 20060705 (EN)**

## Application

**EP 05028528 A 20051227**

## Priority

- JP 2004381243 A 20041228
- JP 2004381244 A 20041228
- JP 2004381245 A 20041228
- JP 2005147357 A 20050519
- JP 2005147358 A 20050519
- JP 2005147359 A 20050519

## Abstract (en)

The present invention provides a high strength thin steel sheet that has high hydrogen embrittlement resisting property and high workability. The high strength thin steel sheet having high hydrogen embrittlement resisting property has a metallurgical structure after stretch forming process to elongate 3%, which comprises: (i) 1% or more residual austenite; 80% or more in total of bainitic ferrite and martensite; and 9% or less (may be 0%) in total of ferrite and pearlite in terms of proportion of area to the entire structure, wherein the mean axis ratio (major axis/minor axis) of the residual austenite grains is 5 or higher, or (ii) 1% or more residual austenite in terms of proportion of area to the entire structure; mean axis ratio (major axis/minor axis) of the residual austenite grains is 5 or higher; mean length of minor axes of the residual austenite grains is 1  $\mu$  m or less; minimum distance between the residual austenite grains is 1  $\mu$  m or less; and the steel has tensile strength of 1180 MPa or higher.

## IPC 8 full level

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## Citation (applicant)

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