

Title (en)

METHOD FOR MANUFACTURING STEEL COMPONENT HAVING LOCALLY SOFTENED SECTION

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER STAHLKOMPONENTE MIT LOKAL WEICHGEMACHTEM ABSCHNITT

Title (fr)

PROCÉDÉ DE FABRICATION D'ÉLÉMENT EN ACIER DOTÉ DE SECTION RAMOLLIE LOCALEMENT

Publication

EP 4116003 A1 20230111 (EN)

Application

EP 21768018 A 20210115

Priority

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- JP 2020172764 A 20201013
- JP 2021001266 W 20210115

Abstract (en)

Disclosed is a method for producing a steel component, which include the steps of: preparing a steel sheet having a chemical composition including: C: 0.05 to 0.40% by mass, Si: 0 to 2.0% by mass, Mn: 1.0 to 3.0% by mass, Al: 0.010 to 1.0% by mass, P: more than 0% by mass and 0.100% by mass or less, S: more than 0% by mass and 0.010% by mass or less, N: more than 0% by mass and 0.010% by mass or less, and B: 0.0005 to 0.010% by mass, with the balance being iron and inevitable impurities; heating the steel sheet to a temperature of Ac1 point (°C) or higher and lower than Ac3 point (°C) + 10°C; after the heating step, processing the steel sheet by applying a strain of 0.5% or more thereto at a temperature of 675°C or higher and lower than Ac3 point + 10°C; after the processing step, holding or gradually cooling the steel sheet at an average cooling rate of 0 to 15°C/sec for 1 second or more and 120 seconds or less; and after the holding or gradually cooling step, cooling the steel sheet to a temperature of Ms point (°C) - 50°C, wherein an average cooling rate from the temperature of the heating step to the Ms point (°C) - 50°C is controlled to be 10°C/sec or more.

IPC 8 full level

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CPC (source: EP KR US)

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