

Title (en)  
NITRIDED COMPONENT AND METHOD FOR PRODUCING SAME

Title (de)  
NITRIDIERTE KOMPONENTE UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)  
COMPOSANT NITRURÉ ET SON PROCÉDÉ DE PRODUCTION

Publication  
**EP 3524708 A1 20190814 (EN)**

Application  
**EP 17858502 A 20171005**

Priority  
• JP 2016197262 A 20161005  
• JP 2017036373 W 20171005

Abstract (en)  
A nitrided part excellent in contact fatigue strength plus rotating bending fatigue strength, the nitrided part having a steel material having a predetermined chemical composition as a material, wherein the nitrided part comprises a compound layer formed on the surface of the steel material, the compound layer containing iron, nitrogen, and carbon, a thickness of the compound layer being 3  $\mu\text{m}$  to less than 20  $\mu\text{m}$ ; a phase structure in the compound layer in a range from the surface down to a depth of 5  $\mu\text{m}$  contains  $\gamma'$  phases in an area ratio of 50% or more; a pore area ratio in a range from the surface down to a depth of 3  $\mu\text{m}$  is less than 1%; and a compressive residual stress of the compound layer surface is 500 MPa or more.

IPC 8 full level  
**C23C 8/26** (2006.01); **C21D 1/06** (2006.01); **C21D 1/76** (2006.01); **C21D 9/30** (2006.01); **C21D 9/32** (2006.01); **C22C 38/00** (2006.01); **C22C 38/60** (2006.01)

CPC (source: EP KR US)  
**C21D 1/06** (2013.01 - EP); **C21D 1/76** (2013.01 - EP); **C21D 9/30** (2013.01 - EP); **C21D 9/32** (2013.01 - EP); **C22C 38/00** (2013.01 - EP); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - US); **C22C 38/06** (2013.01 - EP US); **C22C 38/18** (2013.01 - EP KR); **C22C 38/20** (2013.01 - EP); **C22C 38/22** (2013.01 - EP); **C22C 38/24** (2013.01 - EP); **C22C 38/38** (2013.01 - EP); **C22C 38/42** (2013.01 - EP US); **C22C 38/44** (2013.01 - EP US); **C22C 38/46** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP US); **C22C 38/54** (2013.01 - EP US); **C22C 38/60** (2013.01 - EP KR); **C23C 8/26** (2013.01 - EP KR US)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
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**EP 17858502 A 20171005**; BR 112019006046 A 20171005; CN 201780058243 A 20171005; JP 2017036373 W 20171005; JP 2018543971 A 20171005; KR 20197004429 A 20171005; US 201716338383 A 20171005