

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 A4 20200219 (EN)**

Application  
**EP 17858502 A 20171005**

Priority  
• JP 2016197262 A 20161005  
• JP 2017036373 W 20171005

Abstract (en)  
[origin: EP3524708A1] 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 38/18** (2006.01); **C22C 38/38** (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)

Citation (search report)  
• [I] US 2015053311 A1 20150226 - SHIMIZU YUICHIRO [JP], et al  
• [A] WO 2015136917 A1 20150917 - NIPPON STEEL & SUMITOMO METAL CORP [JP]  
• [A] EP 2679701 A1 20140101 - DOWA THERMOTECH CO LTD [JP], et al  
• See also references of WO 2018066666A1

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