

Title (en)
METHOD FOR SOLUTION HARDENING OF A COLD DEFORMED WORKPIECE OF A PASSIVE ALLOY, AND A MEMBER SOLUTION HARDENED BY THE METHOD

Title (de)
VERFAHREN ZUR MISCHKRISTALLHÄRTUNG EINES KALTVERFORMTEN WERKSTÜCKS AUS EINER PASSIVEN LEGIERUNG UND MIT DIESEM VERFAHREN MISCHKRISTALLGEHÄRTETES ELEMENT

Title (fr)
PROCÉDÉ POUR LE DURCISSEMENT EN SOLUTION D'UNE PIÈCE DÉFORMÉE À FROID CONSTITUÉE D'UN ALLIAGE PASSIF ET ÉLÉMENT DURCI EN SOLUTION PAR LE PROCÉDÉ

Publication
EP 2841617 A1 20150304 (EN)

Application
EP 13726673 A 20130425

Priority
• DK 2012050139 W 20120427
• DK 2013050119 W 20130425

Abstract (en)
[origin: WO2013159781A1] The invention relates to a method for method for solution hardening of a cold deformed workpiece of a passive alloy containing at least 10% chromium, which method comprises -dissolving at least nitrogen in the workpiece at a temperature T1, which is higher than the solubility temperature for carbide and/or nitride and lower than the melting point of the passive alloy, wherein dissolution of nitrogen at temperature T1 is performed to obtain a diffusion depth in the range of 0 mm to 5 mm, and -cooling the workpiece after the dissolution step at temperature T1 to a temperature which is lower than the temperature at which carbides and/or nitrides form in the passive alloy, wherein the cooling step takes place in an inert gas not containing nitrogen. The invention further relates to a member, such as a lock washer for securing bolts or nuts prepared using the method.

IPC 8 full level
C23C 8/26 (2006.01); **C23C 8/34** (2006.01)

CPC (source: EP)
C23C 8/02 (2013.01); **C23C 8/24** (2013.01); **C23C 8/26** (2013.01); **C23C 8/30** (2013.01); **C23C 8/32** (2013.01); **C23C 8/34** (2013.01); **C23C 8/80** (2013.01)

Citation (search report)
See references of WO 2013159781A1

Cited by
DE102019125839A1; GB2589201A; GB2589201B

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)
WO 2013159781 A1 20131031; CA 2869018 A1 20131031; CN 104246001 A 20141224; CN 104246001 B 20170725; DK 2841617 T3 20180312; EP 2841617 A1 20150304; EP 2841617 B1 20171213; IN 9816DEN2014 A 20150731; JP 2015514874 A 20150521; JP 6241896 B2 20171206; KR 101897321 B1 20180910; KR 20150003900 A 20150109

DOCDB simple family (application)
DK 2013050119 W 20130425; CA 2869018 A 20130425; CN 201380021884 A 20130425; DK 13726673 T 20130425; EP 13726673 A 20130425; IN 9816DEN2014 A 20141119; JP 2015507380 A 20130425; KR 20147033482 A 20130425