

Title (en)  
MECHANICAL COMPONENT AND METHOD FOR SURFACE HARDENING

Title (de)  
MECHANISCHE KOMPONENTE UND VERFAHREN ZUR OBERFLÄCHENHÄRTUNG

Title (fr)  
COMPOSANT MÉCANIQUE ET PROCÉDÉ DE DURCISSEMENT SUPERFICIEL

Publication  
**EP 2598662 A1 20130605 (EN)**

Application  
**EP 11801220 A 20110527**

Priority  
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• SE 2011000094 W 20110527

Abstract (en)  
[origin: WO2012002863A1] Mechanical component (10) having an surface (10a, 10b, 12a, 12b) at least one part (18) of which has been surface hardened by induction heating. A cross section of the mechanical component (10) through the surface (10a, 10b, 12a, 12b) exhibits a hardness H<sub>surface</sub> at the surface (10a, 10b) and a hardness H<sub>core</sub> at the non-hardened core (10c) of the mechanical component (10). The hardness profile of the cross section exhibits a first region (24) whose hardness is substantially equal to the hardness H<sub>surface</sub> at the surface (10a, 10b), a third region (26) whose hardness is substantially equal to the hardness H<sub>core</sub> at the non-hardened core (10c) of the mechanical component (10) and a second region (25) between the first and third regions (26). The hardness profile in the first region has an average hardness Y<sub>1</sub>, and the hardness profile in the third region has an average hardness Y<sub>3</sub>. If a line is drawn on the hardness profile in the second region (25) between the points (formula) and (formula), where  $0 < k < 2$ , the hardness of the mechanical component in the second region (25) determined along the line decreases by less than 50 HRC per mm.

IPC 8 full level  
**C21D 1/10** (2006.01); **C21D 9/00** (2006.01)

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