

Title (en)  
Method for manufacturing press hardened components

Title (de)  
Verfahren zur Herstellung von pressgehärteten Bauteilen

Title (fr)  
Procédé de fabrication de composants durcis par une presse

Publication  
**EP 2241641 A2 20101020 (DE)**

Application  
**EP 10002910 A 20100319**

Priority  
DE 102009017326 A 20090416

Abstract (en)  
The method for the production of car body component of a motor vehicle from a plate made of untempered, heat formable steel plate, comprises forming and hardening the plate in a press tool to sheet-metal profile. The plate is provided, whose geometry corresponds to the development of the finished component and subsequently the plate is remodeled and press-hardened in a hot working tool to component, which is provided with a surface coating. The component is cooled during press-hardening at 200[deg] C. The surface coating is applied through a diffusion process. The method for the production of car body component of a motor vehicle from a plate made of untempered, heat formable steel plate, comprises forming and hardening the plate in a press tool to sheet-metal profile. The plate is provided, whose geometry corresponds to the development of the finished component and subsequently the plate is remodeled and press-hardened in a hot working tool to component, which is provided with a surface coating. The component is cooled during press-hardening at 200[deg] C. The surface coating is applied through a diffusion process with a heat treatment of the component in which the component is applied in contact with a metal powder. The diffusion process is carried out at 350-410[deg] C and the heat treatment is carried out over a period of 0.25-3.0 h. The coated component is cooled after the heat treatment at 200[deg] C. The cooling of the component is carried out under inert-gas atmosphere. The plate is perforated before or after the forming process. The press-hardening is carried out so that the areas emerge with different stabilities on the component.

Abstract (de)  
Die Erfindung betrifft ein Verfahren zur Herstellung von pressgehärteten Bauteilen, insbesondere Karosseriebauteilen von Kraftfahrzeugen, aus einer Platine aus ungehärtetem, warmumformbaren Stahlblech, wobei die Platine in einem Pressenwerkzeug zum Blechprofil warm umgeformt und gehärtet wird. Hierbei wird zunächst eine Platine gefertigt, deren Geometrie der Abwicklung des fertigen Bauteils entspricht. Anschließend wird diese Platine in einem Warmumform-Werkzeug zum Bauteil umgeformt und pressgehärtet, wonach das Bauteil mit einer Oberflächenbeschichtung versehen wird. Der gesamte randseitige Konturbeschnitt des Bauteils erfolgt vor dem Umform- und/oder Presshärtungsvorgang.

IPC 8 full level  
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CPC (source: EP US)  
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Citation (applicant)  
• DE 2452486 A1 19750507 - NORRBOTTENS JAERNVERK AB  
• WO 2005018848 A1 20050303 - DAIMLER CHRYSLER AG [DE], et al

Citation (third parties)  
Third party :  
• DE 102006049046 A1 20080424 - TRUMPF WERKZEUGMASCHINEN GMBH [DE]  
• JP H0643602 A 19940218 - DAINIPPON INK & CHEMICALS  
• DE 102007039096 A1 20090219 - AUDI AG [DE]  
• CN 102189173 A 20110921 - NANJING INST INDUSTRY TECH

Cited by  
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