

Title (en)
Method for manufacturing a body featuring very high mechanical properties, formed by drawing from a rolled steel sheet, in particular hot rolled and coated sheet

Title (de)
Verfahren zum Herstellen eines Bauteils mit sehr guten mechanischen Eigenschaften durch Tiefziehen aus gewalztem insbesondere warmgewalztem und beschichtetem Stahlblech

Title (fr)
Procédé de réalisation d'une pièce à très hautes caractéristiques mécaniques, mise en forme par emboutissage, à partir d'une bande de tôle d'acier laminée et notamment laminée à chaud et revêtue

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Application
EP 10006299 A 20010404

Priority

- EP 06002618 A 20010404
- EP 01400861 A 20010404
- FR 0004427 A 20000407

Abstract (en)
The process of making a steel component from a hot-rolled steel strip by pressing, comprises cutting the sheet to obtain a sheet blank, subjecting the coated sheet blank to high temperature to form a component in heat, carrying out pressing of the sheet blank to obtain the component, preparing an intermetallic alloy compound on surface before or after pressing, providing protection against corrosion and decarburization of steel, and cooling the formed component to provide the mechanical characteristics of high hardness to the steel and high surface hardness to the coating. The process of making a steel component from a hot-rolled steel strip by pressing, comprises cutting the sheet to obtain a sheet blank, subjecting the coated sheet blank to high temperature to form a component in heat, carrying out pressing of the sheet blank to obtain the component, preparing an intermetallic alloy compound on surface before or after pressing, providing protection against corrosion and decarburization of steel, cooling the formed component to provide the mechanical characteristics of high hardness to the steel and high surface hardness to the coating, and removing by cutting the excess sheet necessary for the pressing operation. The intermetallic compound provides a lubrication function. The coated sheet is subjected to a high temperature of greater than 700[deg] C prior to heat treatment. The component obtained by pressing is cooled for undergoing hardening at a speed greater than the hardening critical speed.

Abstract (fr)
Procédé de réalisation d'une pièce à très hautes caractéristiques mécaniques, mise en forme par emboutissage, à partir d'une bande de tôle d'acier laminée, notamment laminée à chaud et revêtue d'un métal ou d'un alliage métallique assurant une protection de la surface et de l'acier, caractérisée en ce que : - on découpe la tôle pour l'obtention d'un flan de tôle, - on effectue un emboutissage, à partir du flan de tôle pour obtenir la pièce, - on réalise, avant ou après emboutissage, un composé allié intermétallique, en surface, assurant une protection contre la corrosion, contre la décarburation de l'acier, le composé intermétallique pouvant assurer une fonction de lubrification, - on retire par découpage, les excédents de tôle nécessaires à l'opération d'emboutissage.

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Citation (search report)

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- [XY] EP 0971044 A1 20000112 - LORRAINE LAMINAGE [FR]
- [Y] JP S5528343 A 19800228 - NIPPON STEEL CORP
- [A] FR 537122 A 19220516
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Citation (third parties)
Third party :

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- EP 0700735 A2 19960313 - TOYOTA MOTOR CO LTD [JP]
- "High yield strength flat steel products part 2: Products supplied in the normalized or controlled rolled condition", ISO 4950-2, 1995, pages I - II, 1 - 4, XP003032387
- "Galvanized Sheet Gage Number with Equivalent Unit Weights", THE MAKING, SHAPING AND TREATING OF STEEL, 1965, pages 1174 - 1175, XP003032388
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EP 1143029 A1 20011010; **EP 1143029 B1 20060524**; AR 028319 A1 20030507; AT E327353 T1 20060615; AT E478167 T1 20100915; BR 0102747 A 20011204; BR P10102747 B1 20160830; BR P10117371 B1 20160614; CA 2343340 A1 20011007; CA 2343340 C 20080708; DE 01400861 T1 20050504; DE 10006299 T1 20120126; DE 20122563 U1 20060511; DE 60119826 D1 20060629; DE 60119826 T2 20061214; DE 60142859 D1 20100930; DK 1143029 T3 20060918; EP 1672088 A1 20060621; EP 1672088 B1 20100818; EP 1672088 B2 20150128; EP 2224034 A1 20100901; EP 2224034 B1 20130717; ES 2263567 T3 20061216; ES 2350399 T3 20110121; ES 2350399 T5 20151110;

ES 2428638 T3 20131108; FR 2807447 A1 20011012; FR 2807447 B1 20021011; JP 2001353548 A 20011225; JP 2005047001 A 20050224; JP 3663145 B2 20050622; JP 3825456 B2 20060927; PT 1143029 E 20060929; PT 1672088 E 20101104; US 2001042393 A1 20011122; US 6564604 B2 20030520

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