

Title (en)
Oven system for partially heating steel blanks

Title (de)
Ofensystem zum partiellen Erwärmen von Stahlblechteilen

Title (fr)
Système de four pour le réchauffage partiel d'ébauches métalliques

Publication
EP 2497840 B2 20200226 (DE)

Application
EP 11157721 A 20110310

Priority
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Abstract (en)
[origin: EP2497840A1] Oven system (1) for partial heating of steel sheet component (5) to a temperature above an upper transformation temperature (a) at which structure completes change from ferrite and pearlite to austenite temperature, comprises production oven (10) for heating steel sheet component to a temperature close to, but below the (a) temperature. The oven system further comprises a profiling oven (40). The profiling oven comprises plane through its upper part (41) and lower part, and receptacle for product-specific intermediate. The product-specific intermediate is incorporated in the receptacle. Oven system (1) for partial heating of steel sheet component (5) to a temperature above an upper transformation temperature (a) at which structure completes change from ferrite and pearlite to austenite temperature, comprises a production oven (10) for heating the steel sheet component to a temperature close to, but below the (a) temperature. The oven system further comprises a profiling oven (40). The profiling oven comprises at least one plane through its upper part (41) and a lower part, and a receptacle for a product-specific intermediate. The product-specific intermediate is incorporated in the receptacle. The product-specific intermediate flange is designed to impart a predetermined temperature profile with temperatures above (a) for the regions to be cured and below (a) for softer regions of the component. An independent claim is also included for partial heating of the steel sheet component to the temperature above the (a) temperature, comprising (i) heating the component in the production oven near to its (a) temperature, (ii) positioning the heated component using a positioning system, (iii) introducing the component positioned in a defined position, into the profiling oven, (iv) applying a temperature profile on the component in the profiling oven, to a temperature above the (a) temperature, by heating the selected regions, and other regions are maintained at a temperature below the (a) temperature, and (v) discharging the component provided with a temperature profile, from the profiling oven.

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C21D 1/673 (2006.01); **C21D 9/00** (2006.01)

CPC (source: EP KR US)
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Citation (opposition)
Opponent :

- DE 102009019496 A1 20101118 - BRAUN ELISABETH [DE]
- EP 2365100 A2 20110914 - KIRCHHOFF AUTOMOTIVE D GMBH [DE]
- EP 2182081 A1 20100505 - NEUE MATERIALIEN BAYREUTH GMBH [DE]
- EP 2014777 A1 20090114 - NEUE MATERIALIEN BAYREUTH GMBH [DE]
- BARBARA STUMPP: "Weniger ist mehr", BLECH - DAS FACHMAGAZIN FÜR DIE BLECHBEARBEITUNG, 1 May 2010 (2010-05-01), pages 34, 36, XP055455764
- "Moderne thermomechanische Prozessstrategien in der Stahumformung", 1 January 2007, VERLAG, article MAIKRANZ M., ET AL: "Eigenschaftsoptimierte Bauteile durch modifizierte thermo-mechanische Prozessrouten beim Formhärten", pages: 115 - 126, XP055461161 & Inhaltsverzeichnis zu D7 & Akzessionierungsbescheinigung zu D7

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EP2905346A1; DE102015215179A1; WO2015110456A1; US11584972B2; CN103998630A; EP2639536A3; US10954575B2; US11331710B2; DE102014201259A1; US10000823B2; EP2767599A1; EP3211103A1; CN109072322A; WO2017020888A1; WO2017144612A1; WO2013087274A1; US11219937B2; EP2799178B1; WO2018029169A1; DE202014010318U1; EP2639536B1; EP3408416B1

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