

Title (en)
Device for producing hardened steel components

Title (de)
Vorrichtung zum Herstellen gehärteter Stahlbauteile

Title (fr)
Dispositif de fabrication de composants en acier durcis

Publication
EP 2309008 A3 20120613 (DE)

Application
EP 10174084 A 20100826

Priority
DE 102009045597 A 20091012

Abstract (en)
[origin: EP2309008A2] The apparatus for producing hardened steel components, comprises tool halves (1, 2), which possess cooling jaws (3) having a rear side for binding the cooling jaw on a tool base body (12, 13) and an external molded surface (5, 6), whose contour corresponds to a contour of the metal sheet component to be hardened, where cylindrical holes (16) are arrangeably introduced from the rear side. The holes extend to the contour of the molded surface with optionally different depths in the cooling jaws. The apparatus has heat conducting tubes extending over the rear side. The apparatus for producing hardened steel components, comprises tool halves (1, 2), which possess cooling jaws (3) having a rear side for binding the cooling jaw on a tool base body (12, 13) and an external molded surface (5, 6), whose contour corresponds to a contour of the metal sheet component to be hardened, where cylindrical holes (16) are arrangeably introduced from the rear side. The holes extend to the contour of the molded surface with optionally different depths in the cooling jaws. The apparatus has heat conducting tubes extending or variably protruding over the rear side in same height. The heat conducting tubes are variably long. The apparatus has an adjustment unit, which is actively formed to the heating conducting tubes and/or movably or extractably formed to the individual heating conducting tube or groups of heating conducting tubes from the holes. A seal is disposed in the area of the hole opening in the rear side of the cooling jaw and outwardly seals the hole with the heating conducting tube. A water casing or a cooling liquid-guiding hollow body is arranged in the tool base body, where the heat conducting tubes extend into the water casing or the cooling liquid-guiding hollow body. The water casing or the tool base body has holes in the areas adjacent to the cooling jaws, where the areas are engaged by the heat conducting tubes, so that the heat conducting tubes extend into the water casing or the hollow body. The contour of the molded surfaces is formed, so that a metal sheet component arranged between the molded surfaces is completely kept in closed state of the tool.

IPC 8 full level
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CPC (source: EP)
B21D 37/16 (2013.01); **C21D 1/673** (2013.01)

Citation (search report)
• [A] DE 102007003745 A1 20080724 - MUELLER WEINGARTEN MASCHF [DE]
• [A] JP 2007190563 A 20070802 - ATSUTA SEIKI KK

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CN107000019A; EP3065893A4; CN108213222A; US10413955B2; WO2015069679A1; WO2016091454A1; WO2019104600A1; US10722930B2

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