

Title (en)

Method for rotary compression of hollow parts by cross rolling

Title (de)

Verfahren zur Rotationsverdichtung von Hohlteilen durch Querwalzen

Title (fr)

Procédé pour la compression rotative de parties creuses par laminage transversal

Publication

EP 2422896 A1 20120229 (EN)

Application

EP 11461502 A 20110103

Priority

PL 39227510 A 20100830

Abstract (en)

A method for rotary compression of hollow parts by cross rolling, especially of hollow shafts and axles, is characterized in that the hollow part to be formed - the blank (1) in the form of a tube is positioned on two powered working rolls (2), (3) - the tools, which rotate in the same direction with the constant velocity (n_1), while the third, upper, roll (4) rotates with the velocity (n_1) in the same direction as the rolls (2) and (3) and radially moves in a reciprocating manner with the velocity (V), and as a result of this motion the rolls (2), (3), and (4) approach one another and in the final phase of the sizing process they are positioned at every $120^\circ \pm 20^\circ$, the preferable position being that at every 120° , then the plane motion of the roll (4) is stopped, and the rotating rolls (2), (3) and (4) eventually correct shape inaccuracies of the hollow part (5). As the blank (1) sections of rod or tube sections are used, this allows for rotary compression of parts (5) such as solid or hollow axles and shafts. The compression process for hollow shafts and axles is done with or without mandrel, which allows obtaining accurate holes in the product (5) or shaped holes. The process is done with three working rolls (2), (3) and (4) - the tools, which rotate with the velocity (n_1) and move in a reciprocating manner with the velocity (V) radially to the axis of the product (5).

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CPC (source: EP)

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Citation (applicant)

J. KACZMAREK: "Podstawy obróbki wiorowej, ściemej i erozyjnej", 1997, WNT

Citation (search report)

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Designated contracting state (EPC)

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