

Title (en)

METHOD FOR SHAPING AN END OF A PIPE, ASSOCIATED DEVICE FOR PERFORMING THE METHOD, ROLLING ELEMENT, AND A FLANGE SHAPED THEREWITH AT AN END OF A PIPE

Title (de)

VERFAHREN ZUM UMFORMEN EINES ENDES EINES ROHRS, ZUR DURCHFÜHRUNG DES VERFAHRENS ZUGEHÖRIGE VORRICHTUNG, WALZKÖRPER SOWIE EIN DAMIT GEFORMTER FLANSCH AN EINEM ENDE EINES ROHRS

Title (fr)

PROCÉDÉ DE FORMAGE D'UNE EXTRÉMITÉ D'UN TUBE, DISPOSITIF PERMETTANT LA MISE EN OEUVRE DU PROCÉDÉ, CORPS DE ROULEMENT, AINSI QUE BRIDE AINSI FORMÉE À UNE EXTRÉMITÉ D'UN TUBE

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Application

EP 15741900 A 20150401

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Abstract (en)

[origin: WO2015172940A1] The invention relates to a method for shaping an end of a pipe (R, R'), preferably a hollow shaft suitable for use in a vehicle, in particular a hollow axle shaft. A rolling element (W, W, W'') rotates about its longitudinal axis at a first rotational speed and substantially has a conical or cone-frustum-shaped form. The rolling element (W, W, W'') has a rotationally symmetric rolling surface (WF, WF', WF'') around its longitudinal axis (LW, LW', LW''), wherein the contour of the rolling surface (WF, WF', WF'') is curved inward at least in some sections. The pipe (R, R') rotates about its longitudinal axis (LR, LR') at a second rotational speed. The rolling element (W, W', W'') and the pipe (R, R') rotate in the same direction of rotation. The longitudinal axis (LW, LW', LW'') of the rolling element is arranged parallel to the longitudinal axis of the pipe (R, R'). The longitudinal axis (LW, LW', LW'') of the rolling element is arranged eccentrically to the longitudinal axis (LR, LR') of the pipe at a predetermined normal distance (a). The rolling element (W, W', W'') and the pipe (R, R') are brought in contact in such a way that the rolling surface (WF, WF', WF'') of the rolling element contacts the pipe (R, R') in the region of the end of the pipe (R, R') at a contact surface (KF) located on an inner pipe wall. The first rotational speed (D1) and the second rotational speed (D2) are set in such a way that the magnitude of the difference calculated from a circumferential speed (U1) of the rolling element (W, W', W'') minus a circumferential speed (U2) of the pipe (R, R') at the contact surface (KF) is in the range of 0 to 10%, preferably 0 to 5%, especially preferably 0 to 2%, with respect to the circumferential speed (U1) of the rolling element (W, W', W''). By means of a relative motion between the rolling element (W, W', W'') and the pipe (R, R'), the rolling element (W, W', W'') transmits a force to the inner pipe wall of the pipe (R, R') in the region of the contact surface (KF) in such a way that the end of the pipe (R, R') is shaped radially outward.

IPC 8 full level

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Citation (search report)

See references of WO 2015172940A1

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