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钛合金振动攻丝的工艺参数优化

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OPTIMIZATION OF CUTTING PARAMETERS IN VIBRATION TAPPING OF TITANIUM ALLOYS

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摘要 在以步进电机为振源的振动攻丝机上,对基本工艺参数优化结果,较低切削速度,分离量越大,切削量越小,攻丝扭矩就越小。步进电机反转前制动脉冲数的计算结果,随切削速度和主轴转动惯量的降低,反转前的最少制动脉冲数减小。

关键词： 振动攻丝 最佳参数 制动脉冲

Abstract： A new type of Vibration tapping machine developed the vibrator is a stepping motor. Under suitable vibration parameters the tappin torque is markedly smaller and the tap life is strikingly larger in the vibration tapping than those in the conventional tapping , so the difficult problem of titanium alloys tapping is solved. in this paper, basic cutting parameters are optimized with the tpping torque, the least number of brake pulse before the reversal of the stepping motor is computed theoretically and tested. Thus the teoretical basis for rationally apply the vibration tapping is provided.

Keywords： vibration tapping optimum parameters brake pulse

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