

New Technology for Machining Surfaces of Taps and Split Tees

V.A. Komarov¹, Russian Technological University MIREA, Prof. Dr.

V.V. Zuev¹, MIREA, Dr., oozon@bk.ru

T.N. Borovik¹, MIREA

¹ Moscow, Russia

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milling, grinding

We have described technological methods for solving the problem of increasing the productivity and the machining surfaces of bends and split tees quality. This is necessary to prepare them for subsequent welding.

We have scientifically substantiated and tested a new technology for processing the bends end with an external pipe diameter of 720–1400 mm. A new technology is offered instead of turning end faces of bends and split tees on face-bore type-boring machines with numerical-program control. In this operation, the removal of the total allowance of 15 mm occurs in five passes.

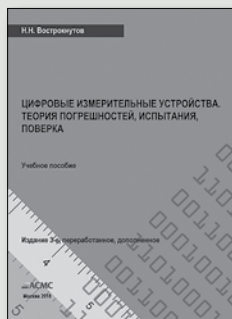
The proposed technology allows milling of the entire allowance in a single pass, on the same machine that has undergone a small modernization. 11 kW electrical milling spindle was installed on the caliper for the boring cutters. When using end mills with a diameter of 20–25 mm, with the number of teeth equal to 4, 5, 6, 9, the average removal time for the allowance was 3 minutes, whereas for boring it is 4.5 minutes. On average, we managed to reduce the machine time for trimming by one and a half times. The durability of the cutters is high.

We also explored other ways to remove large allowances, instead of ineffective boring.

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