a 2005 0158

The invention relates to processes for working of microstructures of metals, alloys and nonmetals by means of electro erosion and ultrasound.

The process for manufacturing microstructures of metals or alloys by means of electro erosion machining is carried out with the help of a tool electrode (1) of cylindrical form, in the following way: the tool electrode (1) is set in motion with the rate of angular rotation *T* and longitudinal velocity *V*. The tool electrode (1) serves as cathode and the semi manufactured article (4) in the form of metallic band, installed onto a magnetic table (5), serves as anode. During the longitudinal motion and rotation of the tool electrode (1), as a result of electric discharge, appeared between anode and cathode, onto the surface of the semi manufactured article (4) there are formed grooves. The elimination of the slag from the grooves is carried out with the help of a rotary tool and of the dielectric liquid jet.

The tool electrode (1) is made of current-conducting material in the form of body of revolution, the lateral surface of which may be of different profile, and on its bases there are installed disks (7) made of dielectric material, the diameter of each of which is equal to:

$d = D-2h$,

where: d – the diameter of the disk;

D – the outer diameter of the tool electrode;

h – the depth of the groove of the semi manufactured article after working.

Claims: 8

Fig.: 10