

Invention relates to mechanical engineering technology and can be used to manufacture screw blanks from hard-to-form and low-ductility metals and alloys in the production of screw conveyor spirals, screw rotors for centrifuges and pumps, extruder worms, large screws, drill bits, ball-rolling shafts, spiral drill rods, and other products. The claimed method for manufacturing a screw blank involves air-plasma cutting of a blank rotating in a circular motion to form a helical groove, using an air-plasma jet that is moved along the longitudinal axis of the blank, and tangent to the concentric surface that follows the contour of the formed helical groove. Simultaneously with the aforementioned cutting, a helical groove is formed by deforming rollers that move along the longitudinal axis of the workpiece at a speed equal to the speed of the air-plasma flow along that axis, until the required profile of the helical groove of the screw blank is formed. The invention relates to the expansion of technological capabilities for producing screw blanks with a higher specific pitch, greater width, and the required shape of the helical groove, as well as improved surface quality