

a 2007 0148

The invention relates to the thermochemical machining of steel articles and can be used in mechanical engineering and instrument engineering for enhancing the corrosion resistance of machine parts, instruments and machining attachments.

The process for enhancing the corrosion resistance of steel consists in that at first the steel article is subjected to electrospark alloying with a corrosion-resistance metal, with the specific time of alloying of 1 min/cm^2 , with the electric discharge energy in the range of $0,3 \dots 4,0 \text{ J}$. Then it is carried out the thermochemical machining, consisting in the anode heating of the steel article during 30 s into an electrolyte containing nitric compounds NH_4Cl 100 g/l and NH_4OH 50 g/l or NH_4Cl 110 g/l and NaNO_3 110 g/l , up to the temperature of 750°C , at the voltage between electrodes of $150 \dots 220 \text{ V}$, with the current density of $1 \dots 15 \text{ A/cm}^2$ and subsequent cooling in the open air.

Claims: 1