

MECHANICAL FACTORS INFLUENCING THE COMPLEX EROSION PROCESSING BY INTRODUCING THE ELECTROLYTE THROUGH THE TRANSFER OBJECT

NIOAȚĂ Alin, DOBROTĂ Dan, CIOFU Florin
University "Constantin Brâncuși"
nalin@utgjiu.ro

Keywords: relative velocity, pressure, complex erosion, transfer object, processed object.

Electric and electrochemical complex erosion process (EEC) is influenced by a great number of factors acting in interdependence and mutually influencing in order to achieve the stability of the process and achieve final technological characteristics. The measures taking part in developing the fundamental phenomena of the complex erosion sampling mechanism and contribute to defining the technological characteristics are factors. The paper presents pressure p and relative velocity v_r as determining factors in the complex erosion process and their influence upon the processed surface productivity and roughness.

According to the variation of these parameters and factors, the results of the process are influenced as well, namely: the global erosive effect; the weight of elementary processes; processing stability; global technological characteristics.

The construction and form of the transfer object depend on the process parameters and influence the technological characteristics and state parameters of the process. The highest used form of the transfer object is the disk form. The working fluid is brought to the work space either through immersion or through jet.

The introduction of the work fluid through the transfer object (OT) disk (figure 1) is a solution proposed in order to study the influence of mechanical factors upon the complex erosion process. The advantages are the improvement of the surface quality and a significant growth of productivity at OT disk cutting.

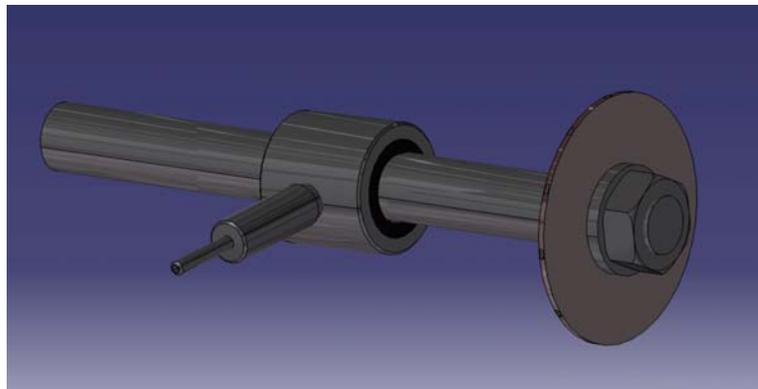


Fig. 1 Stratified disk assembly, shaft, sleeve for introducing the working fluid inside OT

Bibliography

- [1] Gavrilaş, I. ș.a. - Prelucrări neconvenționale în construcția de mașini -Editura Tehnică, București, 1991.
- [2] Nagîț, Gh., - Tehnologii neconvenționale, Universitatea Tehnică „Gh. Asachi”, Iași, 1998.
- [3] Herman, R.I.E., ș.a. – Prelucrarea prin eroziune complexă electrică- electrochimică, Editura Augusta, Timișoara, 2004.
- [4] Nioață, A – Cercetări teoretice și experimentale privind optimizarea unor parametri ai prelucrării prin eroziune complexă, Teză de doctorat, Sibiu, iulie 2007