

APPLICATION OF MICRO-ECM AND MICRO-EDM IN MANUFACTURING OF MICRO-ELECTROMECHANICAL SYSTEMS (MEMS) : A REVIEW

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Abstract.

The paper deals with the classification, applications, and advantages of micro-electromechanical systems (MEMS), materials and technologies used. This area of production represents one of the most promising technologies of 21st century, with a big impact in manufacturing 4.0. Nowadays, MEMS fabrication methods have a very big influence in the area of medicine, and therefore the review applications of utmost importance like micro-mechanical stents or antenna stents are related. At the same time, the study presents information about MEMS based micro-EDM, regarding the basic machining principle and some examples of techniques used to realize MEMS devices [1,2]. These have the purpose to minimize the cost and to increase the output technological parameters. The process capabilities of micro-ECM are also treated and the potential applications in industries like automotive, aerospace, biomedical, security, communication, etc. Finally, some conclusions and future challenges of MEMS application in the specified fields are exposed.

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