The Study of Gap Width Control on Electrochemical Deposition System

傅瑽運、張義芳

E-mail: 9706751@mail.dyu.edu.tw

ABSTRACT

The building method of electrochemical deposition system on Deep-Sinking EDM, which includes deposition of power supply, divides voltage of circuit, detection circuit of discharge current between electrode and substrate, and gap width controller, etc. is discussed in this thesis. In this article, the detail conditions between discharge current and the gap width in the electrochemical deposition system were discussed. The relations of gap width and feedback voltage were found and applied to the system in order to realize the feedback properties. And then, gap width controller was designed for this purpose. Complete deposition of gap width control system was carried out. By executing deposition experiment, the approached deposition gap width that is the deposition current, were found. The effects of different electrode diameter were also considered in order to verify the influences of the microelectrode on executing of deposition process.

Keywords : EDM, electrochemical deposition, gap control

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