



Development of on-the-machine robotic mold-maintenance system by utilizing electro discharge deposition technology

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Abstract

Although maintenance of molds in a regular schedule is important to guarantee quality of product, it can produce dangerous situation for workers when repairing molds by manual operation. In this research, we propose a robotic system that can repair of worn molds on-the-machine without detaching and attaching the mold. Specifically, a electro deposition applicator for repairing is attached to the hand of the work conveying robot which is installed near the machine tool. As the robot, vertical articulated robot is selected. Also, it is equipped with various sensors. While simulating repairing, fundamental electrodeposition experiment to mend a scratch is executed by utilizing the composed robotized deposition system. The experimental results show the feasibility of the developed system.

Keywords: Robot, Mold, Electro Deposition, Maintenance, on-the-machine