Injection moulding for macro and micro products

The purpose of the literature survey is to investigate the injection moulding technology in the macro and micro areas from the basic to the state-of-the-art recent technology. Injection moulding is a versatile production process for the manufacturing of plastic parts and the process is extensively used for macro products but with the ages it is going deep into the micro areas having machine and process improvements. Extensive research work on injection moulding is going on all over the world. New ideas are flowing into the machines, materials and processes. The technology has made significant advancement in the area of micro injection moulding, multi-component and two component injection moulding. In near future it is likely to be the way of manufacturing moulded interconnects devices (MID) for a low cost integration of electrical and mechanical functionalities on a single device. This paper presents different aspects of injection moulding technology, its application in different areas. It also pays attention to the design issues of injection moulding tools and parts, describe the pitfalls of the moulded part and find out the remedy for these. The discussions on various issues get separated into micro and macro parts when it requires. It contains separate discussion on multimaterial moulding and two component moulding considering their current applications and possible use in MIDs.

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