

EXPERIMENTAL INVESTIGATION OF DRY ELECTRICAL DISCHARGE MACHINING: A REVIEW

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Abstract

The Last decade has seen an increasing interest in novel application of electrical discharge machining. EDM is most widely used non conventional machining process for many electrical conductive materials . Oil EDM is most commonly used in mould and dies making industries and manufacturing automotive , aerospace and surgical components. Despite its advantages, environmental concerns associated with the process have been a major drawback of EDM. The dielectric fluid used in EDM is the primary source of pollution from the process. Hydrocarbon based oils are the most commonly used EDM dielectric. Dielectric wastes generated after machining are very toxic and cannot be recycled. The use of oil as the dielectric fluid also makes it necessary to take extra precaution to prevent fire hazards. Dry EDM replacing liquid dielectric by gases is an emerging field in the environment-friendly EDM technology . High velocity gas flow through the tool can be used to replace liquid dielectric. Such a dry EDM technology would leave behind no toxic waste material. Experimental results demonstrating the feasibility of the dry EDM process are available from a few research groups. However, literature in this field is insufficient and further research is required to make this process commercially feasible. This paper present a review on the dry electrical discharge machining and future trends of its application.

Keyword: Dry Electrical Discharge Machining