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Guided By

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**Project Title**

**INVESTIGATION ON THE INFLUENCE OF PROCESS PARAMETERS  
OF ABRASIVE WATER JET MACHINING ON CORIAN**

**Abstract:**

Corian is widely used in Kitchens, Commercial Offices, Hygienic Healthcare Areas, Retail Outlets, Catering and Hospitality etc. Abrasive water jet machining (AWJM) is one non-traditional machining process. It is highly used in industries due to its advantages such as no thermal effect, high material removal rate, minimal stresses, no chatter and high flexibility. However, impermissible kerf properties of machined workpiece limit its applications. From the literature review, it is found that there is no research reported on AWJM of Corian.

In the present work, influence of process parameters on surface roughness, kerf width and kerf taper properties in AWJM of Corian is investigated. Process parameters namely stand-off distance, water pressure and traverse rate are considered. Experiments are designed by response surface methodology. Surface roughness of corian is investigated by surface roughness tester (SURFTEST SJ-410) and kerf taper, top and bottom kerf widths are measured using scalar measurement software. Influence of process parameters on Surface roughness, kerf width & kerf taper angle is studied. It is found that traverse rate, water pressure and stand-off distance are significant parameters to control SR, KW and KT.

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