A Proposed Fuzzy Logic based System for Predicting Surface Roughness when Turning Hard Faced Components

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Abstract

Hard-facing or hard-surfacing process is used for enhancing the service life of various machine parts by reshaping the worn out or eroded or corroded areas in them to improve their wear resistant properties. The hard-faced part contains rough, irregular and wavy surface, hence machining process is applied on them to get smooth finish and also to maintain the required dimension. The present paper is proposing a fuzzy logic based system to predict the surface roughness of a shaft like hard-faced component using some existing experimental data. Cutting speed (V), feed rate (fr) and depth of cut (DOC) are the three cutting parameters which have been considered here to optimize the surface roughness of a component subjected to hard-facing process.

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Index Terms

Computer Science
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Keywords

Roughness.