

FABRICATION AND WORKING PERFORMANCE ANALYSIS OF DRILL BIT TOOL

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A drill bit is used in the cutting method of drilling to make or widen a circular hole in solids. A rotating multi-point cutting instrument, the drill. At rates of hundreds to thousands of revolutions per minute, the drill is turned while being forced on the workpiece. The workpiece is forced against the cutting edge during the drilling process, which causes the chips to be sliced. This study aims to investigate the impact of process factors on the thrust force and torque produced while drilling high HRC material using Ansys software, including spindle speed and feed, drill diameter and point angle, and material thickness. Three different kinds of materials are available for this project: those constructed of high-speed steel, aluminium silicon carbide, and Katia V5. As a consequence, this study's major focus is on how to drill HOCHHRC materials more effectively by reducing thrust and torque. We have collated our findings, and I consider each material to determine which is ideal for the drill.

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