

Analysis of heat produced on Cutting tool and its effects on environment in Near Dry Machining of Stainless Steel AISI-202

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The cutting tool life and quality of product is largely depends on the heat produced during cutting operation in turning. Because high heat produced at tool work interface. For lessening the heat at tool work interface the different methods are utilized for cooling. The different Cooling and lubrication are Conventional Flood lubrication, near dry machining and cooling by Nano particle mixed with different oils. As expectation in productivity and quality of product has increased, it is need of present day of machining to work with innovation which would not influence the climate and give the better nature of items. As currently been referenced that the cooling and grease capacity of any procedure relies on the kind of oil however there is absence of study on the distance of cooling nozzle from the cutting zone, point of nozzle during turning activity. So in this manner the impact of changing the nozzle distance on cutting temperature. The experimentation has been led by turning of AISI-202 stainless steel with Dry, Flood and close to dry machining with environment friendly oil. The temperature measuring device was K- thermocouple. The vegetable oil has been selected because of its environmental friendly conduct and does not produce health endanger, like mineral oil at some stage in flood lubrication. The current Research show that there is Considerable variety in cutting temperature when nozzle distance and angle is fluctuated. According to research 25 to 50 % cutting temperature has reduced by NDM.

Index Terms— *DOC, NDM, HSS, RPM, MV, MM, M/MIN*