



**DESIGN AND MANUFACTURING OF
INCONEL WEAR SPECIMEN BY 3D
PRINTING WHOSE HATCH DISTANCE
VARIED**



A MINI PROJECT REPORT

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In partial fulfillment for the award of the degree

of

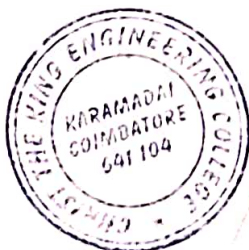
BACHELOR OF ENGINEERING

in

MECHANICAL ENGINEERING

CHRIST THE KING ENGINEERING COLLEGE

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June 2023

BONAFIDE CERTIFICATE

Certified that this project report “DESIGN AND MANUFACTURING OF INCONEL WEAR SPECIMEN BY 3D PRINTING WHOSE HATCH DISTANCE VARIED” is the bonafide work of “PANNER SELVAM (710420114020), RITHISH P (710420114021) , GUNASEKAR T (710420114310), NATHISH N (710420114318) ,who carried out the project work under my supervision.


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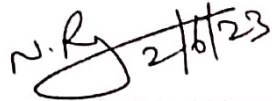
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Submitted for the project viva voice held on 02/06/2023




INTERNAL EXAMINER


N.R. 2/6/23

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ABSTRACT

One of the cutting-edge technologies that allows for the preparation of complex geometries is 3D printing. The aerospace industry and other high-stakes fields rely on Inconel superalloy because of its unique combination of qualities, including high strength at high temperatures, corrosion resistance, low thermal conductivity, high hardness, work hardening, and low thermal conductivity. Because of how they are used, aviation parts have to meet stringent reliability and weight requirements, as well as have their mechanical stresses precisely documented. The superalloy Inconel is notoriously challenging to manufacture. As a result, it's more challenging to make intricate geometries. Our experiment uses 3D printing with changing hatch distance to create the superalloy Inconel. The wear specimen as per ASTM standard prepared. In future, the wear of the specimen can be checked



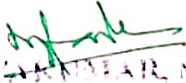

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requirements push the design limits and require innovative solutions. Testing these solutions on a scale of a full machine would be too expensive, but also time consuming. Therefore the universal experimental set-ups are often used to perform tribological research on a prototyping phase, prior to full scale tests.

Conclusion

3D Printing is advanced technology. The complex geometry can be made easily by using this technique. We have designed and manufactured wear specimen by using 3D Printing whose hatch distance was varied. In future, This specimen wear rate and other heat treatment process can be carried out.




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