IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 9, June 2022
Impact Factor: 6.252

Design Modelling and Analysis of Rotavator Blades for Better Performance

Ghanashyam P. Patil[1], Shubham V. Patil[2], Vishal V. Pawar[3], Tushar V. Solanke[4], Prof. P. G. Patil[5]
B. Tech Students, Department of Mechanical Engineering[1,2,3,4]
Professor, Department of Mechanical Engineering[5]
Godavari College of Engineering, Jalgaon, Maharashtra, India

Abstract: *The design and optimization of rotary tillage tool on the basis of simulation and finite element method is done by using ANSYS software. The different rotary tillage tool parts are geometrical constrained with preparation of solid model of blades and simulation has been done with actual fieldperformance rating parameters along with boundary condition. The proposed work result are identifying sufficienttolerance in changing the material such a EN 8 steel and EN 24 steel. The dimensions of rotavator blade sections and to risethe life cycle of blades for a reliable strength. The present geometry working model with tillage blade is analyzed to newdesign. The changed constraints of its geometry for the maximum weed removal efficiency by presenting its analysisresults from the field performance.*

Keywords: Structural Analysis

REFERENCES

[1]. G.U.Shinde and S.R.Kajale" Design optimization in rotary tillage tool system components by CAEA, 2012". Intenational journal of Environment Science and Development Vol. 3 No. 3, pp. 279-282
[2]. Rahul Davis " Optimization of roughness in wet turning operation of EN24 steel, 2012". JOUR Vol. 2 , Issue 3, pp. 28-35.
[3]. N.M.Zarroug, R. Padmanabhari, B.J. MacDonald, P.Young and M.S.J. Hashmi "Mild steel(EN8) rod tests under combined tension-torsion loading, 2003". Journal of Material processing technology Vol. 143, pp. 807-813.
[4]. R.J.Godwin and M.J.O Dogherty" Integrated soil tillage force prediction modes, 2007". Journal of Terramechanics Vol.44 , pp. 3-14.
[5]. S.B.Venkatasiva, G. Srinivasarao and M. Mahesh kumar "Study of phase transformation in EN8 steel material using acoustic emission technique, 2012". International Journal of applied Science and Engineering Research Vol.1, Issue 3, pp.541-550
[6]. Khalid Usman, Ejaz Ahmad Khan, NiamatullahKhan "Effect of Tillage and Nitrogen on Wheat Production, Economics and Soil Fertility in Rice-Wheat Cropping System, 2013". American Journal of Plant Science Vol.4pp. 17-25.
[7]. Rahul Davis and Jitendra Singh Madhukar " A parametric analysis and optimization of tool life in dry turning of EN24 steel using Taguchi Method, 2012" International Journal of Production Technology and Management Vol.3 Issue 1, pp. 9-15.
[8]. Rohan pawar, Dr. S.I. Kolhe " design and analysis of rotavater blade for its enhanced performance in tractors 2020" International Research Journal Of Engineering And Technology Vol-07, pp. 2395-0072

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 9, June 2022
Impact Factor: 6.252