IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 2, August 2023

Portable Electrical Cultivator for Agricultural Purpose

Madhusudhana K. M¹, Pruthvikumar¹, Srinivasa C. T¹, Suryateja K. J¹, Vinay A.N²

UG Student's, Department of Mechanical Engineering¹ Professor, Department of Mechanical Engineering² R. L. Jalappa Institute of Technology, Doddaballapur, Karnataka, India

Abstract: In these upcoming days there is more a usage of EV'S which helps toprotection of Environment. As a part of that we can also implement those EV's towards the Agricultural Farming Equipment's which makes more unpolluted Ecosystem. Further, as mentioned above the Cultivator is equipment used for Cultivation using Rechargeable Batteries. These Portable Cultivators are Basically used for yielding in small agricultural lands, especially for the people who are having a small amount of landcan't able to buy the tractors for those kind of people it suit's with least amount and more effective. In this report various parameters of the design and manufacturing of the Cultivator is studied. The machine would be developed considering difficulties face by farmers those who are holding less land and with regards to Environmental protection.

Keywords: Electrical Cultivator

REFERENCES

[1]. J. Kumaraswamy, V. Kumar and G. Purushotham, A review on mechanical and wear properties of ASTM a 494 M grade nickel-based alloy metal matrix composites, Materials Today: Proceedings, Vol 37, 2021, pp 2027–2032, https://doi.org/10.1016/j.matpr.2020.07.499.

[2]. K. Jayappa, V. Kumar, and G. G. Purushotham, "Effect of reinforcements on mechanical properties of nickel alloy hybrid metal matrix composites processed by sand mold technique," Applied Science and Engineering Progress, Vol. 14, no. 1, pp. 44–51, Jan.–Mar. 2021, http://dx.doi.org/10.14416/j.asep.2020.11.001

[3]. J. Kumaraswamy, V. Kumar and G. Purushotham, Thermal analysis of nickel alloy/Al2O3/TiO2 hybrid metal matrix composite in automotive engine exhaust valve using FEA method, Journal of Thermal Engineering, Vol. 7, No. 3, March, 2021, pp. 415-428. https://dx.doi.org/10.18186/thermal.882965.

[4]. J Kumaraswamy, Vijaya Kumar, G Purushotham, Evaluation of the microstructure and thermal properties of (ASTM A 494 M grade) nickel alloy hybrid metal matrix composites processed by sand mold casting, International Journal of Ambient Energy, Vol. 43, pp. 4899–4908. https://www.tandfonline.com/doi/abs/10.1080/01430750.2021.1927836.

[5]. Sandeep Khelge, Vijaya Kumar, Vidyasagar Shetty and Kumaraswamy J, Effect of reinforcement particles on the mechanical and wear properties of aluminium alloy composites: Review, Materials Today: Proceedings, Vol. 52, Part 3, pp. 571-576, 2022. https://doi.org/10.1016/j.matpr.2021.09.525

[6]. Sandeep Khelge, Vijaya Kumar and Kumaraswamy J, Optimization of wear properties on aluminum alloy (LM22) hybrid composite, Materials Today: Proceedings, Vol. 52, Part 3, pp. 565--570, 2022. https://doi.org/10.1016/j.matpr.2021.09.518

[7]. Vidyasagar Shetty, Shabari Shedthi B and Kumaraswamy J, Predicting the thermodynamic stability of perovskite oxides using multiple machine learning techniques, Materials Today: Proceedings, Vol. 52, Part 3, pp. 457-461, 2022. https://doi.org/10.1016/j.matpr.2021.09.208

[8]. Kumaraswamy J, Anil K. C., Vidyasagar Shetty and C Shashishekar. Wear behaviour of the Ni-Cu alloy hybrid composites processed by sand mold casting, Advances in Materials and Processing Technologies, Vol. 2, pp. 1-17. https://doi.org/10.1080/2374068X.2022.2092684

Copyright to IJARSCT www.ijarsct.co.in DOI: 10.48175/IJARSCT-12728



184

IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 2, August 2023

[9]. Harish R S, Sreenivasa Reddy M, Kumaraswamy J, Wear characterization of Al7075 Alloy hybrid composites, Journal of Metallurgical and Materials Engineering, Vol. 28 (2), pp. 291-303. https://doi.org/10.30544/821.

[10]. K.C. Anil, J. Kumaraswamy, Akash et al., Experimental arrangement for estimation of metal-mold boundary heat flux during gravity chill casting, Materials Today: Proceedings, Volume 72, Part 4, 2023, Pages 2013-2020. https://doi.org/10.1016/j.matpr.2022.07.399

[11]. J. Kumaraswamy et al., "Thermal Analysis of Ni-Cu Alloy Nanocomposites Processed by Sand Mold Casting," Advances in Materials Science and Engineering, vol. 2022, Article ID 2530707, 11 pages, 2022. https://doi.org/10.1155/2022/2530707.

[12] R.S. Harish, M. Sreenivasa Reddy and J. Kumaraswamy, Mechanical behaviour of Al7075 alloy Al2O3/E-Glass hybrid composites for automobile applications, Materials Today: Proceedings, Volume 72, Part 4, 2023, Pages 2186-2192. https://doi.org/10.1016/j.matpr.2022.08.460

[13] J. Kumaraswamy, K.C. Anil and V. Shetty, Development of Ni-Cu based alloy hybrid composites through induction furnace casting, Materials Today: Proceedings, Vol. 72, pp. 2268-2274. https://doi.org/10.1016/j.matpr.2022.09.215

[14] Anil, K.C., Kumarswamy, J., Reddy, M., Prakash, B., Mechanical Behaviour and Fractured Surface Analysis of Bauxite Residue & Graphite Reinforced Aluminium Hybrid Composites, Frattura ed Integrità Strutturale, 16 (62) (2022) 168-179. DOI: 10.3221/IGF-ESIS.62.12

[15] Anil K C, Kumaraswamy J, Mahadeva Reddy, Mamatha K M, Air Jet Erosion studies on Aluminum - Red Mud Composites using Taguchi Design, EVERGREEN Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy, Vol. 10, Issue 01, pp130-138, March 2023. https://doi.org/10.5109/6781059

[16] Sharan kumar, Akash, Anil K C, Kumaraswamy J, Solid Particle Erosion Performance of Multi-layered Carbide Coatings (WC-SiC-Cr3C2), EVERGREEN Joint Journal of Novel Carbon Resource Sciences & Green Asia Strategy, Vol. 10, Issue 02, pp 813-819, June 2023. https://doi.org/10.5109/6792833

DOI: 10.48175/IJARSCT-12728

