

FABRICATION OF MINI PORTABLE CONCRETE MIXER

A Project report submitted in partial fulfillment of the requirements

For the Award of the degree of

BACHELOR OF TECHNOLOGY IN MECHANICAL ENGINEERING

Submitted by

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DEPARTMENT OF MECHANICAL ENGINEERING

AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

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(An N.B.A Accredited Institution)

Tamaram, Makavarapalem, Narsipatnam, Visakhapatnam-531113.

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BONAFIDE CERTIFICATE

This is to certify that the project work entitled ” **MINI PORTABLE CONCRETE MIXER**” submitted by **K. RAMASIVA [15811A03871]** , **P. HARSHA [15811A03A1]** , **K. NILESH [15811A0361]** , to Avanthi Institute of Engineering and Technology, in partial fulfillment for the award of degree, Bachelor of Technology in Mechanical Engineering , is a bonafide record work carried out by them , under guidance and supervision during 2018-2019.

This results embodied in this project work have not been submitted to any other university or institute for the award of any degree.

Project guide

Head of the Department

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ABSTRACT

The construction and building industries are expanding on a daily basis as a result of increase in human population and continually demand for shelter. Concrete which comprises mainly of sand, cement and gravel is an important component required for construction of houses and roads. However, most operation of mixing concrete in Nigeria is done manually as a result of lack of insufficient machinery and high importation cost. In this research, I carried out the design of a low cost concrete mixing machine. The materials used in this research work are as follow; sand, gravel, water, mild steel, hopper, electric motor, shaft, bearing, frame, angle bar, mild steel plate, bolts and nuts, etc. In other to achieve a good design, feasibility studies, and preliminary tests were carried out. The materials selected for this design were justified. Detailed designed to determine the torque, power, force, mixing chamber, etc., were carried out. The results obtained show that a power of 0.11hp, mixing force of 24.75N, torque were required.

fabrication of portable concrete mixture machine. Mixer widely used to make a concrete mixture which used to building construction and other industrial application such as concrete block, pipe, sheets, etc. As for all materials, the performance of concrete is determined by its microstructure. To determine the mixing method best suited for a specific application, factors to be considered include: location of the construction site. the concrete mixture machines which are currently available in the market is heavy and having big capacity of concrete mixing. Continuously and easy handling, we have fabricated this concrete mixture machine. Mixer is widely used to make a concrete mixture which is used for construction and small scale construction to make a concrete block, pipe, sheets, houses etc. it is observed that for small scale construction and in rural area manual mixing method is used because of expensive mechanized mixer thus, fabrication of mixer have been done and presented.

Keywords - frame, motor, bearings, container, wheels, battery.