Project Report On

DESIGN AND FABRICATION OF SLURRY WEAR TESTER

Submitted to

Visvesvaraya Technological University,
Jnana Sungama, Belgaum - 590 014, Karnataka

In the partial fulfillment of requirement for the award of the degree of

BACHELOR OF ENGINEERING
IN
MECHANICAL ENGINEERING

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SYNOPSYS

The word Wear describes the undesirable removal of material from the parent metal by different ways causing the problems such as high consumption of power, loosing the fit etc. If we do not concentrate, this may causes the failure of the whole system.

Generally in marine vessels there is removal of metal is in the propellers, on which the whole system moves. The propellers generally encountered with erosive wear, corrosive wear and abrasive wear, Due to the salts available in the ocean or sea and the abrasion due to the presence of sand in water.

The objective of this project is the fabrication of erosive, corrosive slurry wear testing machine and to find out the rate of wear of different metals in slurry medium by varying speed or by varying the time and slurry composition. In the apparatus we can study the behavior in synthetic water, sea water and plain water with sand.

In this apparatus we have a motor mounted on the top of frame and the motor shaft is fastened to the motor with a pin and bearing holds it. On the other side of shaft a fiber reinforced plastic disc is fastened, on which four holes are drilled which holds the four specimens such as Aluminum, Brass, Mild Steel, Cast-Iron etc. On the bottom of frame we have mounted the glass tank, on which the water is filled with sand. Now the apparatus is ready for experimentation.

The wear testing machine is a device to stimulate the wear in the laboratory. There are many types of wear testing machines, but we have chosen to design and fabricate slurry wear is measured by using loss of weight method.