

DESIGN AND FABRICATION OF WIND TUNNEL

A Project Report
submitted in partial fulfillment of the requirements
for the award of the Degree of Bachelor of
Engineering in Mechanical Engineering
of the Visvesvaraya Technological University, Belgaum

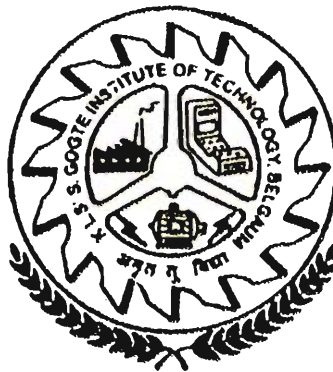
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ABSTRACT

Wind Tunnel is essentially a research equipment, used to study the effects of wind flow over the object to be tested. In simple terms it is an equipment used to carry out tests to be conducted on spacecrafts, missiles etc, to find out any defects in the materials and design. Wind Tunnel makes testing a very simple job, since the objects don't have to be constructed on a large scale, exposed to the actual working conditions and then modified for better designs. It is also an aeronautic research apparatus that simulates the conditions encountered by any object moving through the air. An object studied in a wind tunnel remains stationary as air or gas is forced over it. Wind tunnels are used to study the effects of moving air on such objects as aircraft, spacecraft, missiles, automobiles, buildings, and bridges. Streamlined body designs can greatly reduce the drag forces on a moving object, such as an automobile or an airplane. Constructing a wind tunnel is a costly affair. It involves huge budgets, making it a device found only in high profile laboratories and institutions. We desire to make a wind tunnel on a small scale, with subsonic wind speeds in the test section making it suitable for carrying out tests on small objects and prototypes of large designs. The economic cost and small size factor makes it feasible to be used for UG and PG colleges, where students can perform tests in it.