VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM – 590 010

A PROJECT REPORT ON

"STUDY OF SOUND DAMPING PROPERTIES OF NON-WOVENS IN PROTECTIVE EQUIPMENT"

Submitted in partial fulfillment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY

Project Associates

Kavya L.	4BD05TX013
Mamatha M.K.	4BD05TX016
Poonam.S.R	4BD05TX019
Syeda sakeena	4BD05TX038

Guide :

Sri S.N. Ramesh. M.Tech

Assistant Professor

2008-09

Department of Textile Technology

BAPUJI INSTITUTE OF ENGINEERING & TECHNOLOGY

DAVANGERE – 577004. KARNATAKA, INDIA.

ABSTRACT

The sound absorption properties of materials used in protective equipments such as helmets are used by fighter aircraft. The availability of new generation fibres and textile structures has enhanced the scope of using textile materials for various defence applications. In this project the meritorious properties of non-woven fibres (high porosity, low fibre volume, high suface area) are explored for use as sound attenuation material.

Sound damping is also important to keep the hearing capacity for longer time and also to prevent them from using hearing aid in early stage of the life.

Mechanical vibrations transmitted to human operators can induce fatigue, degrade comfort, interfere with performance effectiveness, under severe conditions influence operation safety and occupational health. These biomechanical force environment, singly and in combination threaten the health and safety.

Aircrew and pilots operating fighter aircrafts experience noise level of high decibel which is some cases goes beyond 100-1000db.The effective attenuation of such high noise level is of paramount importance for proper communication and operational combat efficiency.

In this project,an effort is made to use textile material i.e., non-wovens for sound damping and measured its damping properties, so that it can replace existing foam in hearing protectors.

Hence a comparison is made between foam and textile material and conclusion is drawn accordingly.