THE CONVERSION OF TEXTILE WASTES INTO COMPOSITE MATERIALS

INSTITUTE OF RESEARCH, DEVELOPMENT AND COMMERCIALIZATION
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
MALAYSIA

BY

ASSOCIATE PROFESSOR DR. JAMIL B. HAJI SALLEH
ASSOCIATE PROFESSOR DR. WAN YUNUS B. WAN AHMAD
EN. MOHD ROZI B. AHMAD
EN. MOHAMAD FAIZUL B. YAHYA
PN. SUZAINI BTE ABDUL GHANI

JULY 2004

Date : July 6, 2004

Project File No.: 600-BRC/ST.5/3/549

Penolong Naib Canselor (Penyelidikan)
Institute of Research, Development and Cormecialisation
Universiti Teknologi MARA,
Shah Alam

Madam,

FINAL REPORT OF RESEARCH PROJECT " THE CONVERSION OF TEXTILE WASTES INTO COMPOSITE MATERIALS"

Referring to the above subject, please find enclosed 3 (three) copies of final report on the investigation of "THE CONVERSION OF TEXTILE WASTES INTO COMPOSITE MATERIALS".

Thank You

Yours Sincerely,

ASSOC. PROF. DR. JAMIL SALLEH
(Project Leader)

ABSTRACTS

Spinning mill produce a lot of waste fibres. Since the price of cotton and the cost of processing of textile are very high, it is a big loss. The main objective of this project is to convert cotton waste into composite material and study its properties. The cotton wastes (combed cotton wastes) will be mixed in variable proportion and made into composite. The cotton wastes have been collected from CNLT (M) Sdn. Bhd. and Woodard Textile Mills, Penang. The waste was impregnated with Polyester resin and fabricated into composite materials by compression method. Tensile Strength was determined using CRAG (Composite Research Advisory Method) test method 302 and Flexural Strength was determined using CRAG test method 200. Results of tensile and flexural strength show that the cotton waste composites have higher strength than the non –reinforced polyester plate. Treatment of silane to the fibres does not show any significance to reinforce the fibre matrix adhesion.

TABLE OF CONTENTS