

# A STUDY ON FRAGRANCE FINISH ON BAMBOO FABRIC USING PLUMERIA ALBA

R.USHA NANDHINI<sup>[1]</sup>, DR.R.DIVYA<sup>[2]</sup>, B.BHANINDHRAA DEVI<sup>[3]</sup> MSC COSTUME DESIGN AND FASHION<sup>[1],[3]</sup>,PSG COLLEGE OF ARTS AND SCIENCE ASSISTANT PROFESSOR<sup>[2]</sup>, PSG COLLEGE OF ARTS AND SCIENCE

## ABSTRACT:

*In this paper, factors such as fabric performance, durability of the fragrance and laundering properties of the treated fabrics were investigated[4]. Fragrance finishing of textile materials has been greatly expanded and are used in recent years. The fabric is treated with fragrance agents which exhibits higher durability of functionality is estimated. The fragrance finished fabrics can be used in home textile applications sports wears and casual wears[4]. Fragrance finishing is considered as emerging area and which has tumble-down the textile industry with lively value added finish by incorporating different fragrances into fabrics, leading to the production of fragranced fabrics, finishing is the process of imparting aroma in any textile substrate[1]. This paper examines the effects of fragrance finishing by “Plumeria alba” . This method means, fragrance agents is applied on the fabrics with the help of binder. Plumeria Alba fragrance was taken as a flavour for this process. Padding method was used to apply the fragrance finish on bamboo knit fabric.*

**Key words:** *Fragrance finishing, Bamboo, Plumeria alba, Extraction, Finishing.*

## 1.INTRODUCTION:

Fragrance finishing of textiles is one of the processes which enhance the value of the product by adding various odours to it[1]. Gone are the days when quality product was the only criterion to eye a product by a consumer. Earlier were the times when sheer competitiveness in the domestic market was very confined. But, during some past years with the emergence of globalization, competitive atmosphere and quality consciousness, has reached a new mark. With the steady improvement in technology & application standards, a gradual rise was observed in consumer demands and to reach up to that mark, manufacturers have to add something to their products to get market value for their products[5] .

Bamboo knit fabric just screams comfort and softness. These bamboo and spandex knit fabrics are super popular for both high fashion and casual apparel. Bamboo knit fabrics are good for feminine curves and for the environment. These bamboo knits contain rayon made from bamboo, which is hearty, easy to grow and sustainable. It's also naturally soft, anti-bacterial and odor resistant. Mix in some spandex and you are going to love the feel of this eco-friendly knit fabric.

## 1.1.OBJECTIVE:

- ◆ To extract a natural fragrance using plumeria alba.
- ◆ To apply a fragrance on bamboo knit fabric.
- ◆ To design a t shirt using natural fragrance finishing for kids.

## 2. MATERIALS AND METHODS:

### 2.1.Fragrance used [Fragrance oil]: PLUMERIA ALBA

Plumeria alba is a species of the genus Plumeria. This 2-8m deciduous shrub has narrow elongated leaves, large and strongly perfumed white flowers with a yellow center, and it is mainly used in temples for pooja purposes.

### 2.2.Fabric: Knitted bamboo fabric

Bamboo knitted fabrics are super soft and elegant to wear, and it gives a comfortable for wearing peoples. Bamboo knit fabrics are mostly used for T-Shirts. Bamboo leads the way as an enviromentally friendly fabric that is super absorbent, antibacterial and soft to wear against the skin.

### 2.3.Pre treatment of fabric:

Scouring and Bleaching of the selected fabric to be tested was done[2].The term 'scouring' applies to the removal of impurities such as oils, was, gums, soluble impurities and sold dirt commonly found in textile material and produce a hydropholic and clean cloth[3]

### 2.4.Textile bleaching:

Bleaching is one of the stages in the manufacture of textiles. All raw textile materials,are in natural form, are known as 'greige' material. This greige material will have its natural color, odor and impurities that are not suitable for clothing materials. Not only the natural impurities will remain on the greige material but also the add-ons that were made during its cultivation, growth and manufacture in the form of pesticides, fungicides, worm killers, sizes, lubricants, etc. The removal of these natural coloring matters and add-ons during the previous state of manufacturing is called scouring and bleaching[6].

### 2.5.Finishing application: Padding method.

A padding device, usually a two-roll padder in front of a pin-tenter frame, applies the pigment padding system. In some cases, the padder is set up in front of a series of steam heated dry cans, which do not provide any width or heat control. The pigment padding system contains the pigment, the binder system, and an anti-migration system in water. After passing through the pad trough, the fabric is squeezed by the pad rollers to remove the excess solution and the fabric is guided onto the pin clips on the tenter frame. The tenter frame oven or dry cans accomplishes both the drying and the curing function. After exiting the oven, the fabric is batched on a roll-up device.The addition of resin finishing

chemicals to the pigment padding system allows for coloration and finishing of the fabric in one step. This procedure requires compatibility of the components for successful application[7].

### 3.PROCESS FOR FRAGRANCE FINISHING:

- Procure flower
- Fragrance extract
- Finishing
- Testing
- End product

### 4.COLLECTION AND EXTRACTION OF PLUMERIA ALBA:

The flower was collected in and around my house. And then flower was stored in a cool place. Methonal was chosen for extract the fragrance from the flower. Extraction was carried out by dissolving 100gms of PLUMERIA ALBA in 200ml of methanol. After 2 days the extract was filtered through filter paper. This methanol extract was then finished with bamboo fabric by spray method and padding method.

### 5.FINISHING:

#### 5.1.FINISHING APPLICATION BY PADDING METHOD:

The rollers are constructed from a mass of rubber-coated. Either the top roller or both of the rubber-coated rollers from a conventional padding mangle can be replaced with the Roberto rollers. During squeezing, the wet pickup obtained is lower than that obtained on a conventional rubber-coated padding mangle. The construction creates a kind of porosity in the rollers which allows it to squeeze out more liquor than would a conventional roller[8]. Silicon softener and the fragrance solution prepared earlier for spray method were mixed to a mixture. This solution needs to be mixed very well. Water was added and mixing was done to ensure a good dispersion. PH was adjusted to 5.5 with acetic acid. After this the fabric was dipped into the solution and was passed through padding mangle for one dip and one nip. Sample was dried and cured. Silicon softeners are finish applied onto fabrics to give it a softer feel[2].

Recipe for finish application by padding method with silicon softener	
Silicon softener	10.6 ml
Fragrance solution for spray method	5.3 ml
M L R	1:10
pH	5 - 5.5
Time	1 Dip/1Nip
Temperature	<40°C

Table.1

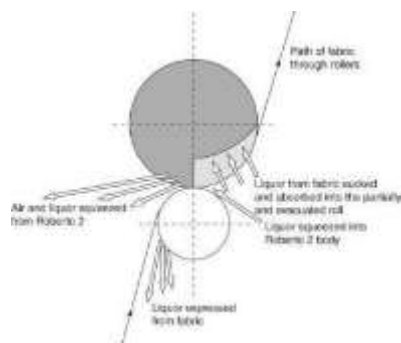


Figure.1

## 6.RESULT AND DISCUSSION:

Tests and analysis are done to check the efficiency of the process that has been carried out. It helps in evaluating the success rate of any innovation. The following tests were carried out to analyze the effectiveness of the fragrance finish and compared by the fastness properties of the fabric[2].

### 6.1.WASH TEST:

The technology which on garments is used to different remove types of dirt of washing present in process the garment can be done called. Wash garment test is washing used to Depending find the quality of the garment. I have used normal wash for knit fabric to test percentage of fragrance sustained in the fabric.

Here I discuss about the wash test for the bamboo knit fabric. Wash was tested according to standard to ISO 105-C06: 1987 using a detergent solution for 35 minutes at 40°C. Samples were rinsed with abundant water and air dried[2].



Figure.2

This is the graph shows the result of the finished fabric. After 10 wash 20% of the fragrance was sustained in the finished fabric.

## 7.SUMMARY & CONCLUSION:

Fragrance finish is the process by which textile materials are treated with the pleasant odors which yields better beneficial effects. This form of natural extraction of the fragrance finish is safe and eco friendly. The pleasant fragrance created by the essential oils. The extract was finished with bamboo fabric by padding method. Finished fabric shows the very good fragrance. The effect of fragrance finish was sustained in the fabric for few days.

## REFERENCES:

1. D. Vasanth Kumar, N. Boopathi, N. Karthick, P. Ramesh, Aesthetic Finishes for Home Textile Materials, Copyright © 2012 Scientific & Academic Publishing.
2. Innovative fragrance finish on bamboo fabric,  
<https://indiantextilejournal.com/articles/FAdetails.asp?id=5298>
3. Mechanism of Removal of Impurities During Scouring Process.  
<https://textilelearner.blogspot.com/2013/04/mechanism-of-removal-of-impurities.html?m=1>
4. Vishnu pareek, Nikhil Bhosale, Aayushi Agarwal, Shrikant Eklahare, Fragrance Finishing Of Textiles - A Review, June 4, 2013.
5. Miss. Priyanka Bolenwar, Miss. Monali Sheware and Mr. Sandip Purane,  
Fragrance finishing of textiles.
6. CC BY-SA 3.0, Textile bleaching, February 2009.
7. Technical Bulletin, Binders for Textile Applications.
8. M.Joshi, B.S.Butola, in Advance Dyeing and Finishing of Technical Textiles, 2013.