



THE COMPARATIVE STUDY OF TIE AND DYESAMPLES USING DIRECT DYES AND FEVICRYL FABRIC COLORSWITH RELATION TO TIME MANAGEMENT

Amarpreet Kaur

*Assistant Professor, Department of Home Science, Guru Nanak Khalsa College for Women,
Ludhiana, (Punjab) India*

ABSTRACT

Fashion trends are fragile and the consumer demand innovative changes over the existing fashion. The real exploration of new design styles never dies and goes beyond the dictates of fashion. The appetite for new fashion in modern society is insatiable. The Indian traditional resist printing plays an important role in the present fashion scenario. The traditional resist printing technique, tie and dye is one of the dyeing technique which is widely used in the fashion era. Tie and dye is a very laborious and time consuming method. The study was conducted to find out a new method by which traditional tie-dyed effect can be obtained faster and quicker. Nine samples were made with double color effect under three different categories with both direct dyes and Fevicryl fabric colors. The time taken for tying the samples, dipping the samples in water, rinsing, untying and drying the samples were noted. The total time taken to tie-dye with direct dyes for all the techniques took 115 minutes to 155 minutes whereas as with Fevicryl fabric colors took 105 minutes to 112 minutes. The result concluded that the tie dyed samples with Fevicryl fabric colors was a time saving technique as compare to the direct dyes.

Keywords: *Direct Dyes, Fevicryl fabric Colors, Tie And Dye, Time.*

I INTRODUCTION

Tie and Dye is one type of Resist printing which is practiced in almost all parts of India. It is known in Malaya as Plangi (many coloured or reserved dot), in India as bandhana (to bind) or chundri and in Japan as Shibori (tied and knotted) or – an earlier term Yuhata (tying together fabric)^[6]. Tie and dye is one of the oldest form of making pattern on cloth and is known in all the parts of the world. Tie and Dye is a beautiful, artistic and popular technique because of the unusual results of dye and textural appearance left in the fabric after untying. The process involved in tie-dyeing in India is basically the same today as it was in the olden times, the important exception being the introduction of chemicals for dyeing and bleaching since the late 19th century^[4]. Tie and dye is a laborious and time consuming method of printing and is done by using direct dyes on cotton fabric. So an attempt was made to find out a fast and easy method of tie and dye using fevicryl fabric colors. The fevicryl fabrics colors are manufactured by PIDILITE Industry. These colors are ready to use and require no separate use of medium, quick drying, wash proof and rich in color value. The main ingredients present in fevicryl fabric colors are pigments, acrylic binders, preservatives and additives^[8]. Some tie-dye practitioners explored support



of fevicryl fabric coloured dyeing which could be used at small scale as well as for commercial scales and hence can anchor a boom to textile industry world wide.

II OBJECTIVE

To compare the tie dyed samples with direct dyes and Fevicryl fabric colors with regard to the time consumption.

III LIMITATION

Only white cotton fabric was used as base fabric.

Orange and black color were used for dyeing.

IV METHODOLOGY

In present study, the time management in dyeing process was executed. The time taken for each technique for tying the sample, dipping, rinsing, untying and drying the sample was noted. The total time taken by all the techniques for both direct dyes and Fevicryl fabric colors were calculated.

4.1 Preparation of Fabric

The cotton fabric was soaked in soapy water overnight so as to remove starch and various finishing ingredients present in the fabric and to improve the absorbency. The material was then taken out and rinsed thoroughly in plain water to remove all the traces of soap. The fabric was then dried in shade and ironed. Some selected tie-dyed techniques were used for tying the fabric samples.

4.2 Techniques Used in Tie and Dye

Samples were made with double color effect using three best rated techniques under three different categories.

Category 1: Samples made by Folding techniques.

Category 2: Samples made by pleated techniques.

Category 3: Samples made by object tying techniques.

Two different dyes were used

1. Direct dyes.

2. Fevicryl fabric colors.

Dyeing color of SEBA brand were used for direct dyes whereas colors from Pidilite industry were used for Fevicryl fabric color

4.3 Colors Used

Only two colors, orange and black were used so as to maintain uniform effect in samples.

4.4 Dyeing 1

The tied sample were soaked for at least 5 minutes so that during dyeing process colors is readily absorbed and spread evenly on the material.

4.5 Dyeing With Orange Color

The dye bath was then prepared with 5% of direct dye (orange color) and 10% of sodium chloride by weight of the material to be dyed. The dye bath was heated to 60°C. After heating, the pre-wet samples were put in the dye



bath for 40 minutes with continuous stirring. Then the sample was taken out of the dye bath with the help of wooden spoon.

4.6 Post Treatment

The sample was subsequently placed under the tap water in order to remove the excessive dye. The sample was dried in shade.

4.7 Dyeing With Orange Fevicol Fabric Color

The color to be applied was first diluted with few drops of water then the tied sample was held in one hand and color was applied symmetrically on it with the help of a brush.

4.8 Post Treatment

The sample was dried in shade for at least thirty minutes.

4.9 Tying- II for Darker Color

After drying the sample, second tying was done tightly where the orange color was to be retained to avoid the penetration of black color.

4.10 Dyeing -II

After tying 2 was complete, then dyeing with darker shade was done. The dye bath was then prepared with 5% of direct dye (black color) and 10% of sodium chloride by the weight of the material to be dyed. The dye bath was heated to 60°C. After heating, the pre-wet sample was put in the dye bath for 40 minutes with continuous stirring. Then the sample was taken out of the dye bath with the help of wooden spoon.

4.11 Post Treatment

Then the sample was placed under the tap water to remove excessive dye from the sample. Then, they were dried in shade after untying the samples.

4.12 Dyeing With Black Fevicol Fabric Color

The color was first diluted with few droplets of water. The tied sample was held in one hand and color was applied symmetrically on it with the help of a brush.

4.13 Post Treatment

The sample was dried in shade for at least forty five minutes. Then slowly the threads were untied with gentle hands, so that the color of the fabric was not discharged on the hidden area of dyeing.

V RESULTS AND DISCUSSION

The total time taken for tie-dyed samples for each technique of both direct dyes and fevicol fabric colors were noted and the results were tabulated for time analysis.



TABLE NO. 1: Time analysis for Tie-dyed samples of direct dyes

Sr. No.	Technique Descriptions	Time taken for tying the sample	Time taken to dip the sample in water	Time taken for dyeing the sample	Rinse the sample in water	Dry in the shade	Time taken for 2 nd tying the sample	Time taken for dipping the sample in water	Time taken for dyeing the sample	Time taken to rinse the sample	Untying and dry in the shade	Total time taken
1	Fold the sample lengthwise twice and then keep on folding the rectangle in a fan manner, until a small sample triangle is formed. Then tie at the 3 corners of the triangle	7 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	152 min
2	Fold the sample lengthwise twice and then keep on folding the rectangle in a fan manner, until a small triangle is formed. Then tie in the middle of the triangle.	10 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	155 min
3	Fold the sample thrice across then fold it thrice lengthways. Tie at the diagonal of the small square formed.	5 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	150 min
4	Fold the sample widthwise pivot pleat on either side of the center of the sample, until the two bunches of pleats meet in the center. Turn them back-to-back and tie at regular intervals.	10 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	155 min
5	Fold the sample in half across and keep on folding till a strip is formed lengthways. Again make fan pleats horizontally. Then tie the pleated sample across and lengthways at rectangle to each other.	10 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	155 min
6	Fold the sample in half lengthways then turn each side back again and make diagonal pleats and tie at regular interval.	10 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	155 min
7	Fold the sample uniformly so that it becomes 1/8 th of its original size. Then, fix paper clamp at the opposite end of the middle of the opposite end of the middle of the sample.	5 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	150 min
8	Insert the sample in nylon stockings and tie at small intervals forming a ball shape.	5 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	150 min
9	Hold the sample from the center and put pencil in it and then, tie at regular intervals using a plastic rope.	5 min	5 min	40 min	5 min	10 min	5 min	5 min	40 min	5 min	30 min	150 min



Table-1 revealed that the time taken for tying with lighter colors ranges from 5 min. to 10 minutes whereas tying for darker color each technique took just 5 min.

Time taken for dipping samples in water for both the colors of each technique was only 15 min.

For both lighter and darker color the time taken for each technique for dyeing the sample was 40 minutes and for rinsing was just 5 min.

Time taken for drying the sample with lighter color was just 10 minutes while untying and drying with darker color took 30 minutes.

TABLE NO. 2 : Time analysis for Tie-dyed samples offecicryl fabric colors

Sr. No.	Technique Descriptions	Time taken for tying the sample	Time taken to dip the sample in water	Time taken for dyeing the sample	Amt. of time taken for absorption of color into the fabric	Time taken for 2 nd tying the sample	Time taken for dyeing the sample	Amt. of time taken for absorption of color into the fabric	Total time taken
1	Fold the sample lengthwise twice and then keep on folding the rectangle in a fan manner, until a small sample triangle is formed. Then tie at the 3 corners of the triangle	7 min	5 min	10 min	30 min	5 min	5 min	45 min	107 min
2	Fold the sample lengthwise twice and then keep on folding the rectangle in a fan manner, until a small triangle is formed. Then tie in the middle of the triangle.	10 min	5 min	10 min	30 min	5 min	5 min	45 min	110 min
3	Fold the sample thrice across then fold it thrice lengthways. Tie at the diagonal of the small square formed.	5 min	5 min	10 min	30 min	5 min	5 min	45 min	105 min
4	Fold the sample widthwise pivot pleat on either side of the center of the sample, until the two bunches of pleats meet in the center. Turn them back-to-back and tie at regular intervals.	10 min	5 min	10 min	30 min	5 min	7 min	45 min	112 min
5	Fold the sample in half across and keep on folding till a strip is formed lengthways. Again make fan pleats horizontally. Then tie the pleated sample across and lengthways at rectangle to each other.	10 min	5 min	10 min	30 min	5 min	5 min	45 min	110 min
6	Fold the sample in half lengthways then turn each side back again and make diagonal pleats and tie at regular interval.	10 min	5 min	5 min	30 min	5 min	5 min	45 min	105 min
7	Fold the sample uniformly so that it becomes 1/8 th of its original size. Then, fix paper clamp at the opposite end of the middle of the opposite end of the middle of the sample.	5 min	5 min	10 min	30 min	5 min	5 min	45 min	105 min
8	Insert the sample in nylon stockings and tie at small intervals forming a ball shape.	5 min	5 min	5 min	30 min	5 min	5 min	45 min	110 min
9	Hold the sample from the center and put pencil in it and then, tie at regular intervals using a plastic rope.	5 min	5 min	5 min	30 min	5 min	5 min	45 min	110 min

Table-2 revealed that the time taken for tying with lighter colors ranges from 5 min. to 10 min. whereas tying with darker color took just 5 minutes for each technique.

Time taken for dipping the sample in water for both the colors was 5 min. for each technique.

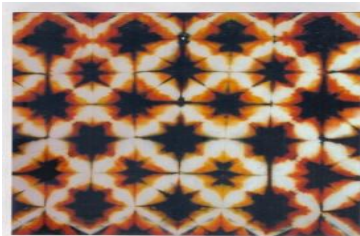
The time taken for dyeing orange color sample ranges from 5 min. to 10 min. while for darker color took 5 min. to 7 min.

The amount of time taken for absorption of orange color into the fabric for each technique was 30 minutes and that for absorption of black color was 45 min. for each technique.

Tie and Dye Samples of Direct Dye



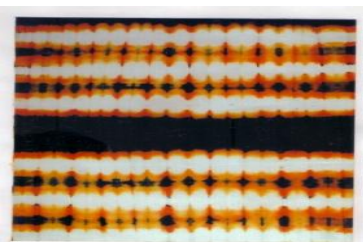
Technique No. 1



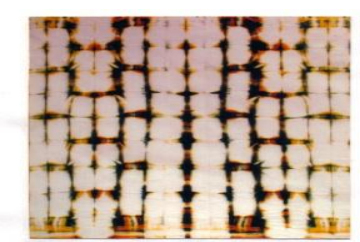
Technique No. 2



Technique No. 3



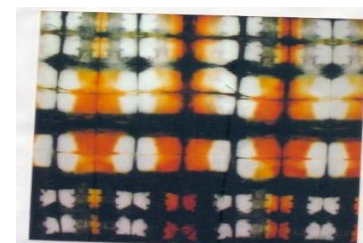
Technique No. 4



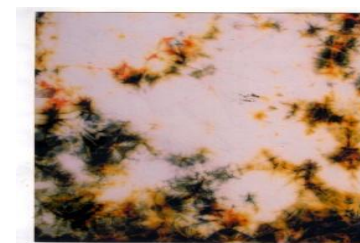
Technique No. 5



Technique No. 6



Technique No. 7



Technique No. 8



Technique No. 9

Tie and Dye Samples of fevicryl fabric colors



Technique No. 1



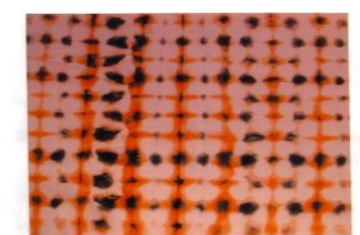
Technique No. 2



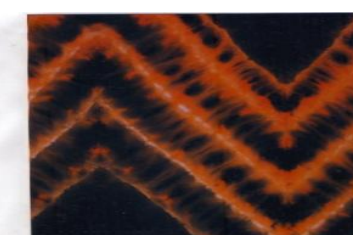
Technique No. 3



Technique No. 4



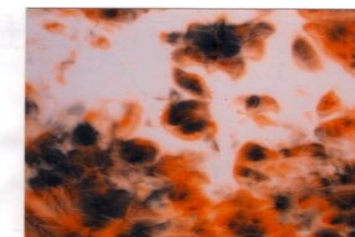
Technique No. 5



Technique No. 6



Technique No. 7



Technique No. 8



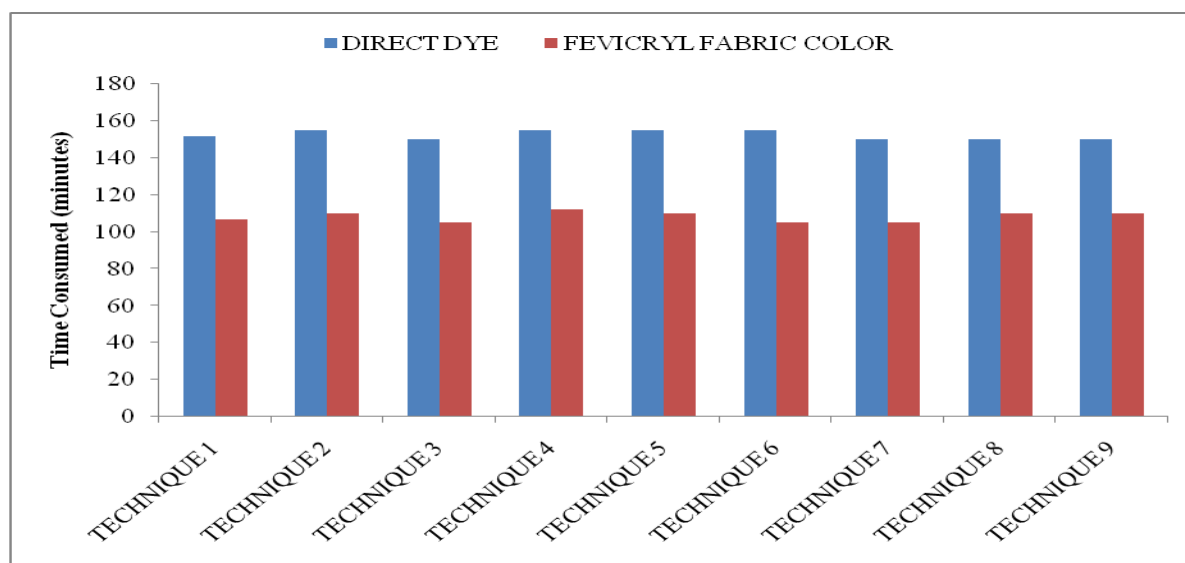
Technique No. 9

TABLE NO. 3: Total time analysis for tie-dye samples for each technique with both direct dyes and fevicryl fabric color.

Sr. No.	Techniques	Time taken to tie-dye the sample with direct dyes	Time taken to tie-dye the samples with fevicryl fabric colors.
1.	Technique-1	152 min	107 min
2.	Technique-2	155 min	110min
3.	Technique-3	150 min	105 min
4.	Technique-4	155 min	112 min
5.	Technique-5	155 min	110 min
6.	Technique-6	155 min	105 min
7.	Technique-7	150 min	105 min
8.	Technique-8	150 min	110 min
9.	Technique-9	150 min	110 min

FIGURE

Fig-1 Time consumed in Tie- Dye samples of direct dyes and fevicryl fabric colors



Total time analysis for tie-dyed samples concluded that time taken for dyeing samples with fevicryl fabric colors comparatively took lesser time i.e. (105 min. - 112 min.) than direct dyes viz. (150 min. - 155 min.). Hence execution of pidilitefevicryl fabric colors on cotton fabric proved better discharging results in relation to time management than direct dyes.



VI CONCLUSION

The most visible manipulation of fashion and lifestyle is mirrored through our clothing. While food and housing are internal needs, clothing is that one carries through on one self most of the time attracting great scrutiny. Making slight modification in our traditional method, we can introduce some new time saving methods of dyeing for fashion conscious people. Thus our purpose is to introduce time saving method of dyeing in the world of fashion.

REFERENCES

Books

1. Clark, w (1974) "An Introduction to Textile Printing" 4th Ed. Newner Butterworth, London.
2. Cockett S. R. (1964) Dyeing and Printing, Siv Isaac Pitman and Sons Ltd, London.
3. Gohl (1979) "Textile Science" CBS Publisher and Distributor, Delhi.
4. Maile, Anne (1969) "Tie and Dye as a present day Craft" Taplinger Publication Co. New York, Mills and Boons, Limited, London.
5. Stuart and Patricia (1970) Exploring Fabric printing, Wills and Boons Ltd, London.
6. Shenai, V.P. (1976) "Technology of Textile Processing." Vol. IV, Sewak Publication, Bombay.

Thesis

Sawhney, Ramandeep (2002) "Unlocking Nature's Colour Magic with Tie Dye Decoration" – Master's Thesis, Punjab University.

Website

Retrieved from www.pidilite.com