



ISSN: 2350-0328

**International Journal of Advanced Research in Science,
Engineering and Technology**

Vol. 6, Issue 4, April 2019

Contemporary Tool And Its Practical Program Evaluating Crepe Grade Of The Surface Of The Material

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ABSTRACT. The article provides with a research work on clarifying the crepes effect of fabrics. Here is a new modern method of determining the crepes effect of fabrics. While clarifying the crepes effect, the image that analyzes and creates a special tool for capturing the fabric indefinitely in a closed environment so it's easy to analyze the image. There are 6 types of etalon in the table view of the program database. The program performs the following steps: Determine the percentage of fabric filling with fibrous materials (Eum.%), determines the degree of deviation of pancreatic strands to the straight line (amplitude) - α_{ypr} determines the frequency of wavelengths of crepe yarns. The values that are determined are compared to the reference in the application database and are indicated by the closest inline row in the reference table.

KEY WORDS: Crepe, Effect, Fabric, Silk, Crepe

I. INTRODUCTION

Nowadays, rapid change in fashion demand also requires rapid change in appearance. This changes the patterns on the fabric surface, and stimulates the creation of new assortments and leads to numerous studies on the surface properties of the fabric. Because when buying a garment, the buyer pays special attention to the surface of the fabric. The fabrics are usually made of various raw materials, yarns of different thickness, different densities and various layers.

The tissue surface produced from raw silk and other fibers is characterized by a distinctive structure, especially in fabrics made of porcelain yarn.

Crepe is a French crêpe, meaning gilding silk fabric. The word "Crêpe" is derived from the French language into Latin, which means "crispus" - that is, it is unbearable, coarse and wavy, low, smooth.

The essence of the crepe effect is that it is a unique texture, one side of the tissue surface is fibrous and the other is constriction. If the surface of the fabric is smooth, light on the surface of the fabric will fall under a certain angle and radiate the surface, and the shadow of the conjugate surface will be projected in the tissue.

One word we can say is the "crepitation" of the fabric surface.

Examining and forecasting the crepes effect for special high-stitched fabrics is important in the production of garments. Creation of the fabric surface is a special ingredient effect, resulting in the appearance of high yarn threads. The effect is caused by the awakening of the twisting and starting energy of the yarn under the influence of heat.

During the production of pancreatic tissue, two key questions arise: how does a crepin effect occur and how can the effect be controlled? Several researchers have discovered the effect of the tissue weighing and packaging mechanism on the crepes effect. Studies have shown that wiping the fabric has a great effect on the smoothness of the surface of the fabric [2].

Due to the wide range of modern computer technologies, this research has been devoted to making the "creasing" level of the fabric surface an objective and easy-to-use method of evaluation.

II. EXPERIMENTS AND METHODS

Experimental samples were developed by JV LLC Bukhara Brilliant Silk in 4 variants. The technical parameters of the samples are given in Table 1 below.

**Table 1
Technical Indicators for Experimental Samples**

№	Samples	Raw material type, tex		Report	Density, 10 cm Raw material		Density, after training 10s C	
		T _{weft}	T _{warp}		P _{weft}	P _{warp}	P _{weft}	P _{warp}
1.	Example 1	Kst 2,33x4 1500 r/m	Rsr 3,23x4	1S+1Z	320	400	320	430,5
2.	Example 2	Kst 2,33x4 2200 r/m	Rsr 3,23x4	1S+1Z	320	400	320	460,2
3.	Example 3	Kst 2,33x4 2500 r/m	Rsr 3,23x4	1S+1Z	320	400	320	470,5
4.	Example 4	Kst 2,33x4 2800 r/m	Rsr 3,23x4	1S+1Z	320	400	320	470,5

Table Abbreviations: Kst-crepe silk thread. Rsr-raw silk rope. The direction of rotation of S and Z threads.

It is well-known that crepe fabrics are raw tissue and there is no crep effect on it. At the time of raw material preparation and preparation for roses (raw silk dyeing and preparation for flowering process at 950S), the sericin melts in the silk thread, the properties of the yarn change, and the movement of the torsion caused by the high yarn creates a relaxation. As a result, the crevices of the panty yarn begin to disappear. The frictional solution prevents frictional forces in the interconnected parts of the body and the tongue. The force created by the relaxation of the crepe wing yarns and the frictional strength of the joints that are bound to them by the threads of the skin (collapsible) collide with each other. The collision between the two forces leads to the twisting of the yarns relative to the center axis. This deviation occurs at the junction of both forces. As a result, the yarns enter the complex spiral shape of the space. The penetration of the strips into such a complex spiral shape has a great effect on the surface of the fabric, ie the surface of the fabric moves. This is a peculiarity of crepe fabrics. This is what we have considered above the crease level of the fabric surface.

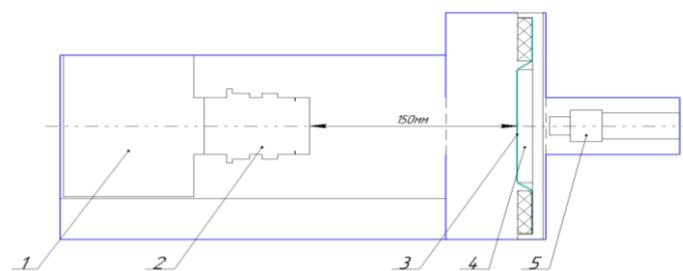
Recent research on the Cretaceous Creams for Crepe Cloth Group is as follows.

For example, the latest research was conducted by Chinese scientists. They took 8 samples in gray. In order to distinguish the peculiarity of the crepes effect, the projected area of the fabric surface has increased its projected area by 100% to the overall area of the fabric. The resulting result is a value that determines the crepe effect [2].

The defect of the proposed work is that if the fabric is of two types, ie a large crep effect or a small crepe effect, the projected area under the effect of the light can be the same in both samples. Then this method can not distinguish between large and slight crepus effect on fabric surface.

In addition, the absence of a fixed environment in the image capture results in great difficulties in image analysis and reduces the accuracy of the results obtained. Because it requires a sophisticated algorithm to analyze the image. The more complex the analyzer algorithm, the higher the error rate of each step of the algorithm.

In creating a new modern way of thinking, we have created an image-capture apparatus in a non-invariant environment for simple and accurate algorithm analysis (Figure 1), taking into account the above mentioned conditions (Figure 1).



1. CMOS touch USB camera, 2nd lens, 3. Fabric sample (green ring), 4. Cassette, 5. Lighter.

Picture 1. A shooting media in a fixed environment

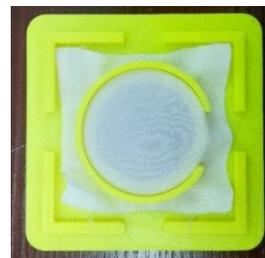
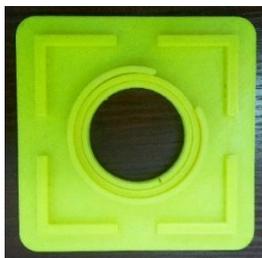
Figures 2, 3, 4 show general and different types of equipment.



Picture 2. Overview of the device



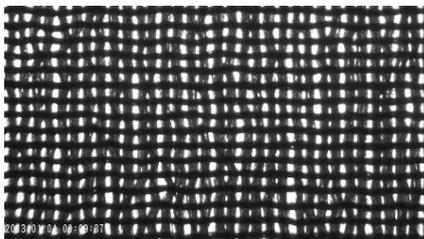
Picture 3. Tool interior visibility



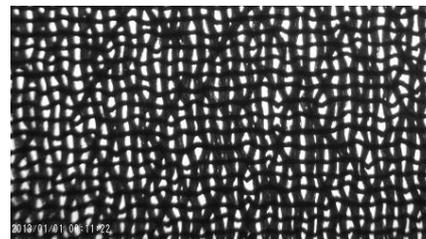
Picture 4. Handheld cassette

High-performance 14 MB in industry. A pixel CMOS touch screen, and an image lens up to 45 times the image. The fixed image distance from the camera lens to the fabric sample is 15 cm.

The tool works as follows: the camcorder 1 is positioned on the cassette 4 using the lens 2, the fabric sample 3 is shot. The fabric sample is illuminated by the backlight on the illuminator 5. As a result, we produce the following fabric images (5a and b) that we need.



a)



b)

5-picture.

- a) The number of wings in pancakes is 1500 rounds / m
- b) The number of creases per pancake rope is 2200 bpm

The texture of the fabric is continuous because the capture medium is off. That is, the picture's size and color are the same. The film does not have an effect on the environment.

You can use a few simple algorithm software to analyze images taken using this capture method.

A practical algorithm has been developed to determine the degree of crepation based on "snapshot analysis" of the crepe fabric shooting.

III. CONCLUSIONS AND DISCUSSIONS

The software algorithm works as follows.

1. Take 7x7cm of fabric and place it in the cassette and paint it in black and white rings.
2. A matrix called digital pt has been created from the RGB matrix.
3. The size of the strips in the drawing was calculated and succeeded.
4. Go The MasMax matrix determines how much the percentage of thread breaks down to the line (%).

As a result of calculations, the number representing the wick ropes is combined vertically. Then we take the picture below (Figure 7).

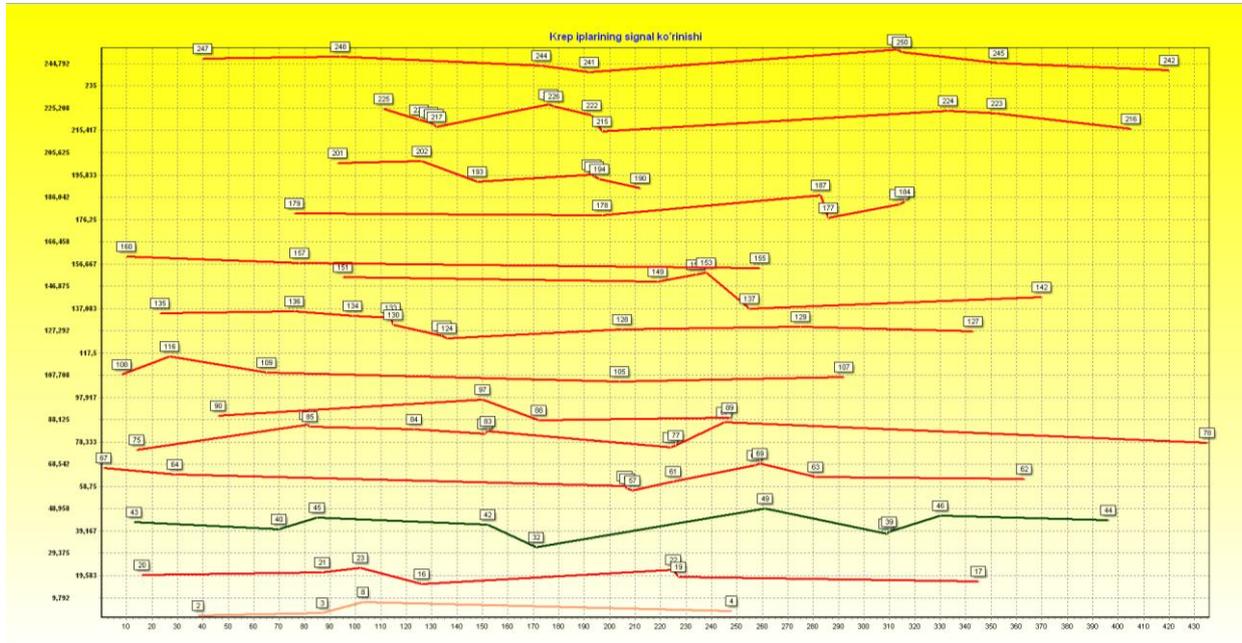


Figure 6. Curves that determine the wavelength of the thread

These curves indicate how much the cord strings tend towards the straight line. The program displays the average of the average deviation of the yarn across the entire line and the average deviation of all the yarns.

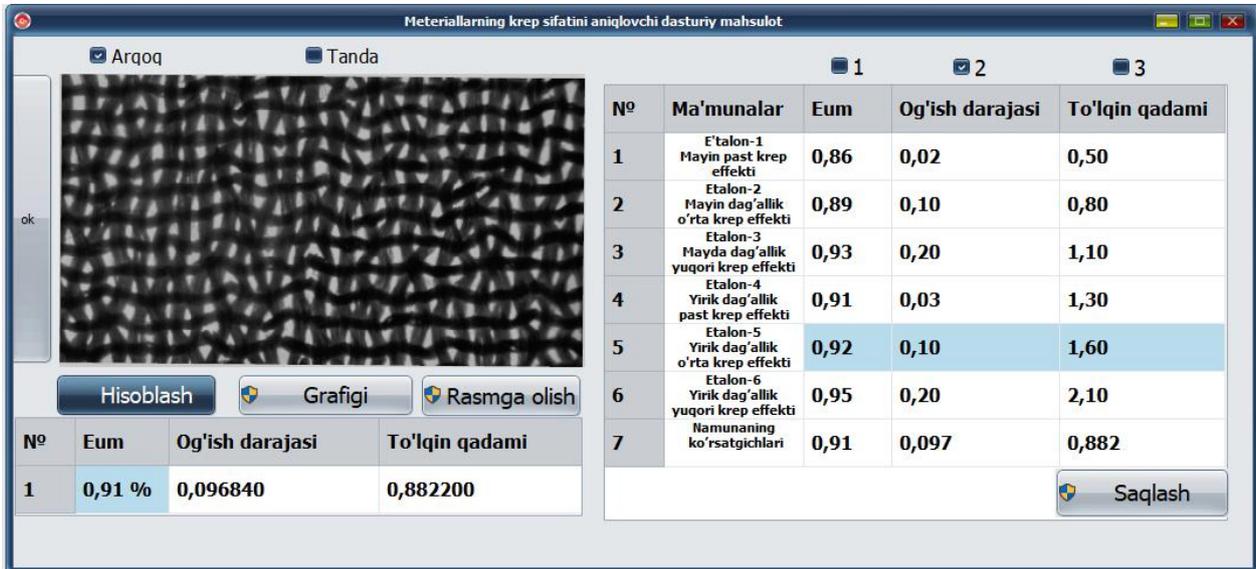
5. Go to the wave step of the detected yarn in the MasMax matrix.

These two figures are considered to be the size representing the degree of creasing of fabrics. Because the appearance or shape of objects is directly related to the sum of the elements of its constituent elements. Creams of pearls made of complex spiral formations in the tissue are the basis of the original texture formed on the surface of crepe fabrics.

The table contains a table of references. The table of benchmarks contains 6 different metrics:

- Etalon-1 low-purity crest effect;
- Etalon-2 medium-pancreatic effect of soft straw;
- Etalon-3 small peppers effect on small stumps;
- Cretaceous effect of Etalon-4 large grindstone;
- Medium crepes effect of Etalon-5 gritty;
- Etalon-6 is a large crepe top crepe effect.

The resulting result is compared to the indicators that are included in the program, and the next line is shown (Figure 7).



Picture 7. Overview of the application interface

We tested our experimental samples for the same period of time with the same dose and the same substance, and we analyzed the samples on a newly created device and analyzed the image with a practical application. The results of the analysis are shown in Table 2 below.

Table 2
A table of results obtained using a program that evaluates the Creption Level

№	Samples	Minimum boiling time, min.	The degree of crepe on the fabric surface	
			Average values of the paddle slippage to wavy shape, mm	Average values of the wave step of pancake threads, mm
1.	1500 twisted	30 minutes	0,000	3,610
2.	2200 twisted		0,046	0,748
3.	2500 twisted		0,061	0,809
4.	2800 twisted		0,117	0,918
5.	1500 twisted	45 minutes	0,000	2,126
6.	2200 twisted		0,047	0,658
7.	2500 twisted		0,056	0,985
8.	2800 twisted		0,126	1,017
9.	1500 twisted	60 minutes	0,000	2,658
10.	2200 twisted		0,053	0,601
11.	2500 twisted		0,067	0,662
12.	2800 twisted		0,139	0,924

As can be seen from the table, the pace of the crepes and the boiling point of the fabric increase the value of crepey wavelengths in wavy form. However, if we compare these values to the differences between the bursts, the wave values of yarns of 1,500 are 0, but the wave step is 13,610. The wavelength of the yarns is insignificant when the wavelengths have a value of 0. That's why we did not take that into account. At 2200, the wavelengths are gradually increasing as the boiling point increases and the wave step decreases. The difference between 30 minutes and 45 minutes of boiling boils is minimal, and the difference between the boil for 30 minutes and 60 minutes has changed dramatically (0,013-0,035). We can see a sharp increase in the value of the transition from 2200 to twisted yarns and their transition to wavelengths in 2,500 yarn. The wave step values also differ significantly (8,444-6,183). With the crepe ropes increasing, the wavelengths of crepe fabrics are diminished and the wavelengths of crepe fabrics are diminished. However, these figures are increased to 2,500 pile crepe fabrics, and the wavelengths of the 2,500 tissue yarns are very low (5,827-5,814) in fabric with a 2800 pound crepe band.



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 6, Issue 4, April 2019

VI. SUMMARY

Increasing the crepes of the ropes of the crepes effect is also effective, even after a certain limit. Because the threads of the upper back are resistant to the formation of the rotation of the yarns (such as the removal of the solids and the transition of the yarns to the wavy wave form). Thus, when promoting the effect, it is not only necessary to increase the spinning of the yarn, but also to reduce density and density of the cord yarns to the permissible limits.

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