

WHAT IS TEXTILE FINISHING ?

"It is not possible to talk about a successful finishing without a good pre-treatment in cotton, a correct washing and a good finish in wool, and a correct thermosetting in all synthetics, especially polyester."

According to an evaluation, 23% of the errors seen in the products as a result of textile finishing are real dyeing and printing errors, 11% are finishing errors, and the rest are direct or indirect pre-finishing errors. What makes the job difficult and in many cases causes a lack of understanding of the importance of a good and correct pre-treatment; Most of the errors that occur as a result of pre-treatment are not immediately apparent, but become visible in printing and especially after plain dye.

Cotton fiber, mechanically after the ginning process, removes most of the dirt on it. However, some plant crumbs (garbage) remain on it, which appear as black spots on the yarn and fabric, and these are also a problem because they are resistant to chemical treatments.

Items	Dry Weight		
	Low	Middle	High
Cellulose	% 88,0	%94,0	% 96,0
Protein (N x 6,25)	1,1	1,3	1,9
Pectic Substances	0,7	0,9	1,2
Ash	0,7	1,2	1,6
Vaks	0,4	0,6	1,0
Malik, Citric and other			
Organic acids	0,5	0,8	1,0
Total Sugars	-	0,3	-
Pigments	-	Trace amount	-
Other Substances	-	0,9	-

Structure of Raw Cotton

This information is not only about the dye and chemical quality you use, but also about proper dyeing in your production. Because an incomplete intervention will directly affect your final quality. We just wanted to remind you of the rules you know.

PRE-CLEANING PROCESS: It is applied to remove iron and heavy metals on the fabric.

BLEACHING PROCESS:

- To ensure hydrophilicity.
- Removing impurities from cotton.
- Ensuring whiteness.
- Removing the finished hydrogen peroxide.

DYEING PROCESS:

1. Water quality
2. Initial temperature (300C)
3. Initial pH (7)
4. Quality Salt
 - Its hardness should be low
 - Heavy metal ions : Cu+2 ..max 0,05 ppm
 1. Fe+2,+3 ..max 0,05 ppm
 2. Cl-1 ..max 0,05 ppm
 - Large-molecule salt should be used (Na2SO4)
- 5) Appropriate salt concentration
- 6) Dosing melted salt at the appropriate speed
- 7) Proper pH setting (Soda and liquid alkali)
- 8) Setting the reaction temperature
- 9) Reaction time

WASHING PROCESS:

- I. Cold rinse
- II. Nötralization (pH=7)
- III. Hot wash (950C)
- IV. Several hot rinses by color

FINISHING PROCESS:

- I. Good softening (pH=5.0-5.5)
- II. Fixator

Getting healthy results in dyeing depends on many conditions. The first and most important of these is "production water". It should be of a quality suitable for water dyeing.

The quality of the water that should be used in production:

- ✓ Colour : Pale
- ✓ pH : 7,0 - 7,5
- ✓ Total hardness : Max 25,00 ppm veya 2,50 German hardness
- ✓ Iron : Max 0,10 ppm veya 0,10 mg/l
- ✓ Manganez : Max 0,03 ppm veya 0,03 mg/l
- ✓ Copper : Max 0,01 ppm veya 0,01 mg/l
- ✓ Chlorine : Max 0,00 ppm veya 0,00 mg/l
- ✓ Sulfate : Max 0,00 ppm veya 0,00 mg/l

For a healthy dyeing, water should be checked first and then the salt used in each dyeing. Because even if the water is at the desired values, hardness, iron, copper sulfate ions can come with the salt added later. Dyeing should not be done without water seasoning.

If there is only "hardness" in the medium, "Sodium hexa meta phosphate" or "Calgon T" with its trade name can be used. Since Calgo T is difficult to remove from the environment and is ineffective against iron, copper, chlorine ions, it is recommended to use "metal retaining" substances. (Phosphanic-based ion scavengers)

If there are iron, copper, chlorine ions in the environment, metal retaining agents should be used in the "bleaching" stage. Because hydrogen peroxide reacts with Fe+3 ions to form oxy-cellulose. This leads to the reduction of the dye during the dyeing phase.

If there is no iron, copper, chlorine in the production water, and they are formed by the addition of salt, then it is sufficient to use a metal trap only at the stage of dyeing.

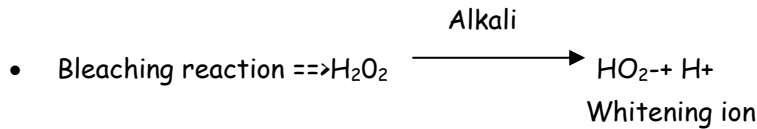
After water, the second factor in good dyeing is "good preparation of the product for dye." If there are iron and heavy metals on the fabric, pre-cleaning should be carried out.

Since the peroxide residues on the fiber will cause chromatic aberration after bleaching, they should be removed from the environment with one of the CHEMYZME OX series.

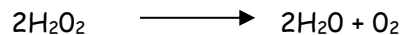
Before dyeing, the pH should be neutral (7.0-7.5) and preferably the water hardness should be zero.

MATTERS TO BE CONSIDERED:

- Uniform and adequate pre-treatment for a good dyeing must at the end of pre-treatment, sizing size, hydrophilicity, peroxide and pH control should be done.



If there are 'iron' ions in the environment, the reaction



A good whiteness cannot be obtained.

- In reactive dyes, salt increases the dye to the fiber, while soda provides fusion with the fiber. However, since the sensitivities of the dyes (alkali and chlorine stability, relevance to fibers...) are different, care should be taken in adding salt and soda. For example, in dyes with high sensitivity to fibers, the anodtrolite power of Na_2SO_4 is lower than NaCl instead of NaCl . However, Na_2SO_4 must be used in dyes with low alkali and chlorine stability.
- After the necessary shooting with salt is made, it begins with the addition of soda. The equalization time between salt and soda is important. Soda of dark colors should be given in hot (600C). If it is given in the cold, the pH cannot be adjusted as the hydrolysis event will increase. In light colors, it should be given in the cold.
- In some dyes, the choice of chemicals should be done very carefully. For example, since the anti-fracture and dispersant in 'Blue R' dye can cause dye collapse in the bathroom, a careful chemical selection should be made or used at all. The interval between salt and soda should be at least 30 minutes. In 'Black B' combinations, it is necessary to pay attention to the drying temperature. The proper temperature can cause the color to turn red when hung. 'Turquaz Blue' is a dye with the highest subsperity and large molecules. Salt should be given at 800C to ensure uniform distribution and should be worked for 20 minutes before soda. If the pH drops below 6.5 during washing, chromatic aberration may occur.
- As a result of dyeing, the unfixed and hydrolyzed dye on the fabric can be carried back to the cotton with the salt in the bayo and cause stains. Therefore, salt must be removed from the environment. In addition, the neutralization of the alkali should be done in the cold to avoid chromatic aberration.

COLOR LIGHTENING:

When the color is desired to be lightened too slightly;

WASH AN18	1-2 gr/lit
Soda (if necessary)	1-2 gr/lit
Temperature	95°C
Time	25-30 minutes

COLOR REMOVAL:

If the finishing process has been done, the finishing is removed first.

- 1) Hydrosulfide 8-10 gr/lit
Soda 2-5 gr/lit (pH = 10-11)
Temperature 95°C
Time 30-45 dakika
- 2) 2 gr/lit Bleach max. 40°C-50°C da applies. The time is set appropriately.

Note: In both methods, half a bleach after color removal
By doing so, reductive or chlorine residues are destroyed.

FIXATOR DISMANTLING:

5 gr/lit hydrochloric acid (or pH = 4.0-4.5) at 60°C for 30 minutes
Applies.

FABRIC SOFTENER REMOVAL:

Acetic acid	pH = 4.5-5
Temperature	80°C - 90°C
Time	15-20 minutes

SILICONE STAIN CLEANING:

Fluoride acid (or oxalic acid)	5 gr/lit
Wetting Agent	0.5 gr/lit
Temperature	60°C-70°C
Time	3 hours
Hot rinse	15 mins
Cold rinse	10 mins

Neutralization with ammonia OR

20 gr/lit Kloroform veya CCl₄

10 gr /lit Emulsifier

It is impregnated in a scarf and 2 hot washes are carried out.