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HOW TO KNOW MATERIALS

SIMPLE TESTS FOR ADULTERATIONS

and

HELPS IN REMOVING STAINS



By

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HOW TO KNOW MATERIALS AND SIMPLE TESTS FOR ADULTERATIONS.

In order to buy intelligently we must be familiar with the different fibers in their various forms, and be able to recognize them. We must know also the common adulterations that are so often responsible for the poor quality of materials on the market. Knowledge of material is gained mostly through experience in buying. The appearance and feel of a piece of cloth will after all be the tests most used in buying, but we must know how the cloth ought to look and feel.

We should know how the fibers look under the microscope and also in their natural state for a microscope is not always available.

The buyer should know the names, general characteristics, and uses of the different fibers—cotton, wool, linen, silk, ramie, jute and hemp. She should also know adulterations, substitutions, prices and width of staples.

Animal fibers:

1. Wool.
2. Silk.

Vegetable fibers:

1. Cotton.
2. Linen.
3. Ramie.
4. Jute.
5. Hemp.

Cotton—The characteristics of cotton are:

1. Strong fibers.
2. Least expensive of the fibers.
3. Breaks easily, leaving a fuzzy end.
4. Burns readily with a continuous flame.
5. Launder's easily.
6. Takes dye well.
7. Easily affected by acids but not readily by alkalies.
8. Leaves lint.

Adulterations—Cotton being the cheapest textile fiber is not adulterated with other fibers but is misrepresented in other ways:

1. Sizing—foreign materials such as starch, china clay, various gums and marble dust are added to give body and firmness to the fabric.
2. Calendering—The cloth is run thru heavy rollers to give a gloss similar to mercerization, but it is not permanent. Unmercerized cotton is stronger when calendered than ordinary cotton.
3. Imitation, dots or designs pasted on material.
4. Mislabeling—Names as India Linen, Linon, Flaxon, etc.

Mercerization—Is a finish applied to cotton by means of which a luster is given to the fiber. The yarn is stretched over rollers and run through a bath of strong caustic soda solution, then rinsed in water and dilute acid.

It gives a beautiful luster, is stronger by one-third, takes dye more readily and is more expensive than ordinary cotton.

Linen—Characteristics:

1. Expensive.
2. Strong and durable.
3. Feels cool and leathery.
4. High luster.
5. When broken, ends are very uneven and straight.
6. Wrinkles easily.
7. Absorbs moisture readily.
8. Not easily affected by acids.
9. Not affected by alkalies.
10. Difficult to dye.
11. Launders easily.

Adulterations:

1. Mercerized cotton sold as linen.
2. Linen and cotton mixtures.
3. Cotton yarn spun with irregularities to mistake those found in linen.
4. Characteristic linen weaves, as damask and huckaback are made in cotton fabrics.
5. Finishes.

Tests:

1. Microscopic test is best. For cotton and linen mixtures, boil out all dressing from material before testing.

(a) **Cochineal Test**—Heat a fringed sample in cochineal tincture for 15 minutes. Remove and rinse in a strong solution of sodium chloride. Linen turns dull red while the cotton turns very little.

(b) **Oil Test**—Immerse fringed sample, with dressing removed, in olive oil or glycerine; squeeze out excess oil. Linen becomes very transparent while the cotton remains opaque.

Ramie—Is a fiber obtained from the stem of a plant belonging to the nettle family. It excels flax in luster and tensile strength. It is a coming textile and is used as a substitute for linen as ramie linen.

Jute—Comes from the stem of a plant and is a weak fiber. It is used as an adulterant in cheap rugs, carpets, drapery, and upholstery fabrics.

Wool—Characteristics:

1. Soft, kinky fiber.
2. Good conductor of heat.
3. Very elastic.
4. Destroyed by alkalies.
5. Absorbs dye readily.
6. Absorbs a large amount of water.
7. Difficult to launder.

8. Affected by friction.
9. Burns slowly or rather boils and has a peculiar odor as of burning feathers.

Adulterations:

1. Cotton and wool mixtures.
2. Shoddy in woolens.
3. Wool and silk mixtures.

Tests:

Wool and cotton mixtures:

(a) Add 1 teaspoon of lye to one pint of cold water, boil, place material in this and leave 15 minutes. Wool will become a jelly-like mass but cotton will remain unaffected. Wash what you have left and the gummy substance which was once wool will wash out leaving only the cotton.

(b) Wool and silk mixtures—Hydrochloric acid test. Place sample from two to five minutes in cold concentrated hydrochloric acid. Silk dissolves. Wool, hardly affected.

(c) Burning—Wool burns slowly with an odor of burning feathers and leaves a gummy ball.

Silk—Characteristics:

1. Expensive.
2. Poor conductor of heat.
3. Strong, when pure, wears well.
4. Affected by friction.
5. Scorches easily.
6. Becomes yellow in washing.
7. High luster.
8. Takes dye readily.
9. Soft and lightweight.
10. Combines well with other fibers, both vegetable and animal.

Adulterations:

1. Weighting—Is done by adding metallic salts to the dyes which cut the fibers. Weighting up to 18 to 20 per cent. is legal and makes the material stronger.

2. Cotton and silk.

3. Spun silk which is obtained from waste silk. Being short fibers the surface of the cloth will become fuzzy.

4. Mercerized cotton sold as silk.

5. Cotton thread is spun with irregularities to imitate the yarn of wild silk which is found in pongee.

6. Wild silk is sometimes sold as cultivated silk.

7. Finishes, such as glues, starches and waxes, are used to add weight.

8. Misleading names such as silkoline, sunshine silk, etc.

9. Typical silk patterns are found woven in cotton.

Substitutions—Artificial silk or fiber silk which is a product of modern chemistry. Cotton or wood pulp is dissolved chemically, and put through tiny tubes into another solution which hardens it into long lustrous threads. It is more lustrous than silk but not strong and durable.

Tests:

(a) Burning—Silk burns slowly and has an odor of burning feathers. Leaves a gummy ball. If silk is weighted it retains its shape.

True and Artificial silks—Nitric acid test (for whites)—True silk turns yellow while artificial silk remains unaffected.

REMOVAL OF STAINS.

Garments are unsightly in appearance if there are stains to mar their looks, hence we need to have on hand information which we can turn to readily when an accident occurs. Remove stains immediately or as soon as possible, as stains that are dried are more difficult to remove. Absorb as much as possible of material that causes stain. This can be accomplished by using blotting paper, cloth, or powdered chalk. Never wash a garment until an effort has been made to remove stain. Soap makes a stain usually more difficult to remove and hot water may "set" the stain. In other words a physical and chemical change may occur changing the original stain altogether. For instance, a milk stain should be first washed in cold water to remove the protein and sugar and following with soap and warm water will remove grease or cream. In case of a coffee stain we have three stains to consider usually, (1) cream, (2) sugar, (3) brown coffee berry stain. Hence to remove the stain, if soap and water are used first, the fat is removed, but not coffee, therefore, to insure success, first use cold water then hot water poured from a height on the spot. If a slight brown stain should remain use a bleaching agent such as javelle water.

Bleaching agents, unless quite mild, are injurious to fabrics hence to prevent deterioration of the cloth use a dilute chemical agent and work longer with a mild solution. One of the best bleaching agents is the sun's rays.

RECIPES FOR CERTAIN STAIN REMOVERS AND BLEACHING AGENTS.

Javelle Water—1 lb. sal soda or pearl ash in 1 qt. boiling water, 1-2 lb. chloride of lime; dissolve in 2 qts. cold water.

Strain both liquids and combine when cooled. Strain the second time if necessary. Bottle and keep in a cool dark place.

Potassium Permanganate—Dissolve 1 tsp. crystals in 1 pint water.

Oxalic Acid—Dissolve 1 oz. crystals in 3-4 cup of hot water.

A good cleaning fluid for white kid gloves to remove spots from wool or silk; this must be made up at a drug store:

Cleaning fluid:

Chloroform 1 dram.

Ether 2 drams.

Oil gaulthena 2 drams.

Gasoline enough to make one quart.

Mix.

Another method of cleaning gloves is to rub them into cornmeal which has been moistened with gasoline. Shake in fruit jar with gasoline.

To clean washable kid gloves, place on hands, wash in luke warm suds

with a neutral soap, rinse and when slightly dry shake talcum over them to restore soft finish.

Wash silk gloves or hose in cold or luke warm suds with white soap. Rinse and dry. Wash at night to prevent combined effect of light and moisture and silk will not be yellow.

By pouring water from a height over a stain the pressure will frequently force the stain through the cloth.

Two important points to consider in removing stains: (1) Character of stain; (2) material or fabric, whether animal or vegetable. In a general way we may say alkalies, such as strong soaps are detrimental to animal fibers such as wool or silk. If strong soap is used on a white sweater it softens the wool, which becomes straight and the sweater stretches out of shape and upon drying is harsh to the touch and yellow in color. Mild soaps or alkalies should be the only ones used on wool. Acid is not detrimental to animal fiber as to vegetable, while alkalies are not as injurious as acids on vegetable fiber.

Summary: Determine character of stain. If uncertain try on sample. 1. Wash stain away wholly or in part. 2. Dissolve and carry away. 3. If acid stain counteract with alkali; if alkali stain counteract with an acid. 4. In using an acid it is wise to rinse garment in water containing a mild alkali in order to neutralize any acid left in cloth. 5. Rinse garment thoroughly after using any chemical. 6. Use absorbent if washing is undesirable. 7. Use bleaching agent as last resort. 8. Use a medicine dropper to drop chemicals on stain. 9. Dip cloth into water frequently to help wash out stain loosened by chemicals.

Never use chemicals on colors until you test a sample of the material to see if the chemical will remove color. A hem or seam can be tested if there are no samples of the cloth.

To clean a spot from silk or wool place cloth right side down on a cloth pad and use solvent by beginning from exterior of the spot and work toward the center. This prevents the spot from "ringing." Change the cloth under spot frequently as it helps to absorb oil or stain.

STAIN REMOVERS.

Blood—1. Soak in cold or tepid water. 2. Soak in warm water and ammonia. 3. Soak in warm water and naphtha soap. 4. Javelle water. 5. Cover with wet or dry raw starch, let dry, brush off. 6. Chloroform. 7. Starch removes stain if applied immediately. 8. 2 tsp. glycerine in 1 qt. water.

Chocolate or Cocoa—1. Wash in cold water. 2. Borax or glycerine, soak, boiling water. 3. Bleach.

Coffee and Tea—1. Boiling water falling with force. 2. Cover with borax and water. 3. Cover with glycerine and ammonia. 4. Bleach. 5. Rub with glycerine, rinse in lukewarm water. 6. Sulphur fumes. 7. Potassium permanganate.

Egg—1. Cold water.

Fly Paper—1. Benzine. 2. Gasoline. 3. Kerosene.

Fruit—1. Boiling water. If delicate cloth warm water and borax. 2. Warm alcohol. 3. Dilute ammonia. 4. Peroxide of hydrogen and ammonia. 5. Javelle water or oxalic acid. 6. Dampened powdered chalk if fresh.

Glue—1. White vinegar. 2. Acetic acid.

Grass—1. Cold water. 2. Alcohol. 3. Ammonia. 4. Kerosene. 5. Lard. 6. Paste of soap and cooking soda; keep moist in sunshine. 7. Sorghum molasses. 8. Peroxide of hydrogen. 9. Milk.

Grease—If washable. 1. Naptha soap and cold water. 2. Soften with fat or turpentine, then use soap, soak vaseline in kerosene before washing. Soak automobile grease in kerosene before washing. 3. Ammonia or borax may replace soap. 4. Turpentine. 5. Benzine. 6. Naptha. 7. Axle grease or tar—kerosene then soap and water. If not washable—1. Dissolve in gasoline, chloroform, ether, alcohol or cobona. 2. Absorb with starch, chalk, magnesia or fuller's earth. 3. Blotter, brown paper and iron.

Gum—Gasoline.

Ink—1. Water if fresh. 2. Sour milk for 24 hours, or ammonia-water. 3. Salt, lemon juice and sunshine or vinegar and salt. 4. Borax and peroxide. 5. Dilute citric or phosphoric acid. 6. Peroxide of hydrogen and ammonia. 7. Javelle water, oxalic acid, equal parts of alum and cream of tartar.

Iron Rust—1. Lemon juice, salt, sunshine, or cream of tartar solution. 2. Hydrochloric acid or oxalic acid. 3. Javelle water.

Medicine—1. Alcohol. If iodine: 2. Ether, chloroform. 3. Hyposulphite of soda. 4. Cover with dampened corn starch.

Mildew—1. Strong soap solution, powdered chalk, sunshine. 2. Soak in lemon juice, sunshine or vinegar and salt. 3. Chalk and salt. 4. Javelle water or oxalic acid. 5. Sour milk and sunshine. 6. Soak in alcohol.

Milk or Cream—1. Cold water followed by soap and water.

Mucus—1. Soak in salt and water. 2. Soak in ammonia and wash. 3. Soak in boric acid and water.

Paint or Varnish or Pitch—If fresh. 1. Turpentine, benzine, naptha, chloroform, gasoline, wood alcohol. 2. Equal parts of turpentine and ammonia. If dry, soften with fat, soak in benzine or wash with soap and water.

Paraffin—1. Scrape off excess, use blotting paper and warm iron. 2. Soak in kerosene, wash with soap. 3. Javelle water.

Perspiration—1. Strong soap solution or borax and sunshine. 2. Oxalic acid or ammonia. 3. Javelle water. 4. Sponge silk and cover with powdered chalk. 5. Remove odor with chloroform or by boiling. 6. To prevent odor, neutralize perspiration by using acid powder.

Sugar—1. If washable, warm water: 2. If not washable, dilute alcohol.

Scorch—1. Water and sunshine. 2. Soap, water and sunshine. 3. Borax and hang in sunshine.

Varnish—1. Wet with turpentine. 2. Use chloroform.

Whitewash Spots—1. Rub spot with strong vinegar.

...—1. Dry salt while fresh, then boiling water. 2 Alcohol or dilute
... acid, restore color with chloroform.

MISCELLANEOUS STAIN REMOVERS AND POLISHERS.

Indelible Ink—1. Ammonia. 2. Solution of sodium hyposulphite.

Porcelain Stained—(Discolored due to iron in water): 1. Muriatic acid, rinse in clear water and lastly with soda.

Stained Table—White spots due to hot dishes, rub with oil until color is restored.

Silver Polish or Gold—1. Whiting moistened with ammonia or alcohol. Cleaning gold in similar way.

Brass or Copper—1. Rotten stone and oil. 2. Oxalic acid. 3. Lemon and hot water. Rust spots rub off with emery and oil, cover with kerosene and sweet oil and rub hard. If obstinate, touch with muriatic acid and then ammonia to neutralize acid. Salt and vinegar, then rinse well.

Bluing—1. If too much used add ammonia. 2. Boiling removes spots or streaks.

Lamp Black—1. Kerosene then wash with soap and water.

Shoe Polish—1. Soak in sweet milk.

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TO SET AND FRESHEN COLORS.

To Set Colors:

Colored Cottons—Wash in salt water $1\frac{1}{2}$ c. salt to 4 qts. water.

To set black, reds, pinks—Salt water.

Green mauves, purples—1 gal. water and 1 oz. alum dissolved in it.

Blue, browns, tan, lavender—1 oz. sugar of lead in 1 gal of water. turpentine or salt water.

To Freshen Colors:

1. Soak in weak borax solution.

2. To brighten blues—make strong bluing water.

3. To prevent red from fading—1 tbsp, borax to 1 gal. water.

4. To brighten pink cotton or linen:

1. Boil turkey red cheese cloth in water, add 1 tbsp. vinegar.

2. Dress will dry a bit brighter.

3. Dyes dissolved and bottled may be kept to use when washing colored dresses—use in place of bluing water.

5. Buffs, yellows and tans brightened by adding coffee to water.