



“बेटी बचाओ, बेटी पढ़ाओ”

## JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR

### (Format for Preparing E Notes)

#### Faculty of FEM

**Faculty Name-**                    **JV'n Daksha I (Assistant Professor)**

**Program-**                         B.A-des [FD]7<sup>th</sup> Semester

**Course Name -**                 Weaving and knitting

**Session No. & Name –**    2023-2024

#### Academic Day starts with –

- Greeting with saying ‘**Namaste**’ by joining Hands together following by 2-3 Minutes  
Happy session, Celebrating birthday of any student of respective class and **National Anthem**.

Lecture Starts with-

Review of previous Session-Types of routine finishes

Topic to be discussed today-Finishes(Alter the appearance)

Introduction & Brief Discussion about the Topic.

University Library Reference-

- E-notes, handmadenotes.
- E- Journal
- Online Reference if Any.

- Suggestions to secure good marks to answer in exam-
- Explain answer with key point answers
- Questions to check understanding level of students-

- Small Discussion About Next Topic-
- Academic Day ends with-  
National song ' Vande Mataram.'

## **FINISHES THAT ALTER APPEARANCE OR HAND**

Fabric finishing is the process that changes, improves or develops the appearance or desired characteristics in a fabric. Finishes for fabrics can be classified in different ways -

### **Special Calendering**

The preparation of some fabrics involves special calendering - smoothing under pressure – which imparts design to the fabric surface. Permanence or durability of appearance depends on several factors: if fibers are thermoplastic, the calendering can actually soften them and impart a permanent design effect; if a resin is applied to the fabric, a durable calendar design can be produced; if pressure alone is used on non-thermoplastic fibers, the design will probably be lost during the first laundering.

### **Schreinerling**

Schreinerling is produced by a special calendar. The metal roll has a series of fine lines, about 250-300 per inch, engraved so they form an angle of roughly twenty degrees to the construction of the cloth that are parallel to the twist in the yarns. This finish produces a soft luster and is used frequently on cellulosic fibers such as cotton and linen. In addition, the rolls flatten the yarns and create a smooth and compact fabric.

### **Moireing**

It is a finishing process that produces a waved or watered effect on a textile fabric .A moiré finish is characterized by a soft luster and a design created by differences in light reflection. Rib fabrics such as taffetas work best in producing the moiré effect. Two rollers are involved-a large one covered with cloth and a smaller one, which is heated and often includes an engraved design. The ribbed fabric is doubled and fed between the two rollers; these rollers exert pressure and add heat. The ribs in one thickness impress images on the other thickness by flattening the ribs. If

there is an etched pattern on the heated metal roll, the design is transferred to the fabric. A moiré finish on thermoplastic fibers, such as acetate or nylon, is durable.

### **Embossing**

Embossed fabrics have three-dimensional designs. Before the introduction of resin finishes, embossing lacked durability, but now resins aid in making embossed patterns relatively permanent. Thermoplastic fibers produce fabrics that hold embossed designs. For best results the base fabric used for embossing should be a compact weave with a balanced structure.

### **Napping**

Napping is applied to cotton, rayon, wool, and any other staple fiber yarns to produce a deep nap. The process utilizes cylinders on which there are fine metal wires with small hooks. These hooks pull fiber ends to the surface and create the nap. Napping can be done either on one side or on both sides of the fabric. Fabrics with napped surfaces include flannels, blankets, and some coat and suiting cloth. Suede cloth may be made by napping the fabric and shearing the nap to produce a smooth, compact, and uniform surface.

### **Softening Finishes**

Softening finishes improve the hand and drape of a fabric. They may add body, facilitate application of other finishes, subdue the coarseness imparted during processing and increase the life and utility of the fabric. Batiste is an example of a fabric treated with a softener.

### **Beetling**

Beetling is a mechanical finish applied to cotton and linen fabrics. It increases the luster of fabrics by flattening the yarns to provide more area for light reflection. The fabric is fed over rolls that rotate in a machine where large hammers rise and fall on the surface of the fabric. Continued pounding flattens the yarns and closes the weave. The beetled finish will withstand wear and maintenance if the fabric is laundered carefully and ironed with pressure to restore the flat appearance.

## **FINISHES USED FOR IMPROVING FABRIC PERFORMANCE**

### **Abrasion-resistant Finish**

Many of the newer manufactured fibers, particularly nylons, have inherent resistance to abrasion. However, natural fibers and some man-made fibers may be damaged by rubbing. To reduce this type of fabric damage, manufacturers can blend fibers of high abrasion resistance with those of low resistance, or they can apply soft thermoplastic resins, which appear to increase the fabric's resistance to abrasion damage.

### **Absorbent Finishes**

Absorbent finishes increase the moisture-holding power of fabrics and thereby accelerate the drying action of the textile produce. Fabrics treated with these finishes can absorb more moisture than they normally would, but the fabrics will take longer to dry either in the air or in a dryer owing to the increase amount of moisture absorbed. Common applications include hosiery, sportswear, sleep wear, towels, infant care, adult care products and diapers.

### **Durable-press**

Durable –press refers to the ability of a fabric to retain an attractive appearance during wear and to return to its original smooth surface and shape after laundering. Clothes that can be washed in machine and worn without any ironing have a great appeal for consumers. These characteristics can be imparted to fabrics by finishing processes and by fiber choice. Fabric with durable press can be laundered in washers and dried in dryers, and they require little or no ironing. Including fabrics softeners in the final rinse or in the dryer may help to maintain a smooth surface and reduce static cling. Durable-press fabrics are available in nearly all types of apparel and in a wide variety of home furnishing items. Most of these durable-press fabrics are made of blends of cellulosic fibers, usually cotton, and polyester.

### **Flame-retardant Finish**

Fire is a significant cause of damage to human life and property. To minimize these losses, textile fibers that are flammable are treated with flame retardant chemicals. Flame retardant finishes reduce the flaming, charring, or afterglow of fibers and fabrics. Most fabrics finished with flame-retardants still will burn in the direct path of flame; however, they self-extinguish when the source of flame is removed, and they do not propagate the flame. A truly fireproof fabric will not burn even in the path of direct flame, but, actually, only asbestos and glass fiber have this property.

## **Water-repellent and Waterproof Finishes**

Waterproof finishes are those that coat or seal a fabric so that water does not pass through it. Such fabrics are impermeable to air and thus, are not comfortable in wearing apparel. Water-repellent finishes result in a fabric that resists wetting while retaining a porous characteristic that permits air circulation. The finish alters surface tension properties of the fabric, which causes moisture to form into tiny balls of water and roll off without passing through the fabric. Water-resistant or water repellent finishes are popular in consumer goods because the fabrics are comfortable and the finish does not alter the original appearance.

## **Stain and Soil-resistant Finishes**

These finishes help to maintain a clean look of a textile product like clothes, carpets or upholstery. Chemicals such as fluorocarbons are used to coat the fabric surface. Thus, a protective coating is formed which inhibits penetration of stains and soil.

## **Shrink-resistant Finishes**

The term ‘shrinkage’ means reduction in length or width of the fiber, yarn or fabric. As you have studied in Block 2 of this Course that in the weaving

## **Knitted Apparel**

Technology operation, warp yarns are held under tension on the loom. When a woven fabric is immersed in water, it relaxes with the warp yarns jumping back to their original length. This cause warp wise shrinkage referred to as relaxation shrinkage. Generally, the first wash leads to some shrinkage and fabrics are stable in their dimensions after that. In other words, a major part of potential shrinkage is exhausted in the first wash. However, in some fabrics certain degree of shrinkage still remains. This is referred to as residual shrinkage and may be exhibited in subsequent washes (progressive shrinkage). Shrinkage Control in Cotton and Linen In the simplest treatment, the fabric is immersed in water and left for a while. It is then dried in a tension less state. Ironing or basic calendaring follows. For example, lining fabric bought for lining women’s suits is pre-shrunk by this method. In case of cheaper fabrics this step also serves a second purpose i.e. removal of unfixed dye. Compressive Shrinkage control or Sanforisation is the most common method employed on a commercial scale. Fabrics given this treatment are often stamped as sanforised.

### **Soil-release Finish**

This finish allows the stains to leave the fabric faster during laundering. A fabric protector is imparted to the fabric that enables it to repel soil and stains on contact. It does not prevent soil from entering the fabric but it simply allows it to leave faster while in case of stain resistant finishes a coating is applied to the fabric surface thus preventing the soil from entering the fabric. Soil release finishes can be found on many industrial or service garments. Soil release finishes make the fabric soft and also prevent redeposition of soil.

### **Ultraviolet protection Finishes**

Ultraviolet (UV) radiations are harmful for human skin and long term exposure to UV light can cause sun burns, skin cancer, acceleration of skin ageing, acne etc. Hence protection of skin against these has become relatively important. A sun protection finish is applied in the form of UV stabilizers/absorbers which are organic or inorganic colourless compounds with very strong absorption. The ultraviolet protection factor (UPF) of textiles depends on their construction, fiber type, colour, swelling capacity of fibers and the spaces between the yarns. Higher the UPF, more protective the fabric will be against UV radiation. Cotton and silk offer less protection against UV radiations compared to wool and polyester. Since the most probable time for long term exposure to sun is in summer, UV protection finishes are mainly applied to lightweight woven and knitted fabrics used for producing swim wear, beach wear, sportswear etc.

### **Moth Proof Finishes**

This finish is given to prevent the growth of moth mainly on wool fabrics. It is a chemical finish and may be given by using inorganic or organic compounds which can be of natural or synthetic origin. Alternatively, chemicals could be used to alter the composition of wool, since wool's sulphur containing amino acid is the main reason of attack by moths. This would, however, affect other properties of wool also.

### **Antistatic Finishes**

Static charge build up is a problem encountered by synthetic fibers/fabrics at the manufacturers' level as well as by the consumers. There are many ways to tackle this problem. Finishes may be applied to neutralize the charges on the fiber, improve the surface conductivity or by making the surface hydrophilic. Water is a good conductor of electricity and can diffuse the static buildup. Antistatic finishes can be temporary or permanent. However, most of them are non-durable and should be replaced after each laundering. Antistatic finishes are mainly applied to products such

as carpets, conveyor belts, parachute fabrics, airbags, upholstery fabrics, fabrics for hospital operating rooms and protective clothing.

### **Anti-slip Finishes**

Yarn slippage is a problem that leads to fraying at the seams in woven fabrics. A low fabric count, unbalanced construction and tight fit in garments can further aggravate this problem. This is also a problem faced by smooth filaments as in rayon. To overcome this problem anti slip finishes are applied as their main effect is to increase adhesion between fibres and yarns regardless of fabric construction. Resins of urea or melamine formaldehyde are applied to bind the yarns in their places.

### **Antimicrobial Finishes**

Today's consumer demands for comfortable and hygienic clothing. Odour is also an important consideration while making a purchase. That is why fabrics treated with antimicrobial finish are much in demand. Antimicrobial finishes, also referred to as bacteriostatic or antiseptic finishes, suppress growth of microbes, including disease and rot causing bacteria as well as mildew producing fungi. Unpleasant odour, spread of diseases can be reduced by applying antimicrobial finish to textile materials. For example, shoe linings are given this finish to prevent the 'athlete's foot', an ailment common in sports person. Socks are given the antimicrobial finish to combat the problem of foul odour caused by heavy perspiration. Home textiles benefit from this finish since it curbs the musty odours and discolouration brought about by microbe attack. Thus, towels, bed sheets, pillow covers, blankets, and carpets are given this finish.