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DYES PRINTS AND FINISHES

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To produce clothes there are specific steps to be taken to create your desired outcome. Different fabrics react differently to the dyeing and finishing techniques. Especially when it comes to natural and chemical fibers. With each fabric I have explained the techniques to be used. I have gone over the dye and print for a polyester knit sweater, the finish to use for a stain resistant winter coat, the pre-treatment of cotton made sweater and trousers and relief patterns on a skirt.

To dye and print a polyester knit sweater, the dye you would use is a disperse dye. It is free of ionizing groups, less soluble in water, organic, with a carrier method applied which aids the disperse dye to attach to the polymer and create darker colours, which is done at a high temperature. The process involves the dye transferring from liquid to a solid fiber. The first step is the dispersion of the dye into water causing the molecules to break up. It absorbs the dye onto the fibre, then diffusion of the dye molecules from the surface to interior of the fibre. Reduction clear treatment is applied to remove any unfixed dyes. The printing process is done through screen printing. This method is most economical and can be used on cotton and polyester. First you use a print base layer to prevent ink leakage, using high tension mesh with a thin thread. Apply off contact printing which is leaving a space between screen and substrate. You want to be careful as not to shift the garment and then apply the ink. The last step is to cure the fabric to lowest recommended temperature under 320°C, for about 25-35 seconds.

To create a stain resistant winter coat, I would use the chemical finish with Teflon. First you apply a layer of polymer to the surface of the fabric. Then you apply the Teflon coating. Not only will the Teflon coating prevent stains, but it is also water repellent and breathable. This way you gain a multi-purpose coat that will keep you warm and comfortable as well be easier to maintain and keep your coat looking clean.

To make sweater and trousers out of cotton first comes the pre-treatment. You want to clean the fabric to remove any impurities, then you want to shear/crop by cutting the fibers at an angle to create a soft feel. Then singeing is applied which is the process of burning off loose fibers to make the fabric smooth, prevent pilling and improve its luster. If any protruding fibres remain it will affect the luster, smoothness, dye and printing. This is why singeing is applied and will also make the fabric not soil as easily. Next it is brushed lightly to rise any unwanted fiber ends. Next it is passed over with heated

copper or open gas flames to remove any protruding fibers. It is then put into a desizing bath to stop singeing after glow or sparks that might damage the fabric. It will also prevent any shrinkage. Bio polishing is applied next to improve the fabric quality and create a lint and fuzz free surface, which will improve the drape of the material, the softness and make it more durable. It is used at a temperature of 40°-55° C for 30-60 minutes.

To create a relief pattern on the skirt, you would use the embossing finishing technique. Embossing is the technique that uses pressure on the back side of the fabric to create a raised pattern on the fabric. The fabric is passed through heated rollers with cylinders that are engraved with a design. The cylinders press against the rollers with pressure of either elevating, yielding, or depressions to correspond in reverse of the cylinders to create that raised pattern. The raised pattern will stand out from the background giving it a dimensional look.

There are many techniques that can be applied and the ones I choose were to be either environmentally friendly, more efficient and to create a superior material. Most fabrics are chemically treated to gain the superior qualities. Generally, those are the desired outcomes when producing clothing to create the ultimate satisfaction. By creating superior fibres, it will give you lasting wear and the practicably for your everyday needs. Producing clothes causes pollution so its important to look for organic options to lead to sustainable fashion.

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