

## **Embroidery Backing Tips**

When it comes to selecting backings, knowing what backings other embroiderers use with a particular garment is a good start. Unfortunately, this information may not provide all of the answers or, for that matter, any of the answers for your particular machine or design. Stability of the garment fabric, stitch density, color, stitch length, stitch speed, size of the embroidery, and stability of the design are some of the variables that can influence backing selection.

Fabric stretch is probably the most important factor in selecting backing. No matter what type, backing has to be stable enough to prevent movement during the stitching process. There are many different fabrics and many qualities within those types. Experimentation is often needed even when changing blank suppliers of what appears to be an identical garment. A fabric's structure (weave or knit pattern) is apt to be a better indicator of stability than weight alone. This is particularly true of golf shirts.

How well you hoop your fabric has an impact on the finished product. Poor registration can occur from loosely hooped or insecurely hooped garments. This is not a backing problem. A secure grip on thick or slippery materials can be gained by using higher hoops. Fabric tension in the hoop can be checked by pushing your finger across the fabric. If you see wrinkles, your tension may be too loose.

How much backing inventory you want to carry is another variable not often discussed by backing suppliers. A small contract embroidery shop can complete most work with just two items: 1) a 2 oz/yd<sup>2</sup> tearaway and 2) a 2.5 oz/yd<sup>2</sup> cutaway. The larger shops will add a 3 oz/yd<sup>2</sup> tearaway for caps and a roll of Peel and Stick for problem applications. Specialty embroiderers and large manufacturers tend to stock a broader range of products.

The least expensive way to acquire backing is to buy full or half-width rolls. This option allows the small embroiderer to have a sensible backing inventory of only two or three rolls. These rolls can be used for most any design requirements no matter what its size. Backing suppliers can supply precut sheets in virtually any size requested. The popular sizes are 6-, 8-, 12- and 15-inch squares. These sizes are usually stocked items. The additional cost for cut sheets is nominal. Cutting your own sheets can be a false economy. This is particularly true if your operators do it by hand or with a semi-automatic system. Some frugal users purchase cases of 15x15-inch sheets and cut them down with a paper cutter to maximize their use.

Be cautious in using materials not specifically designed for embroidery backing. These products frequently are seconds and contain errors. Some products have large variations in weight. Extreme shrinkage, particularly dryer shrinkage, and bleeding colors are two other problems that can arise. Puckering can occur when using an inappropriate material with too much stretch. The use of poorly performing products can test an operator's stamina. The cost per garment for backing of any type is very small. However, using the wrong backing can be expensive.

In general, a large detailed design with filled areas embroidered on an unstable knit might use a heavier backing than a small design on a stable woven fabric. However, this rule is broken on a regular basis.

### **Tearaways**

A tearaway is the backing of choice for most embroiderers. Designs can usually be finished more quickly, safely, and cheaply with a tearaway than with a cutaway material. If you cut one expensive garment, the advantages of tearaways will be with you for life. Most tearaways range in weight from 1 to 3 oz/yd<sup>2</sup>. To perform well as a backing, a tearaway should be stable and able to withstand repeated perforations. The backing should tear easily and cleanly in either direction.

This seems obvious but some embroiderers are still using backings that tear only in one direction. These products have to be tugged at, leave long strings of fiber, and take some courage to remove. Pulling a tough tearaway too hard or too quickly on a delicate long stitch design can needlessly cause distortions.

No matter the type of tearaway, the accepted wisdom is you should tear the backing as close to the stitches as possible to reduce any chance of distortion. Using two light layers of tearaway pulled off one at a time is a technique that can avoid a distortion problem. However, this procedure is relatively expensive and time consuming.

Finally, in choosing a tearaway, most embroiderers consider ease of tear, cleanliness of tear, hoop stability, and perforation resistance as important factors in their selection process. Tearaways can be used on most items but, in general, should be used with caution on exceptionally delicate or stretchy fabrics such as loosely knit sweaters. Swimsuits and socks are often exceptions to this rule, and here a washaway/tearaway is a good choice.

### **Cutaways**

Cutaways are needed to provide a stable base for delicate and stretchy fabrics both during the stitching process and afterward. Some fabrics are so stretchy they can force themselves down the throat plate. A cutaway not only helps maintain the crispness of a design's details during the embroidery process, it also helps retain the design's shape after repeated washings. Having an angry customer return a sagging or stretched design will remind you of a cutaway's advantages. A quality embroiderer should insist that cutaways are both washable and drycleanable.

Accepted wisdom says you should not cut too close to the embroidery with your scissors and that a gliding scissor motion rather than a cutting one should be used. A cutaway that has some rigidity will enable this gliding scissor motion. When cutting, both the backing and the fabric should be kept in view. Do not allow the garment to fold over. Some industry consultants recommend blunt-end scissors to prevent snagging fabric. Many people use 3.5-inch to 4-inch double sharps because of their general utility. Nippers are not particularly useful for this operation.

Most cutaways range in weight from 1.5 to 3.5 oz/yd<sup>2</sup>. Cutaways, in general, tend to be more resistant to needling perforations than tearaways. In choosing a cutaway, most embroiderers consider ease of cutting, wash stability, hoop stability, and perforation resistance. Cutaways tend to have more bulk than tearaways. Softness, ease of cutting, and stability can often be mutually exclusive properties for cutaway backings. In some cases, the embroiderer needs to determine which property is most important for a particular design. The softer backings tend to have more hoop stretch and, accordingly, will not allow as crisp a design as stiff ones.

### **Specialty Backings**

Many different items may be classified under this heading. Some of the major ones include:

#### **Peel and Stick**

This product is a tearaway backing with a pressure sensitive coating and a release liner. Peel and Stick has three general uses: Hard-to-hoop applications such as shirt collars, cuffs, etc; the stabilization of high stretch fabrics such as bicycle shorts, promotional sweatshirts, etc; and the elimination of hoop marks that can occur with certain problem materials, such as brushed denim and suede. A good Peel and Stick product should not have a gummy adhesive. The product is generally used by hooping the backing with the release paper facing upward. An X pattern is lightly cut in the hooped center such that the release paper is sliced through but not the backing.

Enough of the release paper is peeled back so the portion of the garment to be embroidered can be stuck to the backing. Every custom shop should have a small roll of this product.

### **Caps**

Most cap backings range from 2 to 3 oz/yd<sup>2</sup> in weight and are tearaways. A clean tearing product is generally preferred. Cap backing is used to improve the crispness of lettering and columns. This is particularly so with low profile and unstructured caps. There are several other less obvious production benefits in using cap backing. Backing keeps up the tension on the bobbin thread. This allows the embroiderer to switch from flats to hats and back again without touching the machine settings. The use of this backing can prevent cap fabric and fiber from being forced down the throat of the machine. An extra fold of backing can be used to get a firm seating on rotating cap frames to prevent registration slips.

### **Fusibles**

There are several medium weight fusible backing products available that can be permanently fixed to garments with a hand iron. The primary application for these products is to stabilize very stretchy and hard-to-hoop materials such as fleecewear, leather, etc. Spray adhesives can also be used to fix backing to fabric. The nasty solvents and overspray problems often associated with spray adhesives make fusible or peel and stick backings preferred in such applications.

### **Metallic Thread**

A secondary application area for fusibles is as a cover for completed embroidery designs that may have a rough surface or nibs on its interior surface. This situation is often caused by metallic thread due to its stiffness. This soft-to-the-touch fusible product adds a permanent quality finish to a garment. For a little extra effort you will receive compliments rather than complaints when using metallic thread. Before using any fusible product, you should first check that the garment can withstand hand ironing.

### **Puff**

Puff backing is a lofty material used to generate a three-dimensional, trapunto, or quilted look. Do not purchase puff too thick or you will have difficulty completing the design. Before using puff products, test them or at least receive a solid guarantee that the product is washable and drycleanable. If the product washes down or falls apart, the results for the consumer can be disappointing.

### **Children's Sleepwear**

All components in children's sleepwear should be fire retardant. These binder-free backings meet this requirement due to their fiber composition. Most materials range from 1.3 to 2.5 oz/yd<sup>2</sup>.

### **Black Backings**

Black backings are used for dark garments, such as leather jackets and black sweatshirts. The use of these products prevents the generation of a distracting blaze in the interior of the garment that occurs when white is used. Both tearaways and cutaways are available.

### **Toppings**

As a general rule, these films are used to prevent stitches from sinking into high profile fabric, such as terry cloth or corduroy. Available under a variety of trade names, they are composed of either polyethylene or water soluble plastic. These films can be expensive and some of the less expensive ones do not dissolve well.