1964

Fabrics Worth Noting: Foam-Backed Fabrics

Cooperative Extension South Dakota State University

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Foam-Backed Fabrics

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If you are shopping for a new car coat, jacket, or raincoat, you'll probably find several made of foam-backed fabrics. Foam-backed fabrics were a novelty in 1959, but today they are full-grown members of the textile world. Leaders in the apparel industry view foam-backed fabrics as one of the most promising advances toward weightless warmth and fabric stability so far developed. We'll see practically every fabric laminated - velvets, silk shantung, Irish bulky knits, and even stretch fabrics.

WHAT ARE FOAM LAMINATES?

As you examine a laminated fabric, you'll see that a plastic foam (urethane or polyurethane) consisting of many tiny cells has been bonded to the back of the fabric. There are two basic methods of bonding—chemical adhesion and open flame. Most apparel fabrics are laminated by open-flame method. The foam is brought to the melting point over controlled heat, immediately passed through rollers, and pressed against the fabric, thus bonding foam and fabric together.

FOAM IN FABRIC CONSTRUCTION

Foam-backed fabrics are made by bonding knitted or woven fabrics to foam. These fabrics are used either in outerwear or as lining fabric. Differences are:

Fiber content — Nearly every fiber is being used.

Fabric construction — There is great variation in the weaves and knits used.

Thickness — The trend is toward a thinner layer of foam.

Color of the foam.

Double lamination is a sandwich-type process, with a different kind of fabric used on each side of the foam.

Quilted fabric is made by placing a layer of foam between the fabric and a cheesecloth-like fabric and then quilting.

Vinyl-backed fabric: Simulated leathers backed with foam are going into shoes and handbags. The underside of the foam is bonded to cotton jersey.

Foam prints: A wide range of prints and checks are being applied to the foam to be coordinated with the laminated fabric. Solid colors also are appearing in the foam.

CLAIMS BY MANUFACTURERS

Comfort — The tiny air cells in the foam allow the fabric to "breathe." The foam provides good insulation without bulk, making a fabric that is lightweight, yet warm.

Durability — This depends mostly upon the durability of the fabric to which the foam is laminated.

Crease and wrinkle resistance — Foam does not crush, so the fabric springs back into shape.

Ease of cleaning — Laminates can be dry-cleaned or laundered, depending upon fabric or garment construction.

Manufacturers are still experimenting with laminated fabrics. They have found that some fabrics do not lend themselves to lamination—nylon taffeta, for example. Such fabrics have a smooth surface that does not bond well. Fabrics that bond well are those made of short-length fibers, such as cotton or wool, and man-made fabrics with shorter length fibers that have more fiber ends on the surface. Tightly woven or knitted fabrics also have fewer fiber ends for bonding.

PERFORMANCE

The National Institute of Dry Cleaners has
tested a variety of laminated fabrics and kept a cleaning record of garments made of these fabrics. Results show very few failures.

**Shrinkage:** Very little in laminated woven fabrics; some in knits (a looser fabric construction). Shrinkage depends on whether or not the fabric has been treated for shrinkage before being laminated to foam, as well as on the dry cleaning method used.

**Separation:** Some fabrics, such as nylon taffeta or waffle weaves, separate because of poor surface bonding of the fabric and foam.

**CLUES TO THE CONSUMER**

- Be sure to look for care instructions on the label. Wash or dry clean as instructed.

- Large open knits or extremely loose weaves may shrink, causing the fabric to blister and separate from the foam.

- Some dry cleaners are reluctant to dry clean laminated garments because the plastic foam looks like rubber, which doesn't dry clean. Statistics reveal few failures if the garment is cleaned as the outer fabric alone would be.

- Watch for greater variety in laminates—particularly thinner versions.

- Look for “tested” labeling. An effort is underway to set up standards for fabric-foam laminates. Standards sponsored by the American Standards Association will do much to help keep manufacture of foam-backed fabrics at a high level. Buyers can use the standards when purchasing foam laminates, and laminators will be able to use them as a guide to avoid production of inferior quality goods.

In addition, manufacturers of foam laminated fabrics are establishing new quality standards, set up by their technical departments, to test foam-backed fabrics for bond strength, and effects of laundering and dry cleaning.

**Construction Techniques**

**PATTERN SELECTION**

Choose a simple pattern with few seams and extra details. Carcoat style with fabric buttonloops eliminates need for buttonholes. You may want to avoid set-in sleeves.

**FABRIC SELECTION**

Woven fabric laminates are easier to cut on grain than knit laminates. Because laminated fabrics cannot be straightened, look for those that are on grain. The thinner the layer of foam, the easier the fabric will be to handle.

**PLACING PATTERN AND CUTTING**

To cut on grainline, place pattern on **right side** of fabric. On some laminates, cutting on grain may not be practical—**let appearance be your guide**.

When possible, **cut garment and facing in one** to eliminate bulk of seam.

When instructions indicate pattern piece is to be placed on the fabric fold, instead use the following procedure: Place pattern on single thickness of right side of fabric, allowing for other half of pattern piece. Cut out one side
of the garment piece, then flip pattern over on fold line and cut out the opposite side.

MARKING

Tracing wheel and carbon are not generally recommended; however, it depends upon the fabric—test a scrap. If marking with tracing wheel is unsuccessful, insert pins straight through fabric on stitching line, then mark with soft lead pencil. Or mark with tailor tacks.

MACHINE ADJUSTMENTS

Needle size – fine (#11) to medium (#14).
Thread – appropriate for outer fabric.
Stitch length – 10 to 12 stitches per inch. Before adjusting tension and pressure, test stitching on folded scrap of fabric.

Tension – try medium tension first. Loosen slightly if necessary.
Pressure – try medium pressure first. Lighten slightly if necessary.

BASTING AND STITCHING

Hand baste; check fit before stitching. It is not advisable to rip machine stitching. Test stitching on scraps of fabric first. To feed fabric into machine, turn balance wheel by hand for first five or six stitches. It is not advisable to stitch over pins, since the machine often skips stitches. Foam tends to stick to presser foot and feed dog. Here are some suggestions for stitching seams on foam laminates.

1. Before stitching, place tissue paper next to foam (on top, or top and bottom) and tear away after stitching.

2. Baste seam tape or a 1-inch strip of lightweight cotton (lawn) on seam line. Let this remain for reinforcement of seam. Test sample strip on top, bottom, and both sides to check best results.


Stay-stitching

On laminated jersey stay-stitch all curved and bias seams.

Darts

In order to see marked stitching line of dart, you may place a piece of Saran Wrap over marking. This helps prevent the presser foot from dragging without obscuring the marking. Slash on fold of dart. Working from wrong side, use paper under seam allowance to protect foam, and steam press open as flat as possible. To keep edges flat, you may catch them to foam of garment by hand stitching.

Seams and reinforcements

When working with laminated knits and jerseys, control stretching of bias seams by placing tissue under the fabric and bias tape on top of the seam line, including it in the seam.

Reinforce points of strain with seam tape, or use interfacing fabrics.

Grading

Grade seams. On a woven fabric laminate, you may be able to peel back foam on seam allowances to give flatter seam. Sometimes this does not work on laminated knits. Experiment with sample.

FINISHING

Understitch all straight facings for a sharp edge, or topstitch through all thicknesses about 3/8 inch from edge. Chanel braid may be used as finish on faced edges to reduce bulk and give attractive trim. Lining fabric might be used to face collar.
PRESSING

Very little pressing necessary. Set temperature for outer fabric, and slip paper under seam allowances so heat from iron will not damage foam.

When pressing from the right side, use cotton press cloth.

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.