



Downproofness of Finished Products

IDFL has tested many finished products (jackets, comforters, etc.) that suffer from downproofness issues. Many of these tests were done in response to customer complaints about leakage from their down filled products. During the course of these tests we noticed a source of leakage that was common to most of the products we received. The primary source of leakage was due to manufacturing – mainly the stitching.

The next most common source of leakage is through the fabric itself. Heavy, coated fabrics are almost always very downproof whereas, very lightweight synthetic fabrics and damask & other patterned cotton fabrics allow more material to pass through. There are several fabric tests IDFL performs to determine if it will leak filling material or not:

- **Downproofness** (*FSTM 191-5530 & EN 12132-1*). This involves physically testing the fabric to simulate the use of the product.
- **Air Permeability** (*ASTM D737*). Tests the amount of air that can pass through a fabric (e.g. breathability). Too much air passing through a fabric can cause leakage whereas, too little air passing through a fabric can cause odor problems due to incomplete drying.
- **Thread Count** (*ASTM D3775*). Higher thread counts generally yield better downproof results.

IDFL performs all these tests according to ASTM, EN and FTMS methods. We recommend that fabrics be tested before they are assembled into finished products as a quality check to verify their performance. It is also recommended to use manufacturing techniques that won't reduce the fabric's downproofness qualities (incorrect sewing may lead to leakage). Adding an additional layer of fabric between the inner lining and down baffles also reduces the likelihood of leakage.

It takes comprehensive testing to ensure that a fabric can effectively contain the down, feathers or polyester inside. Costly recalls and customer returns can be minimized if testing is part of product development. Down or polyester make up only half of a finished product; fabric makes up the rest. It is the fabric people come in contact with – be sure it performs its best.

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