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METHOD OF RELAXING CHLORINATED WOOL FABRIC

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4 Claims. (Cl. 26—18.5)

1

This invention relates to a method of relaxing chlorinated wool fabric.

Wool fibre may be chlorinated in any of the stages of its manufacture, for example the raw stock, the tops, the yarn, or the knitted fabric. If chlorinization is applied in any of the stages before knitting, the problem of relaxation appears during knitting. Even if the chlorination is applied to the knitted wool fabric and the goods dried in the usual commercial manner, the problem of relaxation still exists.

When chlorinated yarn is knitted on commercial knitting machines, the tensions and stresses which the yarn undergoes cause the fibres to be distorted. Chlorinated yarns do not felt or mat, even under severe washing tests. Yet, wetting the chlorinated fabric may cause a stretch or shrinkage as great as 20% due to the relaxation of the above mentioned distortions. In most cases the relaxation shrinkage or stretch is sufficiently great as to make the advantages of chlorination worthless.

We have discovered a method of relaxing a chlorinated wool fabric which is highly successful and which insures excellent dimensional stability. According to the present invention, a chlorinated wool fabric is tumbled in warm water at between 60° and 90° F., and preferably at about 75° F., and then dried. Drying may be effected by tumbling in the presence of warm air at a temperature of between about 100° and 140° F., preferably at about 120°.

The following example illustrates a method of carrying out our process, but it is to be understood that this example is given by way of illustration and not of limitation.

The chlorinated wool fabric is placed in a cylindrical drum. Preferably, the drum rotates four times in one direction, and reverses itself and rotates four times in the other direction, making six complete cycles in one minute. About 25 yards is the most desirable amount of goods to be worked at a time. The drum is then filled with warm water (75° F., most desirable). Detergents may be placed in the water if special hands are desired. The machine is then set in motion for approximately seven minutes.

The goods are then removed from the drum and hydro-extracted by means of a centrifuge.

The above tumbling in water completely relaxes the fibres of the knitted fabric. The next step is to dry the relaxed goods in such manner that it remains under no tensions and is not once again distorted.

This is accomplished by constantly keeping the goods in motion by tumbling in the presence of hot air, and hence free to dry without any tensions. The hot air inside of the tumbler should not be above 140° F. If it is too hot the fabric contracts too much and hence the knitted garment will tend to gain in size when washed by the consumer. If the temperature is too low the drying process takes too long and is uneconomical; also the fabric is overtumbled and pilling may set in. The drying process takes about 20 minutes.

2

Chlorinated wool fabrics which have gone through the above process will exhibit far superior dimensional stability than any previously obtained. For example: We have obtained chlorinated wool jersey suitable for women's blouses which had only a 5% shrinkage in the courses and less than 1% in the wales. Previously this same jersey had a 12% shrinkage in the courses and a 15% shrinkage in the wales. The process according to the present invention permits marketing a washable wool jersey blouse which previously would have been impossible.

Modifications may be made in carrying out the present invention without departing from the spirit and scope thereof, and we are to be limited only by the appended claims.

We claim:

1. The method of relaxing chlorinated wool fabric comprising tumbling said fabric in warm water at a temperature of between about 60° and 90° F., hydro-extracting the fabric, and drying the fabric by tumbling in the presence of warm air at between about 100° and 140° F.

2. The method according to claim 1, in which the water contains a detergent.

3. The method according to claim 1, in which the temperature of the water is about 75° F.

4. The method of relaxing chlorinated wool fabric comprising tumbling said fabric in water at about 75° F., hydro-extracting the fabric, and drying the fabric by tumbling with air at about 120° F.

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