

2.3.3h Finishes and surface decoration

Special finishes are applied to textile fabrics to:

- prolong the fabric life
- enhance aesthetic qualities
- improve the functionality of the fabric.

Special finishes are applied mechanically or physically, chemically or biologically.

Felted fabrics

• *Flame retardancy*

This finish prevents fabrics from burning or burning too quickly. Cellulosic fibres burn quickly, whilst synthetic fibres tend to melt. Fabric can be treated with the chemicals Proban® or Pyrovatex® which reduces their ability to ignite and burn.

• *Moth proofing*

Wool is susceptible to attack from moths and their larvae who feed off the keratin found in wool fibre. This chemical finish repels the moths and their larvae. Mitin® and Dielmoth® are examples of moth proof finishes.

• *Stain resistance*

This chemical finish prevents stains from permanently discolouring and spoiling fabrics. It allows for products to be used for longer. Scotchguard® and Teflon® are both stain resistant finishes.

This finish also extends the aesthetic appeal of fabrics as they are not spoilt through staining.

Finishes that enhance aesthetic qualities

• *Colouring and surface decoration*

Colouring and surface decoration are physical finishes that change the appearance of a fabric. Fabrics can be dyed or printed including sublimation printing or painting.

• *Calendaring/embossing*

Fabric is passed through heated rollers which smooth and flatten the fibres, giving it a more lustrous appearance. This mechanical finish is not permanent.

Embossing is the same process as calendaring, but engraved rollers are used instead and leave an engraved design on the fabric. This is not a permanent finish, unless the fabric contains synthetic fibres which can be heat-set.

• *Mercerising*

This is a chemical finish where the fibres or fabric are soaked in caustic soda which cause the fibres to swell and shrink, leaving a lustrous smooth fabric that is better at absorbing dye. This can only be applied to cellulosic fibres.

• *Glazing*

Stiffeners or resins are added during this chemical process. It is similar to calendaring but is more permanent.

• *Brushing*

Fabric is exposed to a series of wire brushes during this mechanical process which gently teases and raises the fibres, resulting in a fluffy soft appearance. Insulation is also improved.

Finishes that improve functionality

• *Water proofing*

Silicone sprayed onto fabric prevents water from penetrating through it, although it is not permanent. Applying a fluorochemical resin is more effective and makes the fabric wind resistant. Teflon and Scotchguard® are also water-repellent finishes. Coating fabrics with PVC, PVA or wax makes them moisture resistant.

• *Shrink resistance*

Some fabrics shrink if not washed with care. In the case of wool, the scales on the fibres lock together which 'shrinks' the fabric. Wool can be treated with a chlorine-based chemical which prevents this from happening. Cotton can be compressed into its 'shrunken' size and then dried to avoid further shrinkage.

• *Crease resistance*

Fabric is first passed through a liquid resin, then it is held flat and heated to cure the resin. This prevents the fabric from creasing and makes it easier to care for - limited or no ironing. It does, however, reduce the fabric's ability to absorb moisture.

• *Anti-static finish*

Some fabrics, particularly synthetic fabrics and silk, can give off an electrostatic charge triggered by friction. When this happens, fabrics cling to the body and some 'crackling' might occur. Applying a chemical-based product to the fabric stops this happening. It can also be used on nylon carpets.