

## Finishing Treatment for Textiles

### BACKGROUND

In the textile industry, fabric requires finishing, typically by use of a cross-linking agent and heating, to give improved properties such as anti-wrinkle, anti-crease, shrinkage resistance, colour fastness and improved mechanical properties. Formaldehyde compositions are frequently used in finishing to treat the fabric prior to the heating step. Formaldehyde is potentially hazardous and carcinogenic, presents handling difficulties during processing, and leads to a reduction in strength of the fibres / fabric. In addition, formaldehyde is present on the finished fabric, with potential to cause health problems to individuals, particularly where ironing or high heat or humidity increase the release of formaldehyde from fabric.

With the aim of finding an alternative agent to formaldehyde, a variety of compositions have been developed and suggested as new processes, however a number of these cause yellowing of fabric, and a separate bleaching step is then needed.

### THE TECHNOLOGY

A research group from the University of Manchester has developed a composition and method to finish fabric, which does not use formaldehyde, enables cross-linking (a key part of the process to give fabric mechanical strength), is economical, uses commercially available substances, presents no handling difficulties, and does not lead to significant yellowing of the fabric. Dye-ability is improved.

### APPLICATIONS

The composition and method is applicable to finishing of cellulosic fibre or fabric, suitable for cotton, or other cellulosic or proteinic fibre such as silk, wool or hair.

### SUMMARY OF BENEFITS

- Finishing without use of formaldehyde
- Avoids yellowing of fabric and subsequent need for an extra bleaching step
- More environmentally friendly finishing method, with less handling problems, producing fabric with an improved health / safety profile
- Good cross-linking and preservation of tensile strength of fabric, in some cases giving increased strength
- Improved dye-ability
- Economical process, using substances which are readily commercially available.

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## INTELLECTUAL PROPERTY

The University of Manchester is the proprietor of know-how pertaining to this method.

## OPPORTUNITY

We are seeking development / license partners, for collaboration leading to industrial application of this finishing method.

## CONTACT

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