REF:TT/April 2011/ WK 3

Wrinkle Free finish application –Part-2

Post Cure Wrinkle free finish for fabrics:

- A post-cure process gives an option to produce a garment with smooth drying and wrinkle resistant properties along with sharp creases that are durable for the life of the garment.
- In this process the resin is padded onto the fabric and dried at low temperature ,The fabric is then cut, garment constructed and creases pressed into the garment.
- A high temperature cure in this configuration is given to cross-link the resin. This process, though giving excellent results, has not been too successful with garment manufacturers owing to obvious limitations of colors, styles and fabric weight, and the need for a direct interface between mills, garment manufacturers and retailers.

Benefits:

Fabric smoothness, shrinkage, crease retention and minimized seam puckering.

Drawbacks:

Risk for premature setting or pre-curing while fabric is in transit or stored before garment manufacturing, potentially resulting in permanent wrinkles or in poor crease retention after garments are pressed and cured.

In the dip method for Garments, garments are constructed from non-resinated fabric, then impregnated with a resin formula similar to that used in the post-cure process, extracted to about 65 per cent wet pick-up and then tumble dried to 8-10 per cent moisture content, a critical factor that is determined using a moisture meter.

In the spray method for garments, the resin is applied by spraying it onto the garment during tumbling in an enclosed rotational device.

- A microprocessor is used to meter the exact amount of chemicals and to control the rotation time, desired wet pick-up, spray rate and process time.
- The garments are then pressed and cured as in the case of the post-cure process. The process is increasingly used for both menswear and womenswear with the market moving towards washed-down looks and softer handles.

In the vapour phase process for Garments, the fabric is dyed and finished at the mill, cut sewn and pressed into garment form before cross linking.

- Gaseous formaldehyde is then applied together with an acid catalyst in a special chamber oven. The garments are later steamed to induce cross-linking.
- Excess moisture is then exhausted. The formaldehyde itself forms the cross-links (conventional resin will always have unreacted N-methylol groups that can hydrolyse to release formaldehyde). The process is being used today by manufacturers of shirts and other lightweight garments.
- However, it is reportedly difficult to control, potentially resulting in uneven treatments and higher strength losses.

Compilaing Application of easy-care finishes as:

Application Method	Advantages	Disadvantages
Pre-Cure	High process productivity	Poor crease retention
Post cure	Excellent crease retention	Curing equipment needed by garment manufacturer.
Garment	Softest handle	Application and curing equipment needed by garment processor.

Common Challenges in Easy care finish:

General Disadvantages	Possibilities for remedy
Loss of abrasion, tear and ripping strength	Wet condensation, liquid ammonia treatment, addition of silicones and other auxiliaries such as polyvinyl acetate, polyurethane, polyethylene.
Release of larger amounts of formaldehyde	Formaldehyde free or low formaldehyde resins, selection of products and condensation conditions.
Reduction of light fastness and shade change of colored fabrics	Selection of products such as dyestuffs, crosslinkers, catalysts.
Objectionable odors, sometimes fishy smell	Selection of catalysts (no ammonium products), crosslinkers, if necessary washing.
Chlorine retention, causing marked yellowing and strength loss	Selection of crosslinking agents.

-The End..

“Have a happy week ahead”

A knowledge sharing initiative of Resil Chemicals.
For queries, please write to arc@resil.com.
Also, visit www. resil.com

Discover with RESIL