



## Topic: **The challenge and charm of chemical finishing**

Ref: REF: TT/ May 2014/ WK 1

### **Content:**

The proper formulation of chemical finishes requires consideration of several important factors:

- The type of textile being treated (fiber and construction).
- The performance requirements of the finish (extent of effect and durability).
- Environmental considerations.
- Compatibility of different formula components.

To bring all these parameters to an acceptable compromise is not an easy, even for a single purpose finish. But usually several types of finishes are combined for economical reasons mostly in one bath.

### **This is often the hardest challenge for types of finishes in one bath:**

- All components of the finish bath must be compatible.
- Precipitations of anionic with cationic products have to be avoided.
- The emulsion stability of different products may be reduced by product interactions.

### **Some effects are similar or assist each other:**

- Silicone elastomers cause water repellency, softeners bring about antistatic effects and antistatic finishes can be softening.
-



### Some effects are obviously contradictory

- Hydrophobic finishes and hydrophilic antistatic finishes, or stiffening and elastomeric finishes, or stiffening and softening finishes.

### General requirements of chemical finishes:

#### Primary effects of finishes

- High effect level at low cost for products and application
- Possible effect design, adaptation to customer wishes.

#### Desired secondary effects

- Usable for all kind of fibers and all textile forms, as yarn, woven or knit fabric, garment, nonwovens.
- No loss of important textile qualities such as tear strength and abrasion resistance, comfort, appearance.
- No yellowing of undyed fabrics, no shade change of colored ones.
- High stability under storage and application conditions (temperature, pH, mechanical stress)
- Even distribution, either on the fiber or fabric surface or inside the fabric
- Compatibility with other finishes.
- Synergistic effects, no reduction of effect of other finishes
- Easy correction of finishing faults such as removal of finish or stains.
- No environmental problems, non-toxic, biodegradable, no volatile organic compounds.

**“Happy Week ahead”**