

## **Textile Care Process at Lindström**

### **Workwear process**

Garments are washed in specialized workwear laundries. The textile care process starts with collecting dirty laundry from the customer and transporting it to the laundry. The process in the laundry consists of sorting, washing, drying and finishing, quality control, repair and replacement when needed, folding, packing and delivery to the customer.

#### **Sorting**

Dirty laundry is sorted to different wash categories according to their dirtiness, textile material and colour. Pockets are emptied and all foreign items among the laundry are taken out.

#### **Washing**

The garments are washed in washer extractors and a wash process is defined according to the wash category. The wash process includes 1-2 wash phases depending on the required washing effect (light – normal – heavy). Heavily soiled garments from food industry are washed at least in 70°C for 10 min and white categories are additionally bleached with disinfective bleaching agent. Lightly and normally soiled categories can be washed with low-temperature-process, where the temperature is 50-55°C and the disinfection is done with special chemicals and carefully defined washing circumstances. The wash phases are followed by 2-3 rinses depending on the washing category.

In washing only professional detergents are used. They are applied according to their instructed purpose of use.

#### **Drying and Finishing**

Garments are dried with tumble dryers. At the end of the drying cycle the temperature of the out-coming air is 80-90°C. The residual moisture of the garments is left to 2-3% by adjusting the drying time and temperature.

#### **Quality Inspection**

Each garment is going through quality inspection after drying. Washing and finishing quality is checked, as well as wear and tear of the garment. Dirty and wrinkled garments are sent back to rewash and broken garments are repaired. If the garment is

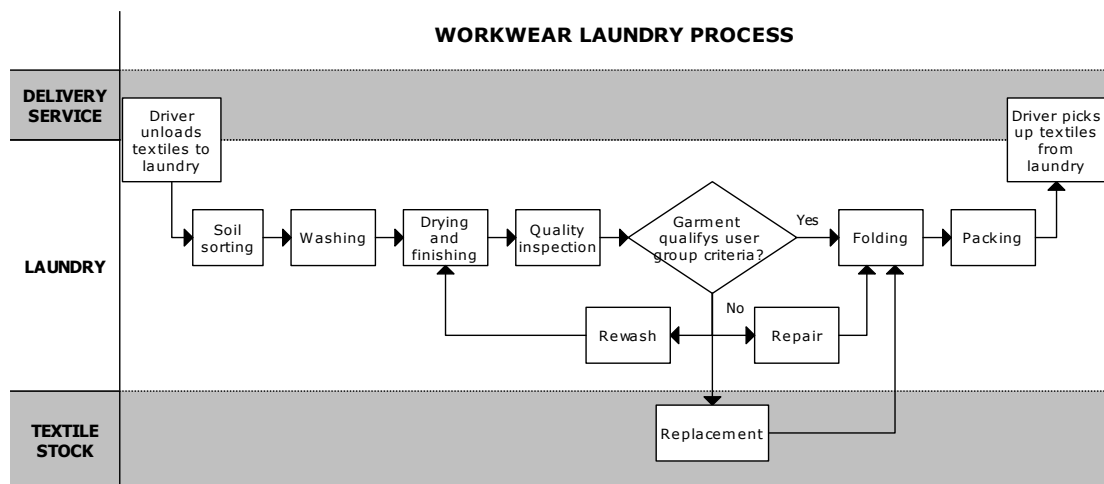
worn-out, it is sent to textile stock and replaced with equivalent garment in good shape.

### Packing

The garments, which meet the quality criteria, are folded, sorted according to the customer number and packed to textile sacks. The sacks are put to roller containers, which are taken to the marked area of corresponding delivery route.

### Delivery

Garments are delivered to the customer in textile sacks. The same delivery car, which brings the clean garments to the customer, is also taking the dirty garments from the customer. Clean and dirty garments can be transported in the same car, because they are packed and covered appropriately to avoid cross-contamination. The textile sacks are washed after each use. Delivery service is based on weekly service visits.



## **Biocontamination Control**

Lindström workwear laundries are working according to ISO9001 Quality management system, ISO140001 Environmental management system and ISO14065 Laundry processed textiles –Biocontamination control system. Certification process with DNV Certification has been started 2008.

Quality management system includes an internal process control, which is based on ISO14065. This internal process control is made continuously by laundry personnel to ensure uniform quality of the textile care process. Washing temperature, pH and time is measured, as well as the residues of detergents and bleaching agents in the last rinse. The function of the dosing system and the drying temperature in the tumble dryer are checked regularly. Additionally microbiological test samples are taken in regular basis from textile surfaces and different control points of the process.

The hygiene of the textiles is reached by thermo-disinfection during washing process (70°C/10 min). When low-temperature-washing is used, the disinfection is reached as a right combination of chemicals and washing conditions. After washing it is essential to protect the textiles from recontamination. This is done by following the right working methods and instructions in drying, inspection, repair and packing stages. Also working in different work places and moving between different areas of cleanliness is directed in internal work instructions. The compliance with the operational and work instructions is controlled by internal audits.