

## MANUFACTURING STEPS

Products in goose and duck feathers and down are subjected to regular sanitation treatment as established by EC Regulation 1069/2009.

The processing of the raw material and the following packaging of the quilts for furnishing or bedding, follows precise processing stages to guarantee the quality, hygiene and safety of the final product. As far as the processing of feathers and down is concerned, we have: de-dusting, washing, centrifuging, drying by drying, cooling and selection. The next stage is the manufacturing of the lining, which involves two different types of quilting: coffered and fixed quilting.



### Raw material processing stages

#### DE-DUSTING

Performed in the dusting machine: removes the dust on the feathers and some of the impurities. The feathers are shaken by rotating arms in a built-in cylinder that holds the feathers and lets only the dust pass through, which is sucked up by a vacuum cleaner.

#### WASHING

It is carried out in washing machines. It degrades the feathers and removes additional impurities. Large volumes of water are required: the feather-water ratio depends essentially on the type of system and the characteristics of the raw material (it is normally 1/30, i.e. 30 litres of water per 1 kilogram of feathers). The most modern washing systems are programmable in terms of number of cycles, water temperature, rinsing times, etc. precisely to ensure the best results at all times, regardless of the characteristics of the raw material. Chemical auxiliaries (soap and antistatic) are added during the washing process to ensure compliance with hygiene requirements. Rinsing (repeated three to five times) is also done with large volumes of water, necessary to completely eliminate any residual organic material in suspension.

#### CENTRIFUGATION

A centrifugation is performed to remove most of the water accumulated during washing. The process is similar to the spin cycle of domestic washing machines.





#### DRYING

It is carried out in a special double wall appliance with an introduction of steam in order to reach a temperature of 100° for a minimum time of 30 minutes, an operation aimed at drying and sanitizing (also the introduction of disinfectants and antistatic) in order to meet the requirements prescribed by the Ministerial Decree 10/11/76 N.315 partially amended by EU Regulation n.142/2011.

#### COOLING

It is carried out in forced air cooling chamber.

#### SELECTION

The feathers are selected and/or divided according to their size and weight. These machines work with the chimney draft principle for ascending and differential currents (there are 1, 2, 3, 4 chamber sorting machines and the draft principle is blown air and sucked air).



## Manufacturing of the lining

### CUTTING

Starting from cardboard or digital templates the fabrics are cut both manually and using numerically controlled cutting machines, which are able to cut large quantities of fabric in a short time and to optimize waste.

### QUILTING/PADDING

“Cassettoni” quilting is carried out by stitching the whole border by hand and then filling it with feathers.

In the case of fixed-check quilting, the perimeter is hand-sewn, then filled with feathers and then by fixed-check stitching a mechanical quilting machine.

### FINISHING and LABELLING

At the end, the part held open to allow the insertion of the tube through which the raw material has been inserted is sewn, as the label that certifies the traceability of the product.

