



## Ecological aspects

### Flax, ecological by essence

Today's worldwide concern about the future of our planet is a unique and wonderful opportunity to promote flax, the natural fiber we have been weaving for more than 150 years. A mindful use of resources and raw materials with a minimum impact on people, animals and plants, has always been given the highest priority at Libeco-Lagae.

### Growing of the flax plant

Flax has grown for thousands of years, and always with great respect for the environment. Flax is a plant that grows naturally, and needs very few chemicals. Few or no fertilizers and/or crop protection products are being used compared to other crops. Flax does not require irrigation during the growing process. The flax plant is gentle on the land and is easy to incorporate into modern crop rotation cycles. The processing of flax needs very little energy and does not harm nature. The water retting process has been replaced by environmentally friendly dew-retting on the field.

### Flax, "green" by nature

Flax has some inherent ecological characteristics: all parts of the plant are used (there is no waste) and are 100% biodegradable or recyclable. Flax seed is beneficial in human and animal

nutrition because of its very high content of alpha omega-3 fatty acids. Flax seeds can be used as the base for a fine flour used in medical compresses. Linseed oil, squeezed out of flax seeds, is also used as a component in paints, cosmetics, soil coverings, etc. Flax fibers are also being used in heat insulation, packaging, etc. The remaining residual products are used in fiber boards, bank notes, etc. The inherent strength of linen yarn reduces the need for starching during spinning and weaving. Linen fabrics can be recycled into paper and insulation materials for the car industry.

### **From fiber to fabric: spinning & weaving**

The industrial processes of spinning and weaving have very little impact on the environment. Libeco-Lagae is constantly investing in new equipment and production methods, reducing the need for energy and water and eliminating or recycling most of the waste. As a source of energy we use natural gas and do not pollute the air. Constant improvements in production will allow us to lower our use of energy. We are constantly continuing our research in order to improve our production methods and limit even more our impact on the environment.

### **Finishing of linen fabrics: washing, bleaching, dyeing and finishing**

One of the most critical steps in the production process of linen in terms of ecology is the washing, bleaching, dyeing and finishing of the fabrics. A lot of water is being used to clean and dye the fabrics. Verlimas, a finisher we often work with, has heavily invested in order to minimize water consumption and meet all standards set by the environmental authorities.

The water used comes from the river Lys. It is filtered and cleaned for use as process water in the dye house. After passing through the production process, the water is gathered in the on-site industrial water treatment plant and is biologically treated before pumped back into the river Lys. Effluents at that point are continuously monitored and must be compliant with standards such as:

- |   |        |   |     |    |          |
|---|--------|---|-----|----|----------|
| - | C.O.D. | < | 300 | mg | oxygen/l |
| - | B.O.D. | < | 25  | mg | oxygen/l |
- pH values between 6.5 and 9

### **The processes are continuously reviewed in order to:**

- minimize total water consumption and optimize water recycling during the processes
- reduce total energy consumption and optimize energy recuperation from the effluents
- reduce the use of harmful chemicals in line with the most severe standards:

1. Only water based chemicals are being used during production.
2. Bleaching agents based on chlorite have been fully replaced by agents based on oxygen such as peroxide.

3. Dye selection is fully in line with the EC Directive 76/769/EEC banning prohibited AZO dyes that release carcinogenic amine compounds (MAK Group III 1,2,3) and according to the ETAD standard minimizing any possible adverse impact of organic colorants on health and environment, based on the principles of responsible care.

### **Oeko-Tex standard 100 and Eco Linen**

Approximately 40% of our sales come from natural, undyed fabrics. All of our natural fabrics can wear our ECO LINEN label: tests have shown that no chemical residues are found in the final product. Recently, this product range has also been tested on harmful substances and is now Oeko-Tex Standard 100 class IV certified.



BELIEVE IN LINEN

