

Hemp as Textile

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Hempro
Int.



Hemp Fibre Characteristics

- Tearproof
- Absorbs more moisture than other fibres and dispense that moisture quickly
- Keeps cool in summer and gives warmth in winter
- Hemp fibres are also suitable for sensitive skins
- Give greater UV protection than other fabrics of comparable texture and density



Enviromental Advantages

- Rapid growth: up to 4 meters in 3 months
- Extremely resilient: no chemicals
e.g. herbicides or pesticides required
- Supporting its own organic cultivation in itself
- Strong rootage in the soil
- Improves the soil and crop rotation productivity
- Monocultures can be avoided
- Less water consumption than e.g. cotton
- Binds CO₂ (Result of previous surveys: 1 ton of hemp biomass stores approx. 500 kg of carbon which amounts to approx. 2 tons of carbon-dioxide)
- No chemical additives necessary for fibre splitting.
- Versatile usage for all parts of the plant (shives, seeds, etc).



Production Location China

- In comparison to Europe, hemp cultivation was never forbidden in China
- Thousands of years experience in hemp textile production
- Most extensive hemp-fibre producing region worldwide
- Excellence development regarding quality, reliability and European standards



From Raw Material to Fabric

- **Fibre extraction:**
 - roasted and dried after the yield
 - watered in order to soft the fibre
 - remove natural compound between fibres and shives
 - drying of fibres in order to seperate fibres from shives
- **Fibre refinement:**
 - cooked in caustic lye of soda
 - get the „glue“ (pectin, lignin) out of the fibres
 - washed and dried again
 - mechanically treatment to get fibres for spinning
 - fibres will be separated from long fibres
 - long fibres for woven fabrics
 - short fibres for jersey-mixtures with e.g. cotton or organic cotton
- **Finishing:**
 - spun to yarn and woven or knitted

Fibre Preparation



Hemp Raw
Material



Removing "Glue"



Dryment and Sort Fibres



Bundling of Fibres



Mixing Machine



Carding Machine

Yarn Production



Roving Machine



Wet Spinning Machine



Spinning Machine



Turning Machine



Winding Machine



Hemp Yarn

Cloth Production



Loom



Mechanical Quality Control



Manual Quality Control



Quantity Test



Quality Control at Sewing Facility

Sewing Facility



Stitching



Production „The Hemp Line“



Sewing Facility



Quality Control



Ironing



Packaging

Production Location China

- Cooperation with our textile producer since 10 years (Experience, know-how)
- Good personal relationship with the owners



Employee company outing with their families

Production Location China

- Fulfilment (fabric purchase, dyeing, sewing and logistics)
- Excellent development regarding quality, reliability and European standards
- Regular exchange of feedback for improvement (production processes, quality, environmental and labour protection)
- But: For customers, e.g. personal experiences with factory and their ecological and social standards are not enough!
 - Certificates are requested!

Decision for GOTS

- GOTS = Global Organic Textile Standard
- The GOTS decision was made due to previous good work with IMO concerning organic-cotton and hemp-organic-cotton mixed textile certification and IVN membership.
- Due to GOTS, not only the ecological aspects but also the fair working conditions are fulfilled and certified
- Publication of names and addresses of producers is not necessary. IMO confirms that the collections was manufactured in a GOTS certified factory (safeguarding industrial secrets).



GOTS requirements:

- At least 70% of all used fibres has to be from organic controlled cultivation
- The mixing ratio of our jersey-products:
55% Hemp/45% Organic Cotton or 100% Hemp of woven products
- Problem: there are neraly no organic fibres of hemp for textile productions on the market
- Consequently our products cannot be labeled as GOTS even if our production has a certificate

Problems of organic hemp:

Why does there exist nearly no organic hemp?

- Hemp does not need pesticides or herbicides through the high robustness and rapid growth
- There are many small farmers, who cultivate organic hemp on small areas. For them the financial and bureaucratic time is too high. The certification is not worthwhile.
- It is only worth for big areas – traditional small farmers and companies would be neglected
- Even the already certified areas cannot cover the need neither at the moment nor in the long run

Challenges

- Convincing factory management that GOTS certification is important for Hempro Int. and our customers.
- Certification always requires time and money.
- Administrative expenditure:
 - Provide status analysis
 - Compare GOTS guidelines
 - Implement changes



Thank you for your attention!

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