

# 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 CO<sub>2</sub> (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“



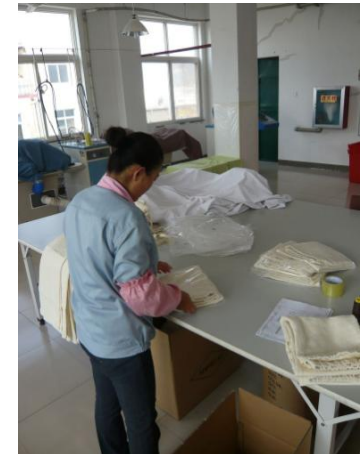
Sewing Facility



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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Int.

