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Linen in New Era



Flax/ linen are the raw materials and products of future. They are perfect example of preferred future plant resources of Polymers for textile and non textile application.

Being biodegradable, reuseable, flax/ linen meet also special customers needs dictated by growing health awareness.

Flax/ linen can bestow with justice unique health and comfort properties which destinate linen to be used insuch niche products as healthy clothing and healthy interior furnishing goods. To mention only the most important linen unique properties.

- a) High moisture sorption and quick moisture transportation.
- b) Excellent breathability – which make that linen apparels breath and more with the body.
- c) Low electrostatic properties, important in the work with electronic devices/computers, automatic production lines.
- d) High UV – protection ability of special value in high amplitude areas.
- e) Brand- new technologies add to the competitiveness of linen niche products lower to disadvantages inherited in cellulosic fibres like creasing after weaving, stiffening and shrinkage after washing. The best example is new liquid ammonia process used for cotton and linen.

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As a plant fibre flex is one of the

fully accepted future resources of polymers for textile and non-textile applications. It is also a perfect example of ecological raw material, technology and product.

The unique flex fibre properties like high hygroscopicity, quick moisture transportation, high heat of sorption are the well recognized reason for flex application in healthy clothing shoes, socks, upholstery, homes, cars, aeroplanes interiors.

Some of these products play in present – day textiles the typical niche products roll meeting specially needs. The demand for them will be growing with grow of living standards.

The institute of natural fibres in Poznan, Poland has developed a wide offer of linen Niche product like:-

- a) 100% linen beddings.
- b) Linen Apparel
- c) Linen socks. These are of high hygienic value providing comfort in use.

Flax-linen with wool, cashmere and silk belongs to few luxury fibres of high value and aura of exclusivity got of low production volume. Which factors are expected to determine the prospects of these fibres, specially of flax fibre, in the world of textiles in the years to come.

Flax / Linen are eco friendly raw material and products. Biodegradable, reusable, post-consumer waste, several nations have currently these laws, other nations are in process of writing similar legislation still other will follow. This is one of the fundamental reasons for future linen prospects in the world of textiles.

Flax may contribute to the economical grow of rural area in a geographic zone which is far beyond the reach of such natural fibres as cotton and silk. Being a biodegradable, renewable, perfectly eco-friendly plant raw material linen meet the general preference expected in the world of textiles in the twenty first century. At the same time, having unique hygiene and comfortable properties linen meets special customer needs in clothing area and interior furnishing.

Positive linen features of growing importance are those, which prevent human beings from the discomfort of present civilized world.

Low electrostaticity, short discharging and automatic production lines in interior like cars, air-plane, even rockets. High UV protection of linen is specially valued in the region of growing ozone deficiency in the atmosphere and increasing skin cancer potential danger like in Australia & also other parts of the world.

According to the latest research and information given by school of fiber science and technology Sydney, same fabric made for example of bleached cotton and viscose provide relatively low UV protection. Higher UV protection factors can be provided by fibers containing natural pigments, lignins and hemicelluloses which act as UV- Radiation absorbants. And this is exactly linen – specially in natural non-bleached colours. It has been stressed in the literature on the subject that each year over 1000 Australia die from skin cancer while two third of Australian population develop some form of skin cancer at some stages of their lives and what worse, skin cancer rates are still on the increase.

Australia is not alone in the health risk area Scandinavian countries, according to the World Health Organization, are also included in spite of the low UV- radiation exposure doses.

The UV – production must involve the use of suitable textile like linen with high level of natural UVR absorbant used for such products as hats and apparels, specially for people in outdoor activities.

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Well known properties of linen are like:-

- a) Excellent breathability
- b) High heat of sorption
- c) High moisture sorption
- d) Quick moisture transportation

All the above mentioned linen comfort and hygienic properties destinate flax to be used in healthy clothing and healthy interiors.



Recently developed by the Institute of Natural fibres, Poland –linen product

- a) **Super – luxury 100% linen beddings.** Linen sheets provide us unparalleled comforts as we sleep. Using an electroencephalogram to record eye movements, body and skin temperature relative humidity measurements between the sheets and through interviews with subjects after they have slept, it has been proved that people fall asleep more quickly, sleep more profoundly and wake up in a better mood in linen sheets as opposed to cotton. Sleeping between linen sheets is incomparable. Linen does not irritate

the skin and that it causes the temperature of the skin & muscle tension to decrease.

- b) The refreshing feel of linen and its high moisture absorption capacity are considered to be the main reason.
 - Linen sauna towels –difficult to be replaced by any kind of towels all over the globe.
 - Linen blood propelling towel- made of 100% traditional, stiff linen yarn are interesting offer of finish, polish and Czech linen industries.
 - Linen wound dressing especially elastic bandage enjoy renewed interest in long-term cure procedures.
- Linen leisure sport and outdoor apparels mainly: trouser and shirts-including new developed made of linen fabric finished in liquid ammonia with excellent touch and high wash and wear properties.
- Blouses and vest –including brand new assortment made of new type of flax got in one harvesting deceeding – fibre extracting process Body dress of highest quality.
- Super hygiene shoes
- Hygiene durable comfortable linen socks.

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Author with Professor Mrs. Malgorzata Helwia (Head of Institute of Natural Fibers) Poland, at an International conference