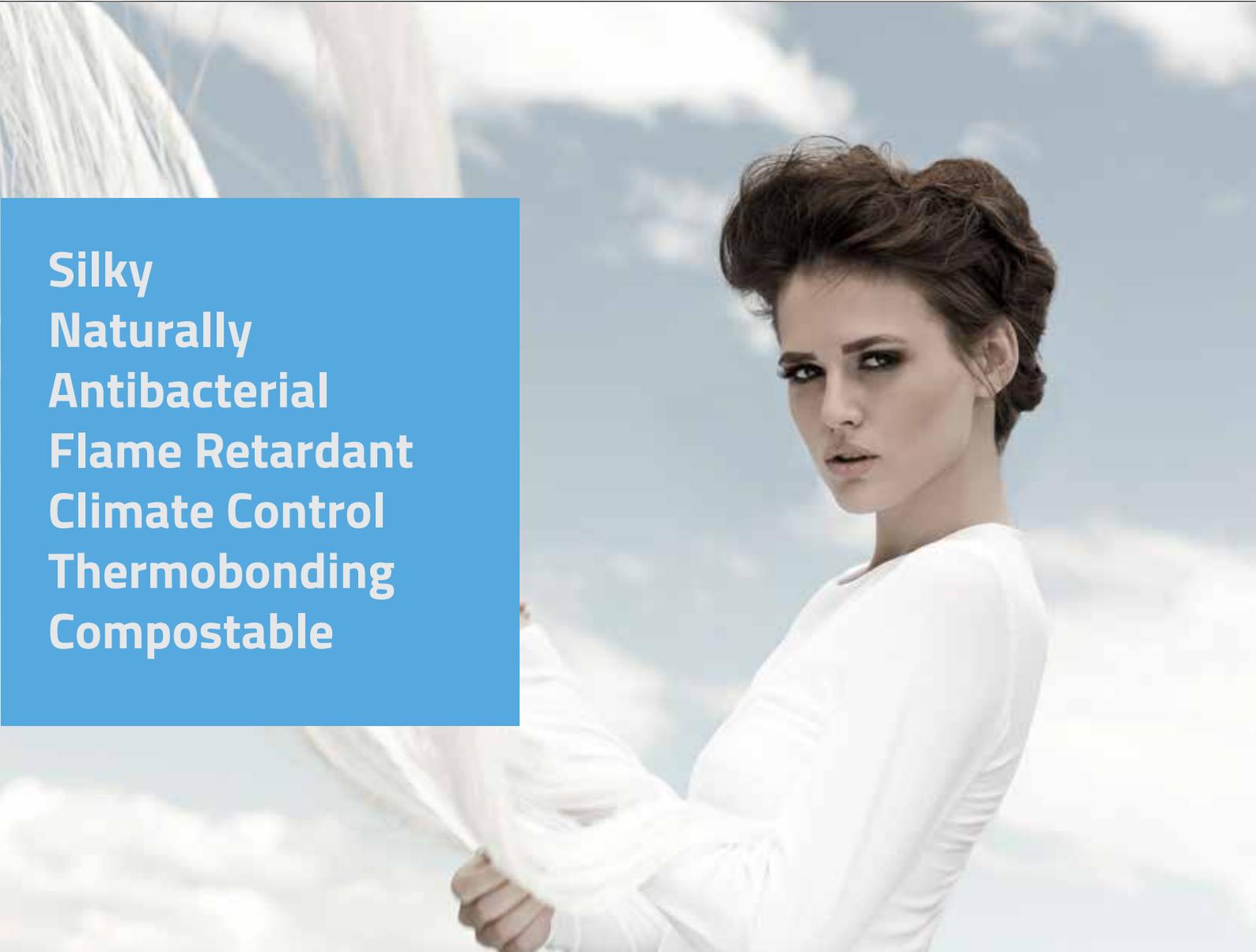




MATERIAL OF THE FUTURE

Nature - Man Made Fibers For Textiles And Technology



**Silky
Naturally
Antibacterial
Flame Retardant
Climate Control
Thermobonding
Compostable**



QMILK – worldwide pioneering for naturalness, sustainability and innovation for milk proteins from Non-food milk.



MATERIAL OF THE FUTURE

QMILK— is the world's leading production and processing company of milk proteins from NON FOOD milk and renewable raw materials in the patented up-cycling process. QMILK is the pioneer in sustainable products and manufacturing. QMILK fibers are a new functional material with interesting properties. Hence improves on the one hand material deficits, but also new opportunities for product development with clear added value created for health and the environment.

QMILK started with a small blender in the kitchen. The young lady who is the founder is a micro biologist and makes dairy proteins which are future oriented inventions, which of course are not only 100% natural, but are also sustainably produced.

Her promise - an organic polymer free of solvents, plasticizers and adimids, she developed about 3000 recipes. Also, the properties of the material which enable to be eg hard or flexible. So all conventional plastics from petroleum can be replaced.

MISSION NATURE !



“
2 million
tones of
milk are dis-
posed of in
Germany
annually!
”

QMILK-smallest CO2 footprint of all fibers around the world!

QMILK fibers are made of 100% organic polymer-
without plasticizers, solvents and chemical
cross-linkers. It is home compostable and breaks
down free of residues within a few months
in the environment.



QMILK is based on the polymer milk protein
casein.

The casein is manufactured from raw milk,
that is no longer capable of consumption
and according to legal regulations can't be
used as food.

Although this discarded milk is no longer
suitable for consumption, it still contains
very valuable ingredients and is a very
precious commodity, which has great
potential for technical purposes.

We are working on the construction of the
first logistics system for collecting unused,
not consumtable milk to a zero waste
process from raw material up to the
final product.

QMILK – Sustainable High-Tech Technology

QMILK is a patented, specially designed spinning process. As water - and
energy-efficient, zero - waste - process this procedure is very sustainable.
QMILK fibers are made of 100% renewable raw materials and non-food
milk.

This milk is not suitable for food use and is expensively disposed so far as
unused secondary waste. This amounts to about 2 million tones anually in
Germany alone. The Green Tec Awards were awarded in 2015 .

The QMILK fiber after a few weeks is biodegradable in compost. (DIN
EN 14119).

Applications



FELT



YARNS



PAPER



NON-
WOVENS



COMPOSITE

QMILK - NATURALLY UNIQUE

1



2



3



4



1 ANTIBAKTERIELL by nature

The QMILK® fiber is antibacterial - naturally! For this, we use no antibacterial finishing, because the fiber is a natural antibacterial against *E. coli* and even against *Staphylococcus aureus*. QMILK is thus the sustainable and low-cost replacement for silver (AATCC test method 100-2004)

2 Flame retardant without additional finishing

The QMILK® fiber achieved fire protection class B2 according to the standards DIN 4102-1 and DIN 75200. The fiber is not dripping and is up to 200 ° C temperature resistant - without dismantling. The fiber is also at the high temperature dimensionally stable. There is no melting point according to ISO 11357-1/3

3 Temperature regulating cold and isolating

The QMILK fiber has a natural cooling handle. The fiber captures heat and therefore has a high heat capacity.

4 Moisture management good moisture transport

Through its unique moisture management, the fiber has a high moisture absorption capacity with fast exchange.



With the particularly smooth surface, the QMILK® fiber is ideal for people with sensitive skin. The feel of the milk protein fiber is similar to the silk fiber.

QMILK® is the ideal fiber for applications with direct contact to the skin. The fiber can not only be seen on basic of its property profile as a combination of natural and industrial fiber. But also because of it's structural building.



Yarns: Any variety of wool - such as shearing, alpaca, merino are suitable. But also viscose, cotton, cellulose or synthetic can be spun QMILK.

Non-wovens: QMILK are staple fibers and are suitable for the production of multi-component nonwovens with innovative manufacturing processes. Also coated with QMILK, the functional properties are generated.

Felt: The modern trend material made of wool is often associated with viscose and synthetic fibers mixed. QMILK significantly improves the unique properties of wool. It gives you a increased silk feel and strength.

QMILK textile – naturally Innovative

In a dress from QMILK, it makes you feel like a modern Cleopatra !

Scaly, peeling and dirt adherence. And it remains 100% natural. Because QMILK is a protein fiber and feels velvety soft as silk. And is therefore an ideal combination for a wide variety of material mixes made of natural or synthetic fibers. QMILK improves the product properties from a share of 20%.

Through its soft grip, the fiber is ideal for clothing. The fiber is also good with its moisture absorption and climate regulation. The antibacterial efficacy protects in direct contact with the skin. The fiber has been tested dermatologically with "excellent".

With QMILK we focus on quality, naturalness, innovation and extraordinary feeling.



QMILK – Silk for Skin!

QMILK - silk for skin! Peeling and dirt adhesion. And QMILK meets the growing demand for sustainable natural fibers in the attractive mega-trend of convenience product specialties. However, QMILK can not only cover this demand, but opens up exciting possibilities for new innovative material combinations properties, as for example soft as silk, antibacterial, regulating climate, skin protecting, hydrophilic and many others. So get products with QMILK and you purchase decisive products with added value. This is also the radiance of the brand QMILK as a leader sustainability.

QMILK Wipes - real flushables

Practical and versatile with unique performance characteristics in hygiene and medicine - natural and without chemical additives or silver. QMILK dissolves without residue in the water and enables you to meet the demands on "flushable"- i.e. in the sewage system be flushed without the sewage affecting infrastructure.

So QMILK also helps to further solve important problems and create more sustainability.

QMILK Spunlace – water jet solidified

The water jet is fixed using the entanglement of the fibers in the fiber pile.

This helps many fine jets of water and under high pressure. QMILK fibres in non-wovens can not only achieve unique product features, but can also be used to positively affect weight. QMILK. Spun lace - non-woven can be shaped and thus be individualized. 100 % Natural.



Just as soft as skin. Our milk fiber made from 100% natural and renewable raw materials. The fiber from non tradable milk. Our innovation and our passion. Welding quality tested very well with after DIN EN 132013.



QMILK Natural fiber - thermobonding

QMILK is the only natural fiber with thermos-bonding properties. Hence allows conventional plastics and resins used as binders to be completely replaced. Natural fiber products such as hemp and linen remain so 100% natural and can be disposed of permanently.

The bonding and stabilization is through thermal treatment to 100 ° C and with pressure. Sustainability is not only improved by the use of QMILK fiber, but also the processing gain significantly high efficiency - e.g. through saving the processing steps by lowering the process temperatures. The problem of the heptic of surfaces made of natural fiber can be solved with QMILK.

QMILK enhances surfaces with silk feel to the touch and gives a pleasant feeling when touching.

So this increases the acceptance and appreciation and last but not least the willingness to buy. This is especially interesting for automotive and furniture industries.

Due to the high natural moisture content of QMILK® fiber hence offers excellent opportunities for climate control. The hygroscopicity of the materials can have an influence on the indoor climate as a whole.

Materials, which absorb moisture from the air and on-demand can release quickly again, provide for a very pleasant climate. High chemical resistance to a variety of media makes QMILK as a material for the most universal applications (DIN EN ISO 175).



Composites Q to C

QMILK opens up exciting possibilities for material combinations of non Wovens and composites. With new features - E.g. antibacterial, temperature regulating, skin care products will receive a purchase key added value.





Innovation Made in Germany

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