



THE BOTANIC BED

 TENCEL®

THE NEW AGE FIBER



SLEEPING LIGHT

THE BOTANIC BED



TENCEL® fiber comes from Nature. It is of botanic origin because it is extracted from the raw material, wood. The fiber production process is proven to be extremely eco-friendly due to its closed loop system.

The applications for TENCEL® are exceptionally versatile. The fiber can be used in every aspect of sleeping – beginning with mattresses and mattress pads to bed covers and linens, all the way to lingerie. TENCEL®'s universality makes it possible to enjoy a completely botanic bed from nature. Nothing is dreamier than that when you go to sleep in a botanic TENCEL® bed.

This brochure summarizes Lenzing's findings from studies conducted in regard to the properties of TENCEL®. Studies on TENCEL® and its effects on our well-being as we sleep were performed in association with dermatologists and sleep researchers. With TENCEL®, it is possible to enjoy a completely natural feeling as you sleep.

DREAMLIKE MOISTURE MANAGEMENT



- The best moisture management
- Regulates the climate
- 50 % higher moisture absorption capacity

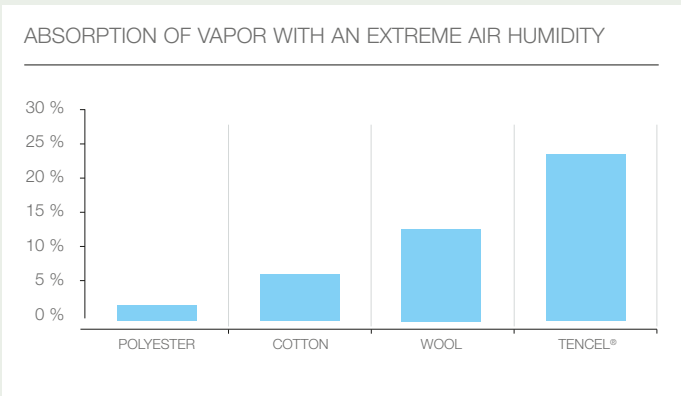
TENCEL® - NUMBER 1 IN MOISTURE MANAGEMENT

TENCEL® naturally absorbs moisture and quickly releases it again. This property guarantees a pleasantly dry sleeping climate. In contrast polyester does not absorb moisture at all. In the case of polyester, moisture remains on the fiber as a surface film. Moisture cannot be transported into the fiber of polyester as opposed to TENCEL®.



Only TENCEL® absorbs moisture in a controlled and regular manner; drastically contrasting polyester which does not absorb any moisture, and cotton which absorbs 50 % less than TENCEL®.

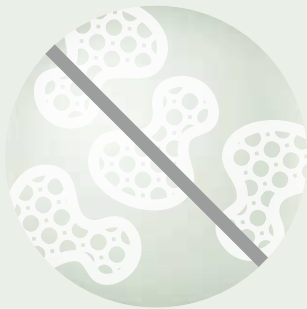
CLIMATE-DEPENDENT



In the bed environment, moisture transport is determined by the climate in the room. In accordance with climate conditions, TENCEL® quickly absorbs and then releases moisture back into the environment. Compared to other filling materials for bed covers, TENCEL® demonstrates the highest moisture absorption. Tests show that TENCEL® still has free range to transport moisture away from the body at a humidity of 65 %.

TENCEL® exceptionally has the ability to absorb moisture when the air humidity rises.

NATURAL HYGIENE FIBER



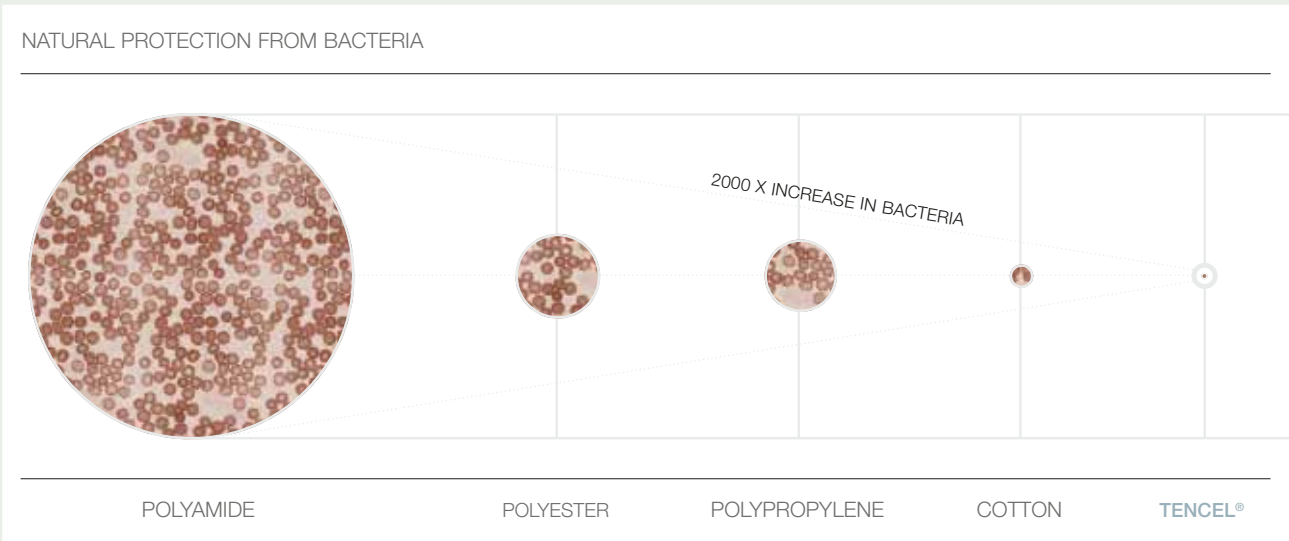
- Reduced bacterial growth
- Without addition of chemicals
- Better than any synthetic fiber

BACTERIA DO NOT STAND A CHANCE

The moisture management of TENCEL® nips the formation of bacteria in the bud. Moisture is immediately transported to the inside of the fiber. Hence there is no moisture film to aide bacterial growth.

COMPLETELY WITHOUT CHEMICALS

The bacterial protection works without any chemical additives. Its exceptional moisture management reduces bacterial growth naturally. Consequently, unpleasant smells are stopped before they get a chance to start.



TENCEL® reduces bacterial growth in a natural way. However with synthetic fibers, the number of bacteria increases up to 2000 times.

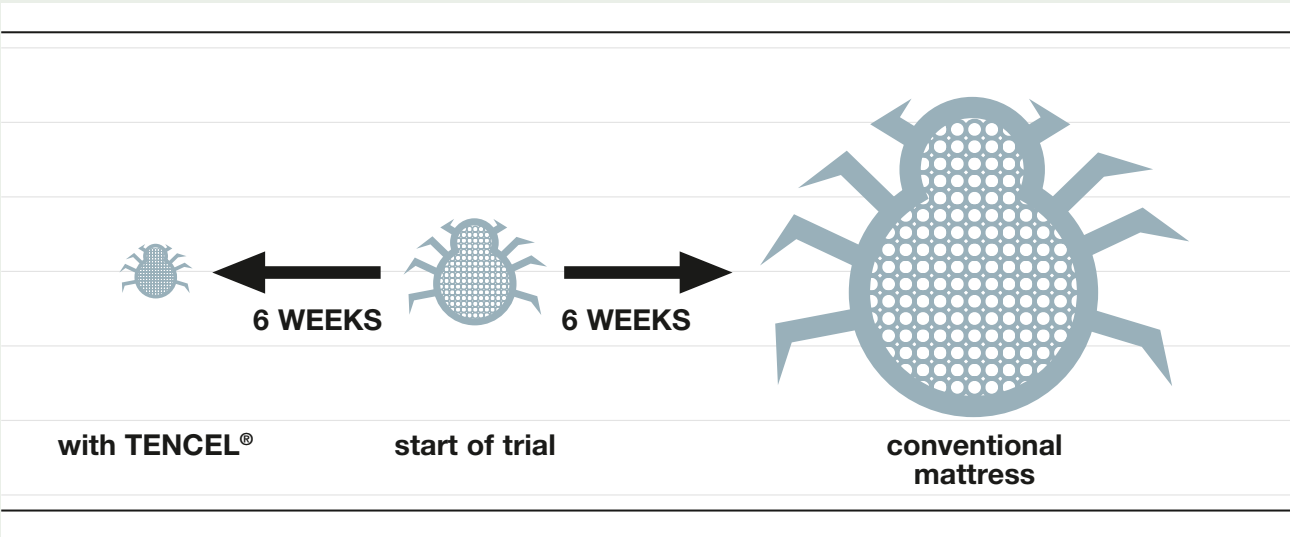
FIGHT AGAINST DUST MITES IS NOT NECESSARY



- No water condensation
- No habitat for mites
- Prevents mold

NO HABITAT FOR MICROORGANISMS

Perfect Moisture Management also puts a stop to the unrestricted growth of mites in bedding. Research conducted on mattresses (cellpur® (see page 23)/polyurethane foam with integrated TENCEL® powder) showed that a large portion of the applied mite population died off. With conventional products, the number of mites increased 17 times in a 6 week period. The concentration of mites drastically declines due to TENCEL®'s management. TENCEL® stores moisture and mites die out.



Due to the perfect moisture management of TENCEL® mites die out.

STOPS MOLD

Due to TENCEL®'s excellent moisture absorption mold development is prevented. A dry sleeping area prohibits water condensation, which makes the formation of mold impossible.

SOFT TO THE SKIN



- Smooth fiber surface
- Natural softness
- Pleasantly cool on the skin

SENSITIVE SKIN – A MATTER OF HEALTH



More and more people are ailed by sensitive skin. Environmental pollution and an upsurge in allergies have led to increased interest in alternatives to conventional materials. The addition of TENCEL® properties help to alleviate skin irritation. TENCEL® bed linens are particularly cool to the touch and soft on skin.

SOFTNESS VIA SMOOTHNESS

A smooth surface makes the bed linen silky and soft. TENCEL® advocates a pleasant feeling next to the skin as a result of the fiber surface. If one compares the surface of cotton to TENCEL® the difference becomes perfectly clear. Cotton reveals an irregular rough fiber surface. TENCEL®, on the other hand is both, smooth and supple.



TENCEL® bed linens are particularly soft due to their smooth fiber surface. In contrast, cotton feels rougher on the skin.



pillow

shell fabric:
TENCEL® MICRO
TENCEL® Standard
filling: TENCEL® FILL



duvet cover / flat sheets

TENCEL® Standard
TENCEL® MICRO



comforter/insert

shell fabric:
TENCEL® MICRO
TENCEL® Standard
filling: TENCEL® FILL



fitted sheets

woven:
TENCEL® Standard
TENCEL® MICRO
knitted: TENCEL® LF



mattress

ticking:
TENCEL® Standard
padding: TENCEL® FILL
core: TENCEL® Powder



mattress pad

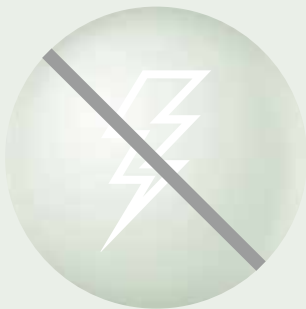
shell fabric:
TENCEL® MICRO
TENCEL® Standard
filling: TENCEL® FILL

THE BOTANIC BED



Integrating TENCEL® into your complete bedding system can result in an exceptional sleep experience. This is because, a special type of TENCEL® exists for every element of the bed; TENCEL®-powder in the cellpur® (see page 23) mattress core, filling fibers for mattress toppers as well as bed covers and TENCEL® MICRO for very fine bed linen. Now nothing stands in the way of a Botanic Bed. Sleeplessness can become a thing of the past. With TENCEL® products you can create your own bed completely of botanic origin for relaxed dreams.

RELAXED NIGHTS



- Relaxed muscles
- Static Free
- Relaxation as you sleep

DREAMY RELAXATION

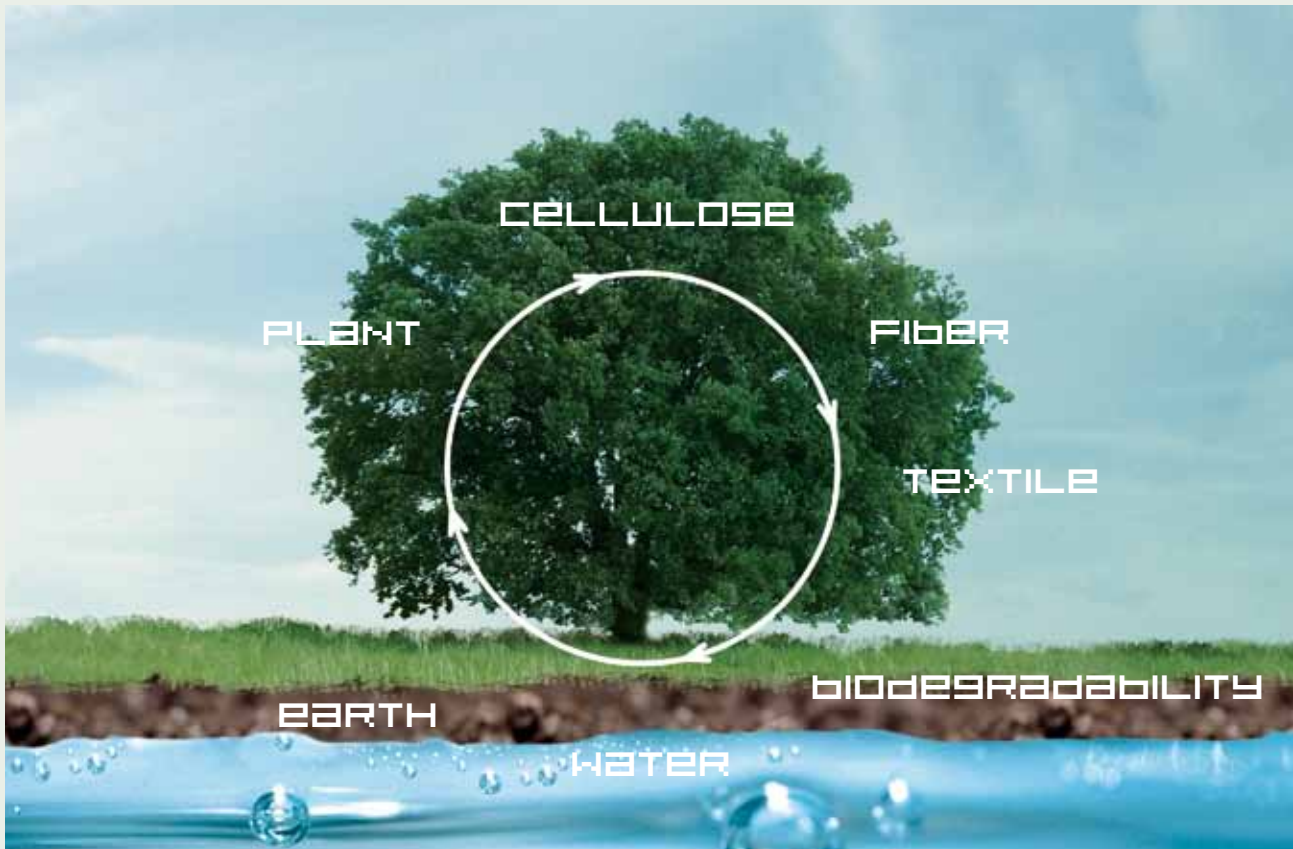
Due to their unique combination, the properties of TENCEL® make it possible to enjoy relaxing dreams. Static charge is a thing of the past. The extent of which bed items are electrostatically charged depends on the moisture content of the materials used and their electrical conductivity. The moisture content in TENCEL® bedding prevents the build up of static charge and prevents the uncomfortable shocks that commonly occur in a dry winter atmosphere.

THE SECRET LIES IN THE FIBER MOISTURE

The moisture level in TENCEL® is 13 %, compared to 1% in polyester. TENCEL®'s natural moisture makes it a static-free fiber without any electrostatic buildup. This property allows for a better night's sleep and absolute relaxation allowing muscles to completely regenerate during the night.



FOR THE SAKE OF THE ENVIRONMENT



- Raw material eucalyptus wood
- Eco-friendly manufacturing
- The best life cycle data

MIRACLE FROM THE PLANT WORLD

You can feel right away that TENCEL® fiber comes from nature. Thus every bed article made with TENCEL® has a botanic origin. The basic botanic principle of photosynthesis is the basis of TENCEL®. Eucalyptus wood is the raw material and is a product of the photosynthesis of plants. In addition TENCEL® has an eco-friendly manufacturing process with a closed-loop production cycle. The solvent used is recycled by up to 99.7 %.

DEMONSTRATING ENVIRONMENTAL FRIENDLINESS

A life cycle analysis demonstrates the environmental friendliness of TENCEL® compared to cotton, polyester and polypropylene. The study fully evaluates each fiber's environmental impact during the course of extraction, and concludes that cotton's toxic impact on fresh water and soil is monstrous in comparison to that of TENCEL®.

A PLEASANT FEELING TO SLEEP IN TENCEL®



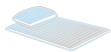
THE WORLD IN WHICH WE LIVE

The manufacturing process of TENCEL® has an extremely low impact on the human environment when it is produced.



GOING GENTLE ON RESOURCES

Eucalyptus wood from sustainable forestry plantations are used for the production of TENCEL®. The cultivated land cannot be used in any other way for agriculture. Cotton is grown on valuable land that could otherwise be used for harvesting food.



HIGH FIBER YIELD

The yield of TENCEL® is on average 6 times higher than cotton.



WATER IS LIFE

Cotton agriculture needs up to 20 times more water than TENCEL®.

TENCEL® IN SLEEP STUDIES



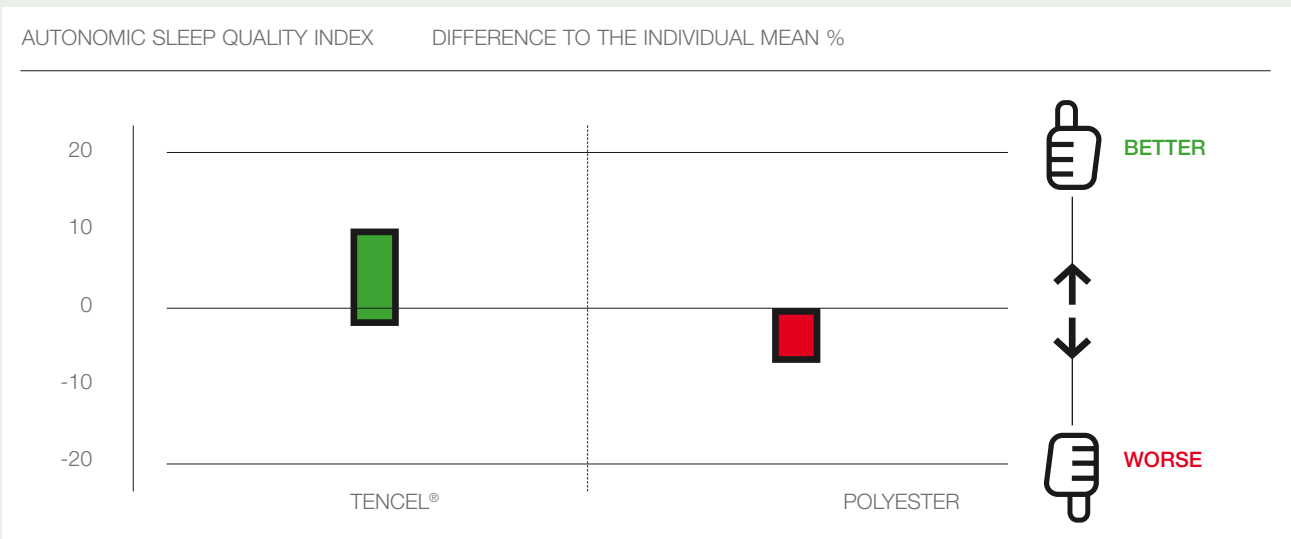
- The more TENCEL® the better
- A healthy sleep
- A higher power of performance

A HEALTHY SLEEP WITH TENCEL®

For years Lenzing has been concerned with the basic principles of a healthy sleep, so they joined forces with professionals to examine TENCEL®'s influence on rest. Basic health factors were examined, including the subject's heart rate while sleeping throughout the night, room temperature and air humidity, to name a few.

TENCEL® DEMONSTRATES A DREAMLIKE SLEEP QUALITY INDEX

The autonomic sleep quality index is a value standing for relaxation and recovery during sleep. This objective value indicates at what time in the night recovery conducive values in the heart rate variability measurement were reached: for example, the lower the heart rate, the more deeply the person is sleeping and the higher the rate of relaxation. TENCEL® increases the power of performance during the day and thus makes a contribution towards overall well-being.



The result of the tests show that the people sleeping in a TENCEL® bed have a higher recovery rate. TENCEL®'s sleeping quality index is higher than polyester's according to 61 % of the test persons.

AWARD FOR SLEEP COMFORT



- Lenzing quality seal
- Certificate for sleep quality
- Brand registered around the world

SLEEPFACTO® - ISSUES AWARDS

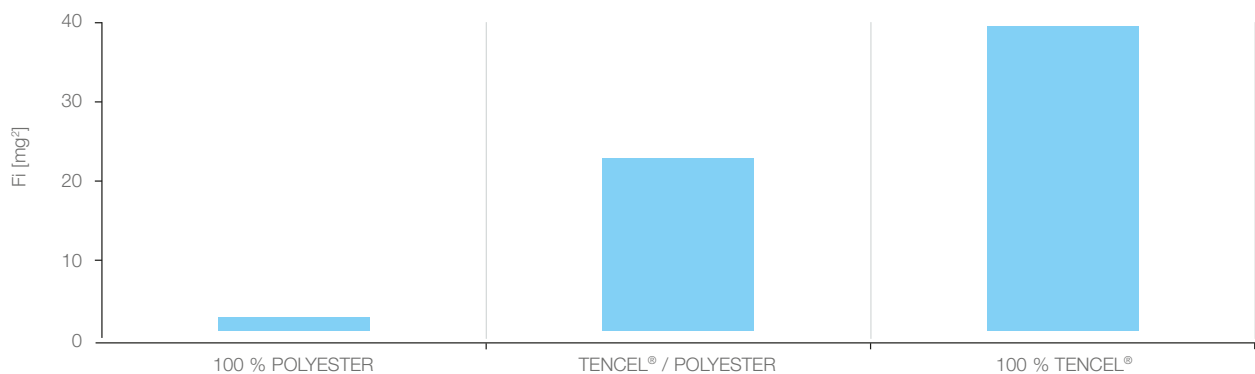
Studies have shown that the fibers used in bed linen and their blending ratios are particularly important for a relaxing sleep. The higher the moisture absorption, the drier the sleeping environment and this helps to guarantee a healthy sleep. The new certification process, SleepFacto® for Lenzing fibers, awards products that insure excellent moisture management by design, and therefore promote a healthy sleep.

MEASUREMENT OF SLEEP QUALITY

The basic principle is the measurement of moisture storage of a comforter as insert. A special device is used for the test which measures the increase in weight in the filling and cover fabric under defined climatic conditions and determines the capacity of moisture storage. The higher the capacity, the better the quality of sleep.

MOISTURE BUFFERING CAPACITY

Short time moisture absorption (Fi)



The graph shows the higher the amount of TENCEL® in a product, the better the moisture buffer and as a result the sleep comfort

TENCEL® - THE GLOBAL BRAND

WORLDWIDE CERTIFICATION

Lenzing has developed its own certification system and branding program to detect brand abuse. The program's purpose is to give fabric manufacturers, brands and the consumer assurance that they have a quality product from Lenzing. Lenzing has developed its own certification system and branding program. The use of the TENCEL® brand without certification can be expensive for those in violation. If a textile, mislabeled with Lenzing fibers, is discovered, certification is immediately withdrawn (if available). Legal steps are taken in the case of brand abuse because the unlawful use of Lenzing brands is not a trivial offense.





cellpur® is a polyurethane based high resilient foam with integrated TENCEL®-powder that offers perfect climate management and optimum moisture transport. Cellpur is produced by Eurofoam, a European company serving its customers in 16 Central European countries.

Literature list:

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Leading Fiber Innovation

