



KARPATHIA®





KARPATHIA®

Clothing for healthcare professionals and textiles treated with a permanent antibacterial additive made of Prolen® Siltex yarn.





KARPATHIA®

The goal of changing the use of textiles in health service:

- ✓ Ensure the safety of the patients and doctors during the stay in medical facilities and surgical procedures.
- ✓ Reduce the risk of contamination and avoid postoperative complications.
- ✓ Save costs related to washing, ironing and frequent bed clothes replacement.





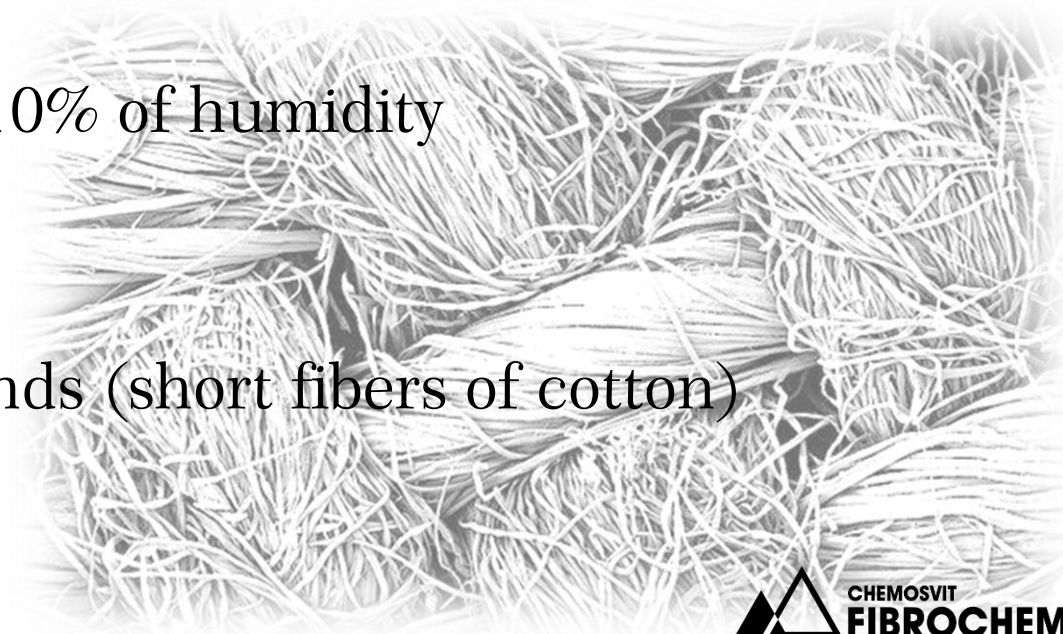
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What's the current situation?

Today, cotton, PES and mixtures thereof are used in bedding, medical and surgical textiles

Properties:

- × They are not resistant to microbes, even create nutrient medium for microorganisms
- × Insufficient thermal insulation
- × Weak moisture management, cotton absorbs 8-10% of humidity
- × Excessive pilling
- × Short life cycle
- × Possibility of contamination of the patient's wounds (short fibers of cotton)
- × Low comfort for medical staff and patients





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Test type	Cotton	Cotton/PES mixture	PES
Dry microbial resistance	X	X	OK
Microbial purity	X	X	OK
Purity of individual particles	X	X	OK
Pilling	X	X	OK
Dry tear resistance	OK	OK	OK
Dry elasticity	OK	OK	OK
Breathability	OK	OK/X	X
Skin comfort	OK	OK/X	X
Maintaining of natural body temperature	OK	OK/X	X



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SOLUTION?

PROLEN® **YARN**

Clothing for healthcare professionals and textiles **Karpattia®** made of 100% polypropylene certified yarn **Prolen® Siltex**, treated with a permanent antibacterial (biocide) additive on the basis of silver ions.

Prolen® Siltex yarn inhibits the growth of bacteria, reduce unpleasant smells and set hygienic freshness.

Antibacterial additive permanently remains in yarn even after multiple washing.





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Test type	Bavlna	Zmes polyester/bavlna	Polyester	Prolen® Siltex
Dry microbial resistance	X	X	OK	OK
Microbial purity	X	X	OK	OK
Purity of individual particles	X	X	OK	OK
Pilling	X	X	OK	OK
Dry tear resistance	OK	OK	OK	OK
Dry elasticity	OK	OK	OK	OK
Breathability	OK	OK/X	X	OK
Skin comfort	OK	OK/X	X	OK
Maintaining of natural body temperature	OK	OK/X	X	OK
Antibacterial additive	X	X	X	OK

Polypropylene textile mass-dyed multifilament yarn Prolen® Siltex is modified by antibacterial additive on the basis of silver ions, which are encased on transparent glass ceramic carrier. This hydgroscopic material releases silver ions when in contact with humid environment/water. Silver ions thus inactive microbes. The amount of silver is sufficient to withstand moisture over a long period of time and life cycle of the product.

CONFIRMED ANTIBACTERIAL PROPERTIES:

AATCC Test Method 100-2012, bacterial reduction

E. Coli: 99.02%

Staphylococcus aureus: 99.62%

Kliebsiella: 99.34%

Testing goin on for virucidal properties according to standards ISO18184:2019 against feline coronavirus





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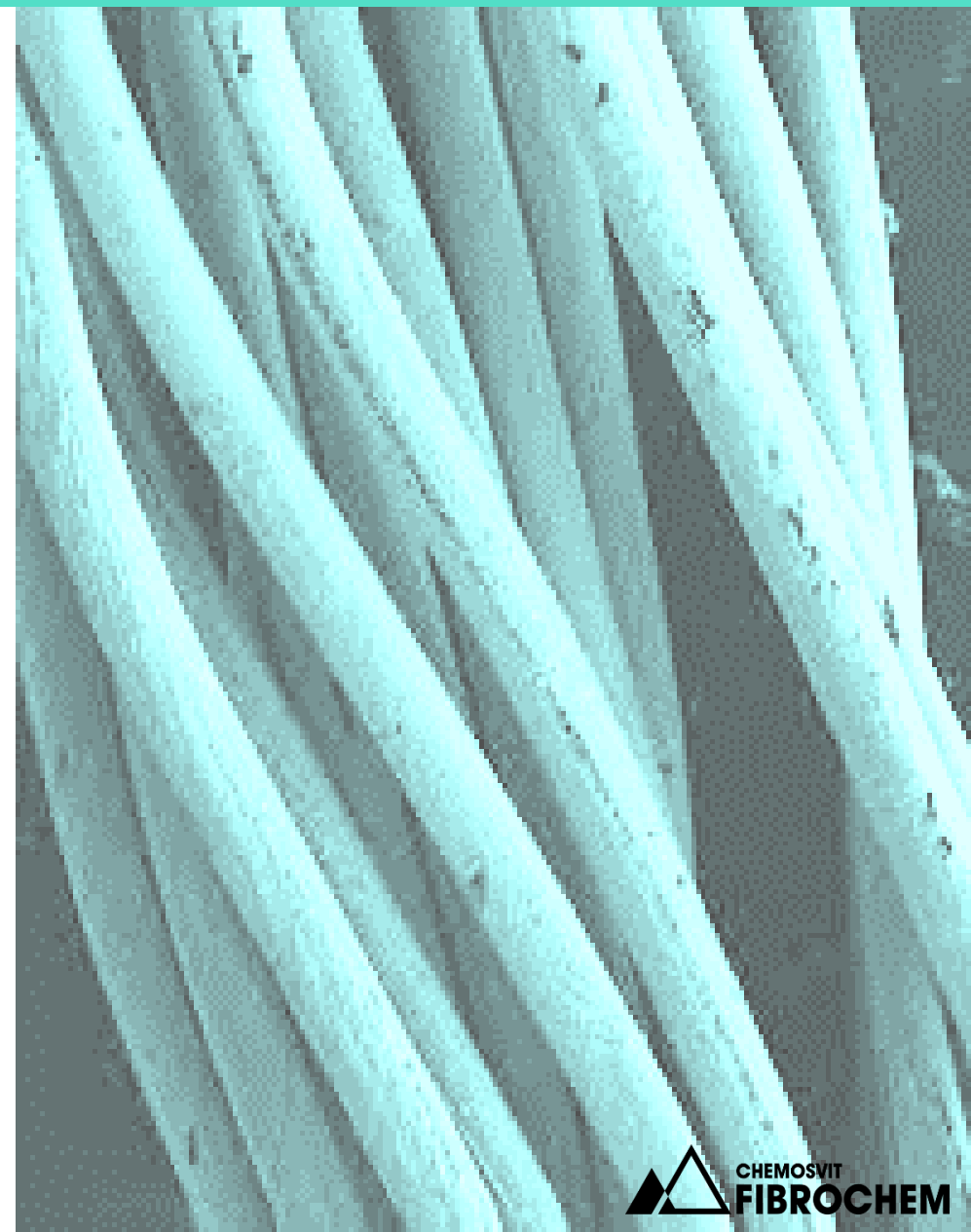
Additional Prolen Siltex ® certifications:

- ✓ Health certificate according to **STN 80 055:2004** „Textiles. Textile and clothing products. Technical requirements and test methods,” and according to the Regulation (EC) No. 1907/2006 of the EP and of the Council from 18th December, 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) as amended by later regulations and demonstration of antibacterial efficiency according to the standard AATCC Test Method 100.
- ✓ **Standard 100 by Oekotex**, Appendix 6, product class I, for products in contact with children's skin
- ✓ **bluesign** approved
- ✓ EN ISO 9001:2015
- ✓ EN ISO 14001:2015



Prolen® Siltex properties:

- Lightness
- Thermal insulation
- Zero absorbency
- Moisture management
- Optimal microclimate between skin and clothing
- Abrasion and tear resistance
- Bacteria resistance
- Reduce unpleasant smells
- Multifilament yarn
- Colors fastness even after multiple washing
- Colors don't migrate into the skin
- Perfect for the people with allergies
- Does not react to chemical agents produced by perspiration
- Slightly negative charge, beneficial to the body
- Stains and dirt do not stay inside the yarn
- Clothing do not need ironing and can be washed at lower temperatures
- 100% recyclability





KARPATHIA®

KARPATHIA® TEXTILES MADE FROM
PROLEN® SILTEX YARN





SAFENESS

- ✓ Approved by standards and scientific institutions
- ✓ Sterilizing fabrics designed for the reduction of pathogens (special fabrics for healthcare purposes)
- ✓ Health safety
- ✓ Oekotex 100, products class 1 – for babyskin

EFFICIENCY

- ✓ Maximum durability and resistance: estimated lifecycle 300 - 400 washes
- ✓ Up to 40% energy savings during maintenance: textiles are made of lightweight fabric and can be washed and dried at low temperatures.

ENVIROMENT

- ✓ Reusable: waste reduction compared to disposable personal products
- ✓ 100% Recyclability
- ✓ The maintenance process helps to reduce CO2 emissions up to 50% in comparison with traditional fibres.

COMFORT

- ✓ Excellent breathability
Keeps skin dry (quickly transfers moisture to the other side of the fabric using capillars), thereby helping to prevent the formation of bedsores.
- ✓ Thermal properties: Maintains the natural body temperature.
- ✓ Lightness : 30% less clothing weight, higher comfort



KARPATHIA®

TECHNICAL CHARACTERISTICS OF KARPATHIA® TEXTILES



SAFENESS



EFFICIENCY



ENVIRONMENT



COMFORT

- ✓ **Longer durability** compared to cotton: between 2,5 a 4 g /dtex, no matter wet or dry.
- ✓ **Excellent chemical resistance:** the yarn is not degraded by contact with chemicals such as bleach, mold, insects, sweat or rot.
- ✓ **They are not prone to pilling:** whether the fabric is dry or wet.
- ✓ **Stain resistance:** do not absorb stains or attract dust.
- ✓ **Lightness:** reduced washing costs as a result.
- ✓ **No discoloration after washing:** yellow= 5-7, other colours= 6-8 (max. is 8).

- ✓ **Saves energy** when washing.
- ✓ Easy washing and quick drying.
- ✓ Reduced the spread of bacteria.
- ✓ **Breathability provides comfort:** quickly transfers moisture to the other side of the fabric using capilars which always keeps the skin dry.





KARPATHIA®

MAINTENANCE OF KARPATHIA® TEXTILES

- ✓ Washing: between 40°C and 90°C, recommended temperature 60°C
- ✓ Cleaning detergents: any type, disinfectants including chlorine are permitted.
- ✓ Drying: fast drying, zero water absorption, savings at custom weight washing.
 - Dryer: recommended temperature 40°C / max. 75°C
Duration: max. 5-10 min (depending on the load)
 - Drying tunnel: recommendation 90°C and 130°C max, 3-5 min.
- ✓ Ironing: Do not require ironing, savings in one of the most expensive parts of laundry maintenance.



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EFFICIENCY







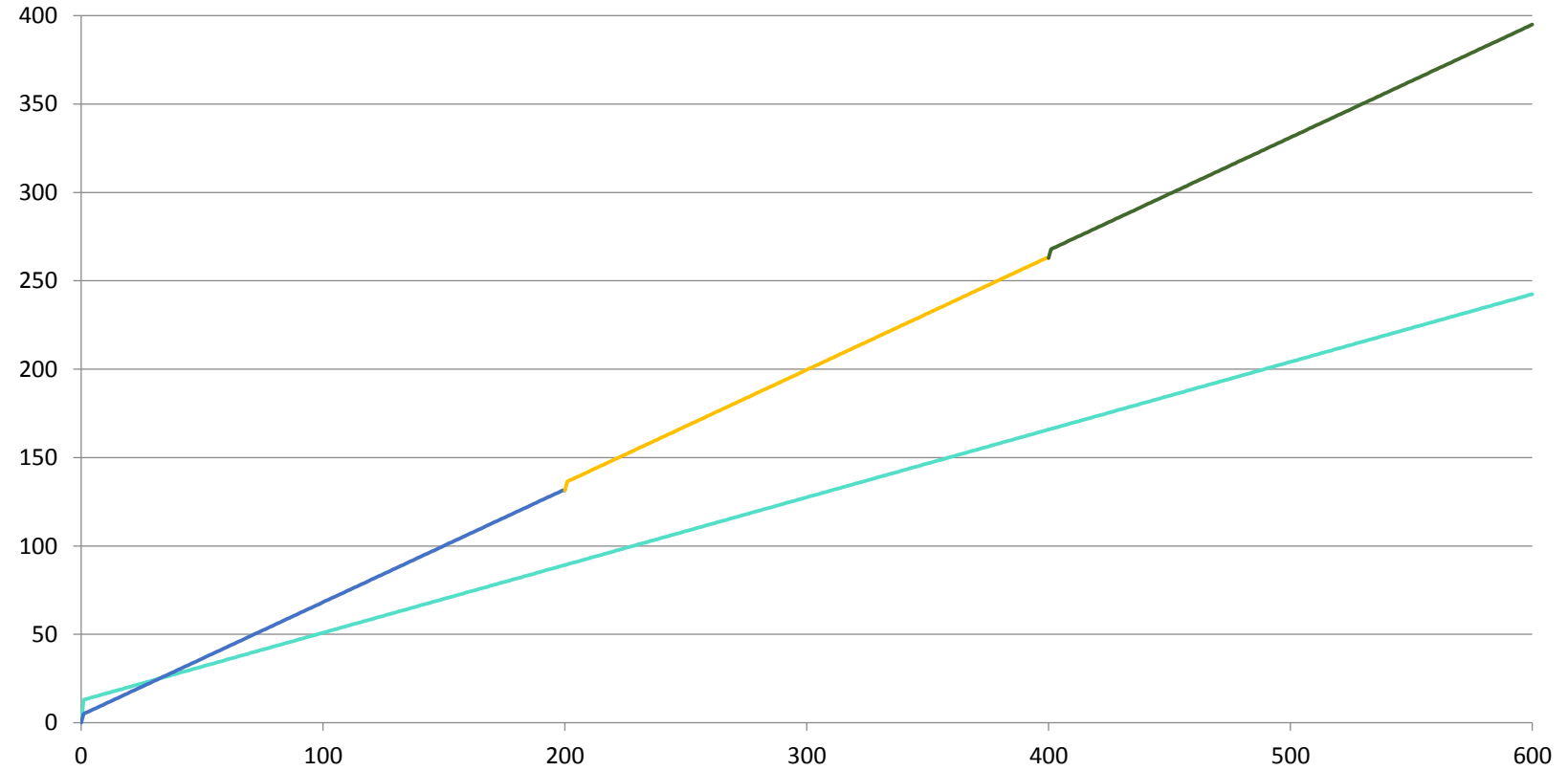
ENVIRONMENT



COMFORT

KARPATHIA® VS OTHERS – COSTS COMPARISON

-  The cost of bed linen KARPATHIA®
-  The cost of cotton bed linen 1.
-  The cost of cotton bed linen 2.
-  The cost of cotton bed linen 3.





KARPATTHIA®

KARPATTHIA® VS COTTON – COSTS COMPARISON



SAFENESS



EFFICIENCY



ENVIRONMENT



COMFORT

40%
weight
difference

400
washings
difference

Všeobecné údaje	
KARPATTHIA® durability	600 washes
Cotton durability	200 washes
Washing	€0.95/kg
Bed sheet dimension	1.6m 2.8 m
KARPATTHIA® weight / m ²	95g/m ²
KARPATTHIA® weight of bed sheet	0.4032kg / ks
Cotton weight m ²	150 g/m ²
Cotton weight of bed sheet	0.672 kg/ ks
Costs difference	€0.07845/kg
Weight difference	40%



KARPATHIA®

RANGE OF KARPATHIA® TEXTILES
FROM PROLEN® SILTEX





KARPATHIA®

BED CLOTHES KARPATHIA®

- ✓ Estimated service life: 400 – 500 washes
- ✓ Antibacterial properties, help prevent infections
- ✓ Self-cleaning effect
- ✓ No moisture build-up
- ✓ Minimizing the formation of bedsores
- ✓ Softness and comfort
- ✓ Cooling effect
- ✓ Comfortable sleep
- ✓ No ironing
- ✓ No stains



SAFENESS



EFFICIENCY



ENVIRONMENT



COMFORT



KARPATHIA®

KARPATHIA® - CLOTHES FOR HEALTHCARE PROFESSIONALS



SAFENESS



EFFICIENCY



ENVIRONMENT



COMFORT



- ✓ Estimated service life : 400 – 500 washes
- ✓ Antibacterial properties, help prevent infections
- ✓ Self-cleaning effect
- ✓ No moisture build-up
- ✓ No particles release: short fibers with possible wound contamination
- ✓ Softness and comfort
- ✓ Excellent breathability
- ✓ No discoloration after washing
- ✓ No ironing
- ✓ Does not absorb stains or attract dust



KARPATHIA®

KARPATHIA® - CLOTHES FOR HEALTHCARE PROFESSIONALS





KARPATHIA®

SOCKS AND GLOVES FOR MEDICAL AND NON-MEDICAL STAFF KARPATHIA®

- ✓ Antibacterial properties, helps prevent infection
- ✓ Self-cleaning effect
- ✓ Moisture management, foots and hands stay dry
- ✓ Softness and comfort
- ✓ Cooling effect
- ✓ Color fastness



SAFENESS



EFFICIENCY



ENVIRONMENT



COMFORT



KARPATHIA®

REUSABLE FACEMASKS KARPATHIA® FOR MEDICAL AND NON-MEDICAL STAFF



SAFENESS



EFFICIENCY



ENVIRONMENT



COMFORT

- ✓ Antibacterial properties, help prevent infections
- ✓ Mechanical barrier for particle penetration
- ✓ Self-cleaning effect
- ✓ Moisture management, absorbability
- ✓ Softness and comfort
- ✓ Cooling effect
- ✓ Colors fastness
- ✓ Possible washing at high temperatures and disinfection with disinfectants including chlorine
- ✓ Breathability





KARPATHIA®

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EFFICIENCY



ENVIRONMENT



COMFORT

