



# hygienic



## Functionality / Features



In many processes of every day life the human body resorts to existing copper depots in the organism. Copper is daily absorbed by aliment. The element is a necessary requirement for the production of the red blood pigment haemoglobin, which transports oxygen throughout the body. But copper is also jointly responsible for wound healing, cell growth, strengthening of the autoimmune system as well as for the constitution of the defensive forces and the bone structure.

The smartfiber AG had utilised the fungicide and antibacterial effect of copper to manufacture the smartcel™ hygienic fiber. The Lyocell fiber is charged with a copper salt solution. The active ingredient depots which are incorporated into the fiber section release a selected level of the active agent in the form of copper ions under the influence of humidity. Thus a low incorporation of smartcel™ hygienic already enable a permanent stop of the microbial contamination of filters, air-conditioning systems and functional non-wovens, so that fungi, bacteria and viruses can not accrete.



## Certificates

smartcel™ hygienic has a proven fungicide, bactericide and antiviral effect. Thus the university hospital Jena attests the smartcel™ hygienic non-woven a powerful antibacterial effect inter alia to the test strain Staphylococcus aureus ATCC 6538 and to Klebsiella pneumoniae ATCC 4352 (test report no. 25/2009).

## Fields of application

smartcel™ hygienic can be used wherever an enduring advancement of the hygienic conditions of equipment and immediate environment is necessary.

- air-conditioning systems
- filters
- special non-wovens



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# Technical Data

# hygienic



smartcel™ hygienic fiber



smartcel™ hygienic non-woven



## Fiber composition (mass percentage) in air-conditioned state



Material	Quantity
Cellulose:	> 77 %
Copper overlay ionically bonded:	1,4 - 1,6 %
Super absorbent polyacrylate:	7 - 9 %
Textile finisher:	< 0,5 %
Humidity:	< 12 %

## Textile-physical fiber characteristics

Characteristics	Measuring unit	Date
Yarn count	dtex	6,7 ± 10%
Yarn count tenacity conditioned	cN/tex	> 18
Yarn count tenacity wet	cN/tex	> 14
Elongation conditioned	%	8 - 11
Elongation wet	%	14 - 17
Yarn count nooses tenacity	cN/tex	> 5
Wet module	cN/tex	> 70
Wet abrasion resistance		> 150
Fiber length	mm	38 ± 10%

