

# SILVIO ANTIBACTERIAL

**Existing Ag nano(Ink) vs. SILVIO (InkTec silver antimicrobial solution of high density)**

When the existing Ag nano ink is treated to the cloth, Ag-nano particle is physically fixed onto the surface of fibers but for the Ag Ink of InkTec is a Transparent Silver Ink has no concept of particle it completely printed within the fibers by plasticity. Since the silver nano particles are formed within the fibers it maintains the powerful antimicrobial capacity for a long time even though the several laundrying.

Properties	SILVIO
Appearance	Transparent
Solvent	Water, Ethanol
Silver contents (ppm)	10~200,000
pH	9~12

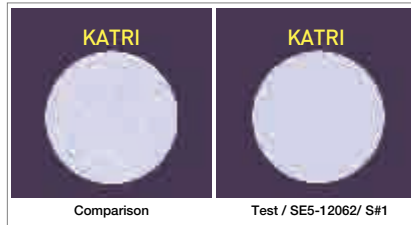
**Antimicrobial feature test for SILVIO treating fabrics**

Test Conditions by Korea Apparel Testing & Research Institute] (KATRI)

Sample	Cloth/ InkTec Transparent Silver Ink
Antimicrobial level	KS K 0693 : 2001
Test bacteria	Staphylococcus aureus ATCC 6538 Klebsiella pneumoniae ATCC 4352
Non-ionic surface active agent	Tween80, Adding 0.05% on to the bacterial solution

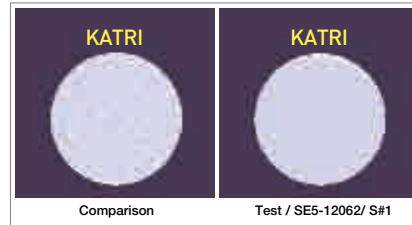
Test bacteria	Staphylococcus aureus	Klebsiella pneumoniae
Reduction Rate in Microbe(%)	99.9%	99.9%

Test bacteria 1 : Staphylococcus aureus ATCC 6538



Staphylococcus aureus

Test bacteria 1 : Klebsiella pneumoniae ATCC 4352

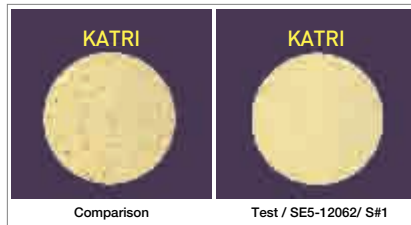


Klebsiella pneumoniae

**Antimicrobial feature test for SILVIO treating fabrics after 15 times laundry**

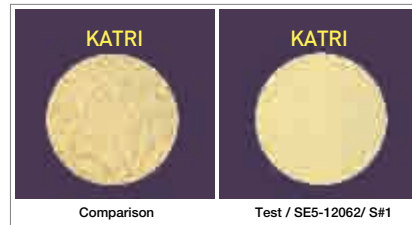
Test bacteria	Staphylococcus aureus	Klebsiella pneumoniae
Reduction Rate in Microbe(%)	99.9%	99.9%

Test bacteria 1 : Staphylococcus aureus ATCC 6538



Staphylococcus aureus

Test bacteria 1 : Klebsiella pneumoniae ATCC 4352



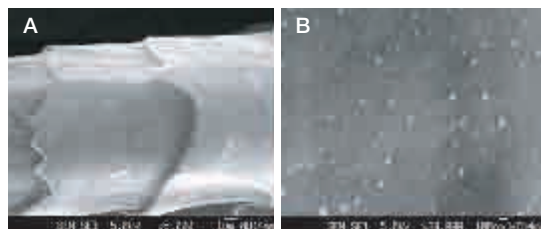
Klebsiella pneumoniae

## Comparison for the Ag-ink Deposition

### Existing Ag-nano Ink \_Surface Analysis

Surface of wool by processing after Ag-nano treatment

- A) Whole image of the wool surface
- B) Magnified image of the marked area on figure (A)  
Cross sectional image of deposited fiber



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### InkTec Ag-nano Ink \_Surface Analysis



### Sectional Picture of SILVIO Treating Fabrics \_ TEM Image

