

Industrial Antimicrobial Textile Finishing Solutions Based on Copper-based Technology

A scalable, sustainable antimicrobial
textile finish delivering durable
protection without compromising
fabric performance



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Challenge Addressed

Textile manufacturers face increasing pressure to deliver antimicrobial performance that is durable, safe and compliant with tightening EU regulations. Many existing finishes rely on silver-based or synthetic biocides that raise cost, sustainability and regulatory challenges, while often losing effectiveness after repeated washing or intensive use.

The Solution

Copper-based technology translated into industrially applicable textile finishing solutions. The antimicrobial package is integrated into textile finishing processes such as padding and digital printing, ensuring uniform application and compatibility with existing production lines. Designed to preserve textile comfort, breathability and appearance while delivering long-lasting antimicrobial protection.

Key Benefits

Durable antimicrobial performance that withstands repeated industrial washing cycles and professional use.

Compatible with digital printing, allowing for localized application, **reducing material use and waste**.

Replaces conventional silver-based additives with a safer, more sustainable alternative, while remaining **cost-effective** and **flexible** across different fabric types and finishing techniques

Application Areas

This result bridges laboratory innovation and real-world textile manufacturing by validating performance directly on functional, medical and workwear fabrics under industrial conditions.

- Workwear and protective clothing in medical and healthcare industry
- Hospitality and public transport interiors
- Functional consumer textiles where hygiene and durability are essential

Validation - TRL 6

Industrial validation on textile substrates using pilot-scale finishing lines.

Performance testing for antimicrobial efficacy, wash resistance and durability, supported by accredited testing laboratories and industrial partners.

Sustainability & Safety

Developed in line with Safe-by-Design principles, the textile finish uses **low concentrations of active materials and avoids hazardous substances**. It supports circular and sustainable textile production by reducing reliance on heavy metals and improving product lifespan.