

3M™ Wear Protection Coatings

3M™ Wear Protection Coatings for the Open-End and Ring-Spinning Textile Industry.

The textile industry has a long tradition of antiwear coatings and this has become a distinguishing feature. Increasing and standardizing yarn quality are important value levers for the spinning sector. 3M Technical Ceramics mechanical and plant engineers are ongoing partners to the open-end and ring spinning textile industry, offering exclusive solutions tailored to requirements.

Properties

- Homogeneity of inclusions
- Dimensional accuracy of the coating thickness
- The coating maintains the exact profile of the substrate
- Reproducibility of the coating

3M Technical Ceramics does not process chromium-containing systems, which can be hazardous to health. The alternative tried-and-tested binary alloys with incorporated substances can provide tribological properties that are identical, or even superior to such systems.

Competitive Advantages thanks to Exclusive Coatings

3M Technical Ceramics offers complete or partial coating of components or combing wires with electroless nickel dispersions with the controlled incorporation of inorganic hard particles. Selection of the incorporated substances for particular applications is one of 3M Technical Ceramics core competences as a result of its extensive experience in grain manufacturing, fractionating and classification. The specified properties are continuously monitored and the processes certified.

Innovative Tribological Systems for Processing Abrasive Yarns

The growth in the processing of abrasive yarns creates new demands on existing tribological systems. 3M Technical Ceramics supports customers for the applicationsspecific improvement of its tribological systems. In this, we take advantage of our own 3M Technical Ceramics development department, the many years of experience of our partners and our comprehensively equipped central lab.

Coated products „Open-End-Spinning”

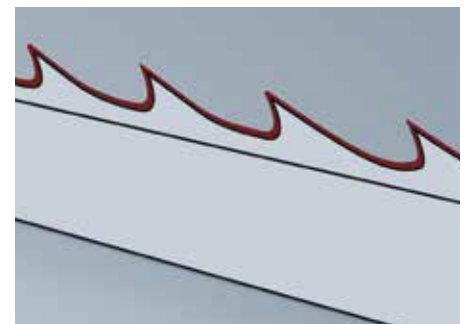
Combing wire, opening rollers, rotor cups, rotor shafts



Rotor shaft with rotor cup (left) and opening roller (right)



Cross section of the wire tooth with 3M™ Wear Protection Coating



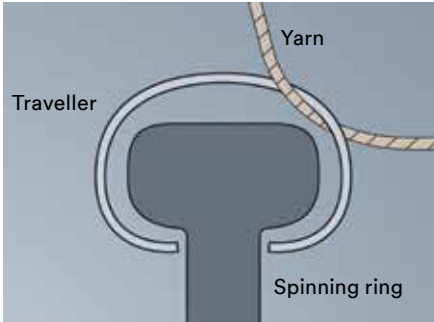
Scheme of coated combing wire with 3M™ Wear Protection Coating (red marked) - micrometer scale

Coating „Ring-Spinning“

Spinning rings

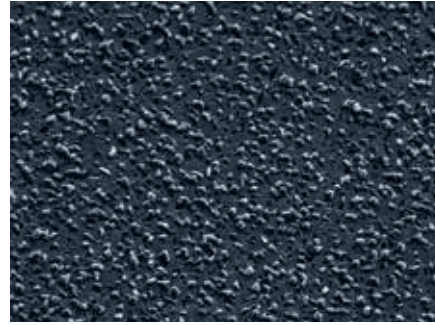


Spinning ring plus traveller

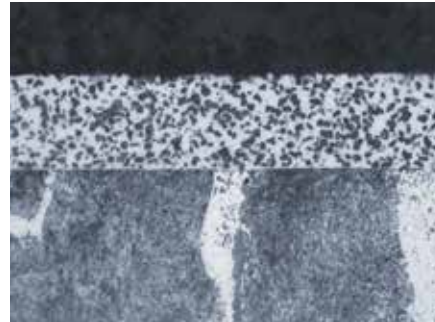


Principle of ring spinning with spinning ring, traveller and yarn

Layer of 3M™ Electroless Nickel Dispersion



SEM image of 3M™ Wear Protection Coating - electroless nickel diamond dispersion (2 µm)



Cross section of 3M™ Wear Protection Coating - electroless nickel diamond dispersion (2 µm)

Product is manufactured and sold by 3M Technical Ceramics, Zweigniederlassung der 3M Deutschland GmbH.

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