

New approach in doctor blade technology

# The perfect harmonization of doctor blade and roll cover

**Roll, cover and doctor blade must become an unbeatable trio. To achieve this, modern doctoring analysis methods, a unique doctor service and constant innovations in doctor blade technology are all necessary. Efficiency and runnability of a paper machine can only be increased considering these factors.**

Thorough analyses of the doctoring are necessary to identify existing weak points. In a complex doctor audit, each machine section is investigated and analyzed.

A doctor audit contains:

- Optical check and evaluation of function of cover and blade
- Check of lubrication in operation
- Measurements of blade angles on worn and new doctor blades
- Check of doctor efficiency and doctoring system
  - load
  - oscillation
  - check of drive and bearing
- Investigations and evaluations of doctor profile in the lab
- Measurements of run-in doctor angles with micro-section and microscope
- Profound report including summary and suggestions

The results gained in an audit are evaluated and analyzed with state-of-the-art methods of modern R&D

*Voith Paper Rolls service expert changing a blade.*



techniques. In addition to the investigation results, on-site inspection of the doctor blades are subject to profound analysis in the Voith Paper labs. Technical and application know-how is incorporated into the constant monitoring of the doctor situation, which is important for the successful performance of roll covers. Both components have to be synchronized to achieve maximum efficiency. Detailed knowledge about covers and doctor blades are of utmost importance and both are combined within Voith Paper. The harmonization has proven to be very successful. Permanent cooperation between production, application service and R&D are the motor for innovations, developments and effective applications of SkyLine doctor blades.

*SkyLine team in expert talk (from left to right) Christoph Scherz (Production), Rene Zottler (Application service), Alexander Etschmaier (R&D).*



**Success Stories**

**LWC machine in Austria:**

The doctoring situation was investigated and analyzed as described above. The operation conditions were optimized by the specialists from Voith Paper Rolls. With the perfect doctor blade quality, the cleaning and conditioning of the cover surface was significantly improved. The lifetime of the blades could be increased; deposits between take-off and cleaning position were reduced.

**Kraft paper machine in Bulgaria:**

Based on the results of a detailed analysis of the press section, the doctoring situation on the TopRock

cover was optimized. The fiber-composite blades (SkyComp 60) reached a lifetime of 45 days; former blades reached only 15 days.

These results can only be achieved when roll covers and doctor blades are constantly working together.

**Joint development of roll covers and doctor blades**

The latest innovation in thermal coatings, TerraSpeed, was the basis for the development of thermal coated doctor blades, which can be applied in both cleaning and take-off position. State-of-the-art manufacturing technologies were implemented for the production of thermal coated steel doctors and coater blades. Besides the high quality coating, the grinding procedure for coater blades is of high importance for the product. Very narrow tolerances must be observed. Tailored bevel geometries can be applied to the coater blades (SkyCoat), on special machines in only one production step.

First successes were achieved on a board machine. The intense cleaning of the TerraSpeed coating and the never achieved lifetime of the SkyTerra doctor blade proved the approach of harmonizing roll cover and doctor blade to be right.

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