

Coating quality at the highest level

SkyCoat HM: a good choice

The uniformity of the color application determines the quality of coated paper. Accordingly, the requirements for a coating blade are high. The new SkyCoat HM coating blade achieves uniform coating quality and saves costs by reducing production downtime.

During the last two years, Voith Paper has worked intensively on the development of the hard metal-coated SkyCoat HM coating blade. The test phase in the market is now over and it is being successfully used in paper mills. Customer experiences so far show that SkyCoat HM can keep up with the leaders regarding coating quality and even outperforms them in running time.

Coated or uncoated?

Hard metal-coated coating blades such as SkyCoat HM offer tremendous

advantages compared to traditional uncoated steel blades. The wear-resistant hard metal coating can achieve a running time that is up to 10 times as long (Fig. 1). Because of this low wear rate, the coating quality remains constant over the entire life of the blade. This means fewer corrective measures are necessary (e.g., angle, coating profile and pressure adjustments). With the aid of the coating's finer microstructure in comparison with steel, a smoother surface on the bevel and better

paper quality can be achieved with regard to gloss, smoothness and CD profile. Customer experience shows that raw material costs can be saved by using SkyCoat HM since, for example, a wider particle size distribution of calcium carbonate becomes possible.

Fewer production shortfalls

Voith Paper's many years of experience in the coating of rolls was the key to modifying the material systems in use for application in



Doc Blades:
"SkyCoat HM provides best coating quality and a long life time.
Discover the Difference!"

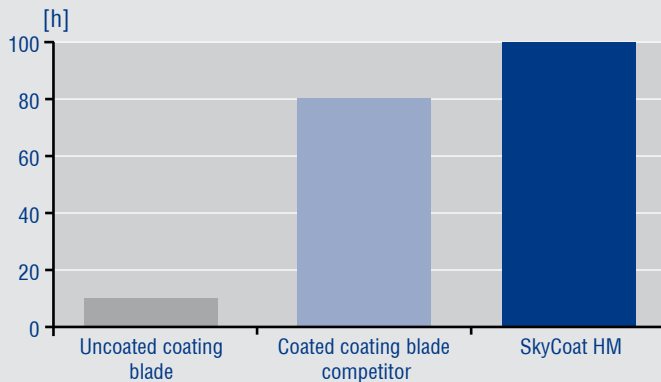


Fig. 1: Running time comparison of uncoated coating blade, coated competitor's blade and SkyCoat HM.

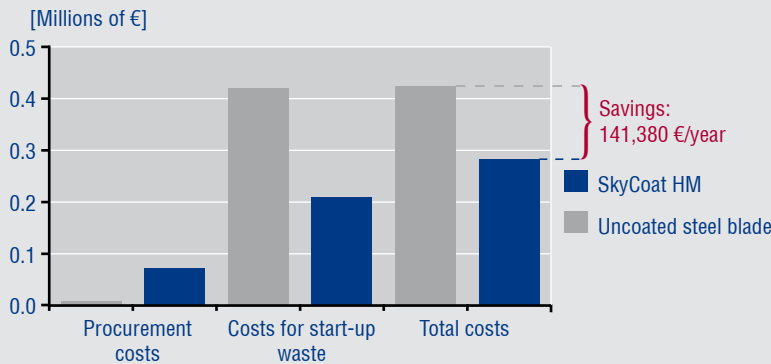


Fig. 2: Total cost of ownership using SkyCoat HM as compared to uncoated coating blades.

coating blades. The coating consists of a hard material such as tungsten carbide (WC) and a ductile metallic such as cobalt (Co). The particle size distribution and also the proportion of binder (Co) to hard material (WC) of SkyCoat HM were adjusted to maximize wear resistance. The blade therefore has to be replaced less often, which reduces production

downtime and saves considerable costs. (see Fig. 2)

Less tension – shorter start-up phase

With the aid of a new manufacturing process for coating blades, internal stresses on the blade during production and coating could be

>>> Info: Micro-Lining

Micro-lining means the reproduction of cracks in the blade coating onto the paper web. When the blade is applied, it heats up and is cooled off very quickly with the feeding of the coating color. Thus cracks appear in the ceramic coating that are transferred to the paper and impair the paper quality.

On Focus: SkyCoat HM coating blade

SkyCoat HM is a coating blade made of hard metal-coated carbon steel DIN-C100S (strength 1620-2180 MPa), which is manufactured for use in the coating machine with very close tolerances. The hard metal coating consists of a cobalt matrix, a tungsten carbide hard material and special alloy additions for increasing wear resistance. With the coating system that has been developed, rapid attainment of the desired profile, a wear rate that is constant over the whole blade width and a long life are ensured.

- ProRunnability ++++
- ProQuality ++++
- ProSpeed +++

Section: coating
Width: all
Paper grade: coated paper

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minimized. Form deviations during application are thus kept to a minimum. Precise coordination of the bevel geometry and a close angular tolerance ensure rapid attainment of the operating angle and the required paper quality.

Due to the higher thermal shock resistance of the coating in comparison to oxide ceramic materials, >>> micro-lining is reduced to a minimum.