# Optimized dewatering and wear protection for the paper industry: Advantages of high-performance materials from Wefapress

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## INTRODUCTION:

Reliable, efficient, and sustainable: Wefapress was founded in 1895 and supports the paper industry since decades with expert knowledge and high-performance plastics like CeramX, FlexGuard and Nylatec360 – engineered in Germany.

In an era of disrupted supply chains—whether due to canal blockages, extreme weather events, port congestion, epidemics, trade disputes, or armed conflicts—reliability in sourcing and manufacturing has become a strategic advantage for the paper industry. Wefapress meets this challenge head-on by maintaining centralized production in Central Europe and operating with exceptionally high vertical integration.

All core processes are handled in-house by experienced specialists, supported by highly automated systems and state-of-the-art production technology. In 2024, Wefapress completed a new production hall with an additional 9,000 square meters of floor space, significantly expanding both capacity and flexibility. With these investments, the company sets new standards in quality and efficiency. Furthermore, its commitment to sustainability is reflected in the use of regenerative energy from photovoltaic systems, enabling an environmentally friendly manufacturing process with an extremely low carbon footprint. After 130 years of company history this is the foundation for a successful future.

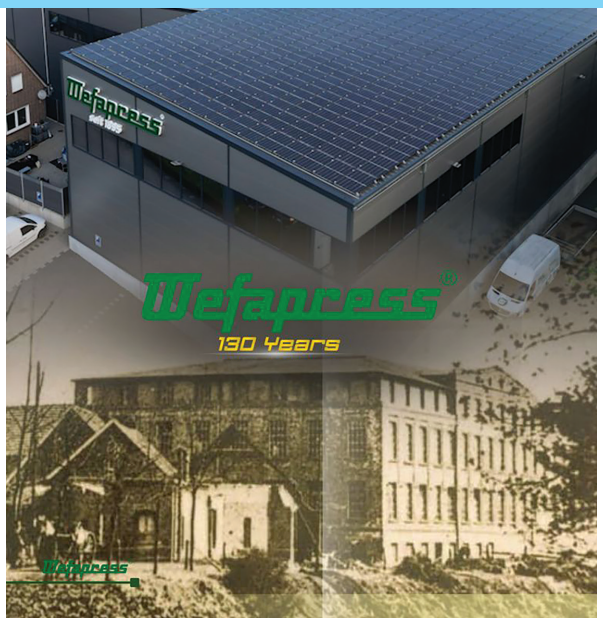



***Figure 1: (Above) 130 years Wefapress.***
***Figure 2: (Left) CeramX Belag3.***

Wefapress is a trusted partner to the paper industry when it comes to high-precision components made from advanced engineering plastics. All Wefapress products reflect the company's commitment to "Quality Made in Germany", offering customers not only durable, high-performance solutions but also excellent technical support and short delivery times.

One of the company's core strengths lies in the development and production of dewatering elements made from CeramX, a specially engineered material designed to meet the high demands of paper production environments. CeramX combines extreme wear resistance with excellent sliding properties and low friction coefficients. This results in longer service life, improved energy efficiency, and also better paper sheet quality – key performance criteria in modern paper machines. The reduced abrasion also protects forming fabrics and lowers maintenance needs, helping mills to reduce downtime and operational costs. The flexibility of the material makes the handling very easy and there is no risk for thermal shock or material cracks like at full ceramic drainage elements. This combination of important advantages makes the material so popular.

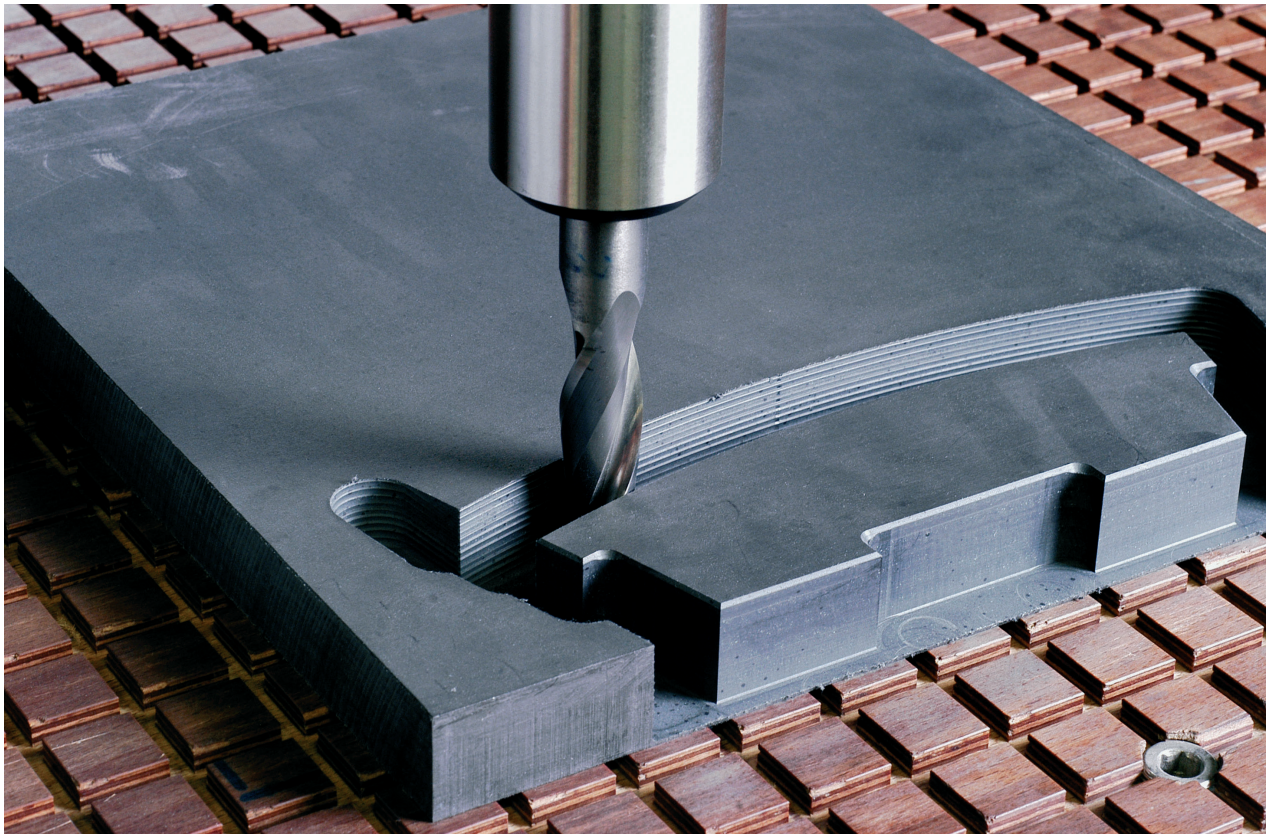
**"Since switching to drilled uhle box covers made from CeramX, we've unexpected long runtimes and profit also from increased working safety as we can use now seamed felts. It's a long-term solution that adds measurable value."**

**Chris Faltin, Technical Director at Hakle GmbH**

FlexGuard is another high-performance material developed by Wefapress, especially suited for use as a suction roll sealing strip. In this demanding application, FlexGuard offers a compelling set of customer benefits:

- Its optimized elasticity ensures a perfect fit and sealing effect, which allows reduced load pressure and results in less drive power consumption. It also enables the sealing strips to be coiled up for simple transport and storage.
- The material's self-lubrication and abrasion resistance results in significantly longer operating cycles compared to conventional materials, reducing maintenance interventions.
- Its shock-absorbing properties help protect the roll shell and reduce mechanical stress, extending the lifetime of the entire suction roll assembly.

***Figure 3: (Above) Forming and press section with Wefapress dewatering elements.***
***Figure 4: (below) FlexGuard is another high-performance material developed by Wefapress***



Another standout material in the Wefapress portfolio is Nylatec360, a high-performance polyamide developed for mechanically stressed components such as gearwheels for drying cylinder drives. In these high-load, high-temperature environments, Nylatec360 delivers:

- High dimensional stability, ensuring precise power transmission and reduced vibration as well as reduced noise.
- Minimal moisture absorption, making it ideal for the humid zones in the drying section of the paper machine.
- Superior wear and hydrolyze resistance, which reduces tooth wear and eliminates the need for frequent gear replacements.

Thanks to decades of experience and close collaboration with paper manufacturers, Wefapress can provide custom-tailored solutions that meet the exact needs of its clients. With a strong focus on long-term partnerships, the company ensures that customers benefit from expert advice, reliable supply, and components that perform even under the toughest production conditions.

**Wefapress – engineered in Germany, trusted worldwide since 1895.**


**"We've tested different gear materials over the years, and Nylatec360 has proven the most reliable. The improvements we have reached so far are reduced vibration noise and less need for lubrication grease. This results in a smooth machine operation and a clean drive side of the board machine. Nylatec360 is hydrolyze-resistant and withstands both thermal and mechanical loads, while keeping downtime and maintenance effort to a minimum."**

**August Steinkellner, Technical Director at Folding Boxboard Eerbeek BV**

***Figure 5: (top) Nylatec360 gear wheel for drying cylinder drives.***
***Figure 6: (right) Gear wheel mounting service at paper mill.***


***Achim Kneifel is engineer for paper production and leads at Wefapress the paper industry business unit.***