



► The microfilaments of the Sword Brush get into fine surface structures and clean them properly.

Microfilaments clean surfaces of dust and chips

Dust-Free 24/7

Dust and wood shavings can damage surfaces during woodworking and furniture production, as well as lead to poor paint adhesion and high scrap rates. Sword Brushes with microfilaments can prevent this. As a result, surface cleaning during continuous operation is more effective.

Whether drilling, sawing, or milling—in the furniture and panel industry, many processes produce large amounts of chips and dust. These often adhere to the panels and can reduce quality and disrupt subsequent processing steps. In addition, dust in the air can be hazardous to employees' health. Manual cleaning or blowing off with compressed air is still common in many workplaces, but it is not sufficient, as it simply spreads the dust around the work area. Furthermore, compressed air is expensive and unable to remove fine, highly adhesive dust

from surfaces. "The increasing use of recycled materials greatly intensifies these problems," says Toni Ehrhardt, Senior Manager of Technical Sales at Wandres. This is because the various compositions of the dust make cleaning more difficult. "Dust is also particularly difficult to remove from some trendy surfaces due to their fine textures, such as supermatt or anti-fingerprint surfaces."

Fine Cleaning with Microfilaments

For 45 years, Wandres has been developing and manufacturing cleaning machines for industrial production. The company manufactures all of the linear brushes for its wiping cleaning units in the southern Black Forest—with high quality standards and many years of experience. This has also led to the development of a new type of linear brush technology. Microfilaments have a smaller diameter than standard filaments. They get into fine structures more



► At Paul Ott, the furniture panels are cleaned on the edge-processing line using a Wandres Microfilament Sword Brush.



► A Trans-Vac Unit TKL 46 can be installed upstream for pre-cleaning to remove coarse debris before it reaches the brush.

effectively and are therefore suitable for cleaning demanding surfaces. In addition, microfilaments have a large specific contact area—nearly three times larger than that of standard filaments. This creates adhesive forces that ensure particles are retained and removed. The linear brushes are mounted on a pressure buffer, ensuring that the filaments remain upright on the surface, do not bend excessively, and apply consistent pressure. This maintains a consistently high wiping force and cleaning performance across the entire contact area—even on uneven surfaces.

Sustainable and reliable cleaning

Sword Brushes with this technology clean reliably even without additional cleaning and antistatic agents. Because operators no longer need to use supply systems with pumps, filters, and dosing devices, costs are low. In many applications, cleaning with microfilaments is therefore a sustainable and cost-effective method.

In some specific applications, such as before applying the topcoat, it may be useful to lightly cover the top of the filaments with a thin layer of a cleaning and antistatic agent: This minimal moistening ensures additional adhesion between dust and the filaments, while the surface remains dry. But whether dry or slightly moistened—in the self-cleaning unit, particles are mechanically and pneumatically separated from the filaments and extracted. This self-cleaning process ensures consistent results during continuous operation. Through a technical modification, Wandres was also able to halve the compressed air consumption in the self-cleaning unit of the Sword Brush BRX 12.

Where dust is a factor affecting both quality and cost, the low-maintenance Sword Brush is therefore ideal for the thorough cleaning of furniture surfaces in continuous operation.

First Date with Cleaning Machines

At Wandres' fully equipped technical center, customers can conduct practice-oriented tests with various cleaning systems using their own product samples. Together with technical center employees, customers can determine the key parameters that ensure the best possible cleaning results on the particular surfaces.

Dust is extremely difficult to remove from some trend finishes, such as "supermatt" and anti-fingerprint surfaces.

Toni Ehrhardt, Wandres



You can then evaluate the results on-site using various methods. Wandres is also showcasing this cleaning technology at various trade shows: this year at the Homag-Treff in Schopfloch and Holzbronn from September 22 to 26, at the Bürkle Surface Days from September 22 to 25 in Freudenstadt, and at Paul Ott's Innovation Days in Lambach, Austria, from September 30 to October 2. ■

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