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## Efficient extraction of oil vapours in industry

Consumption of less energy when cold rolling aluminium

Before aluminium is transformed into metal sheets and foils, the metal passes through several hot and cold rolling processes. Sprayed roller oil cools and lubricates the work rolls and prevents damage occurring to the thin metal strips during the processing. The BINE-Projektinfo brochure entitled "Extracting fumes in rolling mills" (05/2017) presents a new extraction hood for the vaporised rolling oils. It has been calculated that this system will enable a typical rolling mill to save up to 330,000 kWh of electrical energy per year.

Compared with older systems, the new extraction hood can feed the oil vapour to the recycling plant with a reduced fan capacity. Until now, the contaminated air could only be extracted non-directionally by the exhaust systems during the cold rolling of aluminium. This meant that large air volumes had to be moved with corresponding fan power. The oil vapour can now be directionally removed by the extraction hood thanks to an improved design for injecting and removing the air. This halves the exhaust air volume and the fan output. For cold-rolling mills in the aluminium industry, the extraction systems make up the second-largest energy load after the roll drives with about 20 %. Rolling oils are kerosene-like hydrocarbons which, depending on the desired aluminium product, still contain special additives. The oils are sprayed onto the rolls during cold rolling and partially evaporate.

This oil vapour has to be extracted from the ambient air near the rolling mill in order to ensure the air quality in the factory, prevent a build-up of oil vapour that could exceed the explosion limit and to recycle the expensive material. The project was led by Achenbach Buschhütten GmbH & Co. KG.

The BINE Projektinfo brochure, which can be obtained free of charge from the BINE Information Service at FIZ Karlsruhe, is available online at [www.bine.info](http://www.bine.info) or by calling +49 (0)228 92379-0. The brochure cover and an additional image can also be downloaded from the press section in this web portal.

**Contact**  
**Uwe Milles**  
[presse@bine.info](mailto:presse@bine.info)

BINE information service  
Kaiserstraße 185-197  
53113 Bonn  
[www.bine.info](http://www.bine.info)