

## User report

### Berlin's air stays clean

High-speed doors from EFAFLEX ensure odour emissions are minimised at the Ruhleben waste incineration plant.

**It is the only waste incineration plant in Berlin, and it's very close to the Berlin-Spandau district: clearly, the vapours from 7,000 tonnes of residential waste every week cannot be allowed to pollute the famed Berlin air. For this reason, six industrial high-speed doors from EFAFLEX seal the bunkers which receive the contents of the refuse collection vehicles eight hours a day.**

"These doors have proven themselves under the toughest conditions," explains Michael Opitz. He is a power plant engineer and is responsible for all of the peripherals at the Ruhleben waste incineration plant. "The technicians at EFAFLEX really cared about adapting the doors for our requirements." The enormous refuse bunker holds around 10,000 cubic metres of waste. Obviously, unpleasant odours will be released not only in summer but also in the winter months. The 7.60 metre high doors to the tip boxes therefore need to open and close very quickly. "However, because waste often falls into the door closing level during emptying of the refuse collection trucks, closing of the doors would be prevented," explains Michael Opitz. "The doors are equipped with an infrared door light grid in the closing level, ensuring that the doors stop immediately if there are any people or objects under the closing edge." With the EFA-TLG® infrared door

light grid, EFAFLEX has succeeded in developing a product which is unique in the world, which significantly exceeds the requirements of DIN EN12453. The door light grid demonstrates the latest, trendsetting safety technology, optimised for the level of development. A full optical light curtain is generated precisely in the door closing level.

The door specialists' safety system for their high-speed industrial doors is fully integrated, protecting against mechanical damage, ~~inte~~ discreetly located in the two side frames of the door and is ~~therefore~~ significantly more durable than a safety contact strip on the end blade. Supplying energy to the main closing edge also becomes unnecessary; the door leaf therefore carries no current. The EFA-TLG® door light grid is also TÜV certified. If the beams of the door light grid are interrupted by an obstacle then this information is processed electronically in the blink of an eye; the door immediately stops and reverses at the highest possible speed. In contrast to tactile safety elements, there is no contact at all. The risk of a collision is averted well in advance and before the critical point.

For the Ruhleben waste incineration plant, the door controls needed to be adjusted appropriately so that the door light grids do not cause the doors to operate constantly: "EFAFLEX responded very flexibly to this requirement. After the vehicles are emptied, the door systems close to the cleaning position," says Wolfgang Pillath, Team Leader at the power plant. The drivers are therefore able to sweep the dropped waste into the bunker, before the door then closes fully. Since May 2012, the new waste incineration boiler has been in operation almost continuously. Thus far, we have never had any door malfunctions."

More than 500,000 tonnes of refuse are burned every year in the largest incinerator boiler in Europe. "You could fill the Olympic stadium to the brim twice over with this amount," Michael Opitz tells us. The slag which results from incineration is re-used

as a replacement for natural building materials. In recent years, the separation of metal from the slag has seen further development so that today five high quality grades of scrap are produced, for which there is high demand.

In order to be able to continue disposing of residential waste responsibly and sustainably in the future, the Berliner Stadtreinigungsbetriebe spent 150 million Euros modernising the power plant from 2008 to 2012. Four of the existing eight incineration lines were replaced by a single, new line. It is equipped with a multi-stage exhaust gas purification system which ensures that the emissions will continue to remain significantly below the legal limits in the future. From the incineration of one tonne of waste, the five incineration lines generate more than 2.3 tonnes of high pressure steam. This is supplied to the neighbouring Reuter power plant. There, not only is power generated, but the resulting heat is fed into the district heating system.

