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## OUTPERFORMING ALL TRADITIONAL ALUMINA HANDLING TECHNOLOGY

Few single investments can totally transform a business, let alone a whole industry, but this is exactly what Siwertell technology can do for the bulk alumina industry. Our alumina handling systems have the ability to eliminate waste from spillage and ensure the quality of shipments by minimizing material degradation.

Totally-enclosed Siwertell screw-type unloaders outperform all traditional bulk alumina unloading options, such as grab cranes and pneumatic systems. This is because Siwertell unloaders eliminate cargo losses from spillage and ensure minimal cargo degradation, and therefore the production of fines, through gentle cargo handling, which has a profound impact in downstream bulk alumina processes.

Bruks Siwertell's ship loaders and conveyors are well-established as the preferred alumina handling system across the world.

### BULK ALUMINA: A VALUABLE COMMODITY

Alumina (aluminum oxide) is a valuable, powdery bulk commodity used primarily in the production of aluminum. This lightweight metal has important qualities of strength, conductivity, flexibility and resistance to corrosion, lending it to uses ranging from food packaging to airplane construction. Unlike many metals and other materials, aluminum can be recycled indefinitely without suffering any reduction in quality.

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## **CAREFUL BULK HANDLING AND ZERO SPILLAGE SAVES A LOT OF MONEY**

Aluminum smelting is extremely energy intensive and the process is very sensitive to the amount of powdery fines in bulk alumina. If alumina is not handled carefully, the level of fines in a shipment increase.

Adopting Siwertell unloaders as your alumina handling system can deliver substantial operational savings through the virtual elimination of fines, so smelting costs are controlled.

Our totally enclosed unloading technology also ensures that customers receive all their shipped bulk alumina cargo; nothing is wasted through spillage.

### HOW TO REDUCE COSTS IN ALUMINA HANDLING

## **EXCELLENT CUSTOMER EXPERIENCE**

Bruks Siwertell customer Aluminij Mostar, based in Bosnia and Herzegovina, found that bulk alumina discharged with a pneumatic unloader has a fines content with a particle size of less than 45µm of up to five percent.

The company had ten years' experience of using a 5 000 S, road-mobile Siwertell unloader as an alumina handling system, equipped with a double-loading bellows arrangement and radio remote control, for discharging bulk alumina at the Port of Ploče in Croatia. During that time the alumina had an average fines value of between 0.2 and 0.3 percent. The reduced level of fines had a hugely beneficial impact on the plant's energy consumption.

A major factor in Aluminij Mostar's initial decision to purchase a Siwertell system was its desire for a clean, environment-friendly operation. In addition to the clean operation and the small percentage of fines, the company found that the Siwertell alumina handling system offered efficiency and reliability. Commenting on its unloader in 2001, it said that the machine was operating to its complete satisfaction, handling over 100,000 tonnes of alumina per annum, and exceeding its specified unloading rate by 30 percent. The company described it as: "environmentally superior and very efficient".

Operations at Ploče ceased in 2006. By that time the alumina handling system had logged 10,550 hours, discharging over 1,250,000 tonnes of bulk alumina, at an overall through-ship rate of nearly 120t/ h.

## **ENVIRONMENTALLY UNBEATABLE**

Siwertell unloaders have unbeatable environmental performance with zero spillage and virtually no dust creation. The clean, quiet nature of Siwertell unloaders is vital for bulk alumina handling and other dry bulk material import operations, with many facilities close to centers of population and commerce and needing to meet increasingly stringent environmental regulations.

## UNLOADERS TO SUIT ANY SIZE OF OPERATION

Bruks Siwertell offers unloaders with rated capacities up to 3,000t/h. For smaller-scale operations we have a range of road-mobile and port-mobile unloaders. Both units offer a flexible solution for operators discharging alumina at multiple locations.

## BULK ALUMINA UNLOADERS TO SUIT ANY SIZE OF OPERATION

Bruks Siwertell offers ship unloaders with rated capacities up to 3,000t/h. For smaller-scale operations we have a range of road-mobile and port-mobile ship unloaders. Both offer a flexible solution for operators discharging bulk alumina at multiple locations.

## CLEAN ALUMINA LOADING IN BRAZILIAN PORT

All our ship loaders provide a dust-free alumina handling operation with no spillage. Environmental benefits were key factors in Hydro's decision to award this Brazilian contract to Bruks Siwertell.

The Siwertell HST-1800 aeroslide unit is used to load Kamsarmax vessels of up to 80,000 dwt at a rated capacity of 2,500t/h at the company's Alunorte production plant in northeast Brazil.

[Read full customer case](#)

## CAPACITIES TO SUIT EVERY ALUMINA OPERATION

Bruks Siwertell offers a full range of tailor-made ship unloaders and ship loaders, fixed and traveling, along with conveyors; all combining to offer a highly efficient, reliable alumina handling system. Our road-mobile unloaders and conveying systems are ideal for smaller bulk alumina operations, particularly when an operator uses more than one port.

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[Customer case on alumina handling](#)