WP08 Scaler Case study

Working together for decades: Komatsu helps major German customer K+S make mining safer with the WP08 scaler

Project challenge

The long-standing GHH customer K+S in Germany operates the country's largest underground mining operations. With continuous expansion into new sections and the need to maintain safety in older areas, the mine faces a complex challenge: ensuring the stability of vast first-roof surfaces while keeping operations efficient and safe.

The situation

In 1996, the customer turned to Komatsu (then GHH) to find a solution. Komatsu (then GHH) developed the LF-7.4B, a heavy-duty scaling vehicle based on the concept of **shearing de-roofing process**.

This method uses a toothed scaling tool pressed against the roof or sidewall, continuously peeling away loose material, weak layers, and scaling hazards. The process is repeated systematically across large areas, ensuring uniform scaling and significantly reducing the risk of fall-of-ground incidents.

This machine's principal method is a turning point in underground safety. The shearing tool proved especially effective in softer or layered material, and the vehicle's robust design allowed it to cover large areas in a short time — all while minimizing worker exposure to hazardous conditions.

The solution

Building on this success, Komatsu (then GHH) introduced the **LF-7.6 HB** in 2011 — now known as the **WP08 scaler**. This next-generation model featured a **hydrostatic drivetrain**, offering smooth, stepless speed control and high scaling forces at low speeds. The hydrostatic system also delivered excellent efficiency under variable load conditions, reduced brake wear, and significantly lowered maintenance requirements while increasing the operator comfort.

The WP08 was engineered to perform under extreme and varied conditions. It can operate on longitudinal slopes of up to ±28% and roadway cross slopes of up to ±15%, and it withstands ambient temperatures as high as 52°C. Its **comfortable safety cabin**, designed to resist up to **200 tonnes of roof load**, provides operators with both protection and ergonomic comfort — a critical factor in long shifts and demanding environments.

With **over 100 active units in the field**, the WP08 has proven its reliability and performance in real-world operations. It supports **scaling heights from 2 - 7.8 meters**, making it highly versatile for different mining profiles. Additionally, it is available with **multiple cabin height options** ranging from 1,950 mm - 2,450 mm, allowing for optimal adaptation to varying tunnel dimensions and operator preferences.

The result

The WP08 quickly became a cornerstone of the mine's safety and productivity strategy. Compared to traditional pick hammer scaling, the WP08 achieved **three times faster scaling performance**, allowing large areas to be secured in significantly less time. Its consistent, uniform scaling process not only improved safety but also enhanced operational efficiency across the board.

With decades of collaboration behind them, Komatsu and the customer continue to work hand in hand to improve underground safety. The WP08 remains a trusted solution in the fleet — a dependable, high-performance machine that helps ensure the stability of underground environments while protecting the people who work in them.

Customer Testimonial

"The WP08 has become an essential part of our underground operations. It significantly improves safety for our teams working in challenging conditions, while also enabling them to complete scaling tasks more efficiently—without compromising on reliability or control."

Lars Rickfelder
Leiter Technik unter Tage /
Head of Underground Mining Equipment Department
K+S Aktiengesellschaft