



On board with reinforced concrete:

Bosch SDS max-8X four-cutter hammer drill with full carbide drill head proves itself in railway construction

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“Tram approaching!” As soon as one tram passes, forcing the workmen off the tracks, the next one is on its way, as indicated by the tram warning signal. “Working on local public transport in urban areas means that we can only work for short periods of time if the tracks are in use,” explains Christoph Schmoranz, Construction Manager at Rhomberg Sersa Deutschland. His team is currently working on one of the most important traffic routes for the university city of Halle (Saale), constructing new tracks for the city’s tram system: As part of a major multi-stage project, the tram is being upgraded to a city railway system, making future passengers’ journeys faster, more comfortable and reducing noise for residents. For the Construction Manager, this project means much more than just sleepers and rails: “The part of railway construction that people do not see – but is very time-consuming – is the preparation: The substructure, civil engineering, railway power supply and the installation of safety systems.” As part of the Rhomberg Sersa Rail Group, the Austrian-Swiss railway construction and railway technology specialist, the company is ideally equipped for this work: “We cover the whole range of services, from railway construction to communication technology and maintenance,” explains Christoph Schmoranz.

Before the time slot closes again: Drilling fast and efficiently

“For the current stage of construction, we are working on a single-track layout – instead of the usual double-track layout, which results in trams running even more frequently. This means that every three to five minutes, a tram drives through our construction site. We have to take into account the safety of our employees as well as the tram timetable – the train traffic cannot be delayed. Everything needs to be done professionally, and at the same time, as fast as possible,” the Construction Manager explains while his team prepares for today’s work. “On this route section we are installing so called “guard angles” that will provide us with additional protection while we are working on the track. If a tram derails, the angles will stop it,” clarifies the Construction Manager and pauses briefly, waiting for the signal that will allow the workers back onto the track. Construction worker Philip Engelhardt then gets to work: Fitting the guard rails with colored visual protection, aligning it, marking the holes – and then drilling.

“The problem up to now has been that once we reached the reinforced steel, even the best drills would not make it through the sleepers and rail setting plates,” says the track layer – before he tries out the Bosch SDS max-8X four-cutter hammer drill. He is using it for the first time today with his eight-kilogram GBH 8-45 DV Professional rotary hammer and is impressed: “You do not even notice that you are working in reinforced concrete. The drill goes through without any pressure at all.”

Exceeding limits: Easy handling of large drilling diameters

Philip Engelhardt’s work is progressing faster than expected. He has almost finished drilling the holes for the first guard angle and is prepared for the next work step – ready for the next tram to arrive. The track layer uses this short break to change the drilling diameter. “We work with diameters from 20 to 28 millimeters,” he explains being pleased with a further benefit of the new hammer drill: The SDS max-8X is the only four-cutter hammer drill with full carbide drill head on the market, offering a diameter of up to 28 millimeters – common models offer maximum 16 millimeters. This is made possible by the unique Bosch diffusion welding technology (IDS). This ensures an extremely strong and durable fusion between the carbide head and the steel spiral, which is exceptionally resistant to changes in temperature: Unlike common drills, the Bosch SDS-plus-8X hammer drill bit remains unaffected by high temperatures of more than 400 degrees, which can potentially occur when drilling in reinforced concrete. For Philip Engelhardt, this means that he can use the SDS max-8X drill for longer than other models: The SDS max-8X offers a lifetime that is 50 percent longer than its predecessor SDS max-7, which already had a longer lifetime than equivalent competitor models.

Teamwork: Achieving goals faster with reliable tools

The track layer describes what he needs from accessories: “When we are working under time pressure, it is key that the drill does not tilt and that we can remove it from the drilled hole fast.” In addition, he is happy with another advantage of the hammer drill: “The extremely sharp, pyramid-shaped tip makes it easy to guide the tool when positioning, which also saves time.” The SDS max-8X guarantees even more efficient drilling thanks to the special geometry of its four-cutter full carbide drill head: In contrast to common hammer drills, it does not have inclined cutting edges but, instead, comes with flat 180-degree cutting edges. The result: Maximum impact force transmission without energy losses in edge regions. In the meantime, Philip Engelhardt has already fitted the second guard angle and his Construction Manager is satisfied with today’s work progress: “Railway work is teamwork. We need to know that we can rely on each other – and on our tools.” Approaching trams or not, the Rhomberg Sersa Deutschland team is sure of one thing: As long as they have the SDS max-8X hammer drill when working with reinforced concrete, nothing will derail their work.

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