

Hybrid drive for track construction machines

For its innovative drive concept, Plasser & Theurer has opted for the combination of highly flexible ARCUSAFLEX® rubber disc coupling with a switchable electromagnetic coupling from REICH.

“Thanks to our coupling package, we’re able to guarantee the highest possible machine availability combined with maximum safety for constant performance under extreme loads on the rails,” emphasises Christian Reich, Managing Director of Dipl.-Ing. Herwarth Reich GmbH.

“We’ve found an expert reliable partner in Dipl.-Ing. Herwarth Reich GmbH, who, with its experience in mobile drive solutions, has designed precisely the coupling package we need to meet our high requirements,” explains Plasser & Theurer.

Vibrations, dust exposure and high temperature differences – when used in a track construction machine, the challenges for the coupling solution are enormous and place high demands on the components used. The service life of the entire drive train depends on its reliability and efficiency, which in turn reduces life cycle costs.

The key customer requirement was to realise a compact design and keep the weight of the individual components as low as possible due to the limited installation space. REICH was able to successfully meet and implement this requirement along with all others during the design phase with optimised and coordinated components using the ‘Designed to Customer’ (D2C) process.

The particular advantage of combining this with an electromagnetic coupling is that it enables the diesel engine and generator to be separated. In overhead line operation, the diesel engine, which is not required in this operating mode, is simply disconnected with the electromagnetic coupling. When coupled, the track construction machine can be operated independently without an external power supply. This is necessary on all non-electrified lines.

The installed highly flexible rubber disc coupling ARCUSAFLEX® protects the drive components with its high damping capacity for system-related vibrations and compensates for misalignments between the diesel engine and generator.

The special feature: an additional mechanical emergency actuation has been integrated into the rubber disc coupling so that it can also be operated without power in an emergency. A machine standstill in these types of applications would result in massive logistical delays and therefore huge consequential costs for the railway operator.

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Dipl.-Ing. Herwarth REICH – expertise in power transmission since 1946

The family-run company, now in its third generation, manufactures couplings and specialises in torsional vibration damping. At the headquarters in Bochum, state-of-the-art production technologies and in-house test benches are used to manufacture high-quality, durable products for power transmission. True to the guiding principle of ‘Designed to Customer’ (D2C), REICH continuously develops not only its own elastomers but also coupling system solutions in order to adapt them even better to the individual needs of the customers and to offer the optimum coupling solution. With 300 employees at nine sites, REICH operates internationally with its numerous trading partners supplying more than 100,000 couplings every year.

Plasser & Theurer – global market leader for rail construction machines

Founded in 1953, the Austrian family-run company is now in its third generation. Plasser & Theurer offers robust high-performance track renewal and track-laying machines as well as systems for the maintenance of tracks and overhead lines. The incorporated material logistics includes the supply and removal of sleepers and rails using the newly laid track. Alternatively, compact conversion systems are also available that work in a cycle process. More than 17,400 heavy-duty machines have been supplied to 110 countries. With around 6,000 employees worldwide, Plasser & Theurer achieves an export rate of 93 percent.



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