



Deutsche Gleis- und Tiefbau GmbH

Mobile reprocessing of concrete sleepers

Mobile reprocessing



Mobile reprocessing of concrete sleepers – An innovative idea material recycling

The Bahnau Group offers a full portfolio of services for the entire rail system in the German and international rail markets. The business area “Reuse of Permanent Way Materials” reprocesses used permanent way materials, such as wooden and concrete sleepers, ballast and complete track panels, using both stationary and mobile reprocessing and recycling technology.

DGT (Deutsche Gleis- und Tiefbau GmbH) – a company within the Bahnau Group – has developed a new mobile plant for reprocessing concrete sleepers that significantly reduces the reprocessing time and the associated freight costs.

This third generation mobile reprocessing plant has been completely developed by DGT. The patented machine enables used concrete sleepers to be checked for reusability and then reconditioned close to the track construction site.

The shorter freight routes and reduced transport times mean that considerable savings can be realised. A further advantage is that reprocessing work can be incorporated into construction project planning.

The mobile reprocessing plant complies with the fundamental health and safety requirements specified in the relevant European directives. DGT is a “Q1 supplier” to DB AG for reconditioned concrete sleepers and provides its customers with a consistently high level of service quality.

DGT’s mobile reprocessing plants have been in use since 2004. Having been deployed at numerous major construction sites where they reprocessed around 30,000 concrete sleepers in one year, these machines have definitely proved their worth.

Technical data

■ Drive system:	2 x Hatz 2L36C, 1800 rpm	■ Length:	2,500 mm
■ Fuel:	Diesel	■ Width:	3,500 mm
■ Tank volume:	2 x 50 l	■ Height:	3,350 mm
■ Power supply:	2 x 12 V 35 Ah	■ Weight:	4,700 kg
■ Hydraulic plant:	2 double pumps Rexroth type 1 PF 2 G 222/016 L NO MHL	■ Gauge:	2,945 mm
■ Hydraulic tank:	2 x 150 l HL P 46	■ Wheelbase:	2,030 mm
■ Return flow filter		■ Loading point:	present
■ Directional control valves:	Block control units, manual actuation with safety valve	■ Ground space	
		Length:	50 mm
		Width:	15 mm
		■ Eigenfahrt:	2 hydraulically driven wheels via 12 B-1 chain



Operating principle

The mobile reprocessing plant is deployed in the immediate vicinity of track construction sites with more than 5000 reprocessible concrete sleepers or close to collection construction sites with over 1000 reprocessible concrete sleepers. For the plant to be used, the proposed site must have an area of at least 2000 m² and the ground must be capable of bearing the requisite loads. As the plant works autonomously, it does not need to be connected to a water or power supply network.

The installation and deinstallation of the plant and the auxiliary track is carried by DGT personnel and takes one day in each case. The auxiliary track has a minimum length of 35 metres. Prior to reconditioning, the sleepers are placed on a processing platform made of rolled sectional steel that is located in the middle of the auxiliary track. The mobile plant then reprocesses sleepers of type B55, B58 and B70 by repeatedly passing over the sleepers in a manner similar to a gantry crane.

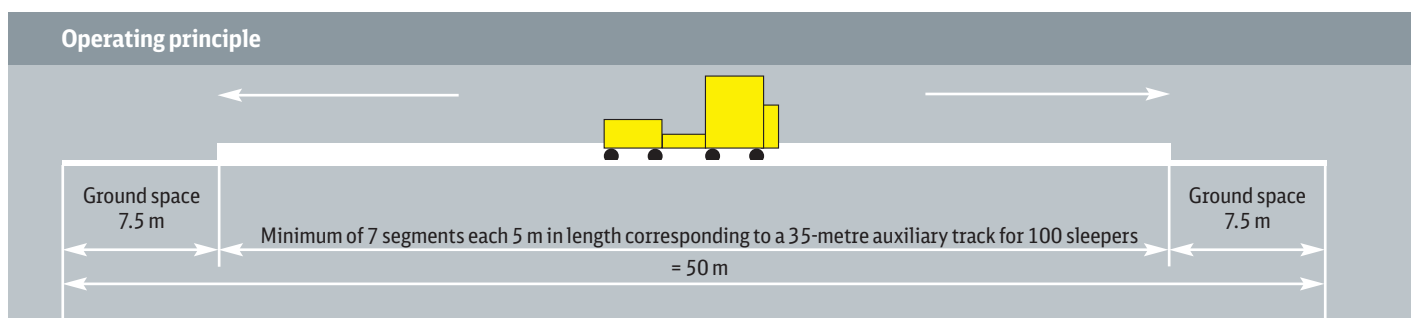
The reconditioning process comprises the following steps:

1. Loosening of sleeper screws
2. Pressure ejection of old dowels and insertion of new plastic plugs
3. Positioning of ribbed baseplate and insertion of sleeper screws
4. Retightening of sleeper screws
5. Gauge measurement

The machine is able to reprocess up to 250 concrete sleepers in an eight-hour shift. Concrete sleepers that are not suitable for reprocessing are removed and not reused.

Our customers benefit not only from innovative technology that has clearly proved its value in practical applications, but also from specially customised solutions and the technical expertise of our highly skilled staff.

Our services are of course provided as an all-in-one package, which means that we manage all the necessary preparatory work including the selection and checking of a suitable site.





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