In modern track systems, sleepers are soled to reduce the demands placed on the ballast while at the same time lowering the track costs. Designated as a sleeper sole is an elastic layer on the bottom of a railway sleeper. This layer may be applied in the course of the manufacturing process for the sleeper (placing of the layer on to the unset concrete).

The sleeper sole is firmly bonded to the soffit of each concrete sleeper:
- It relieves the loadings on the ballast,
- increases the stability of the track bed and
- improves the dynamic and acoustic properties of the permanent way.

Reduced dynamic loading of ballast
It has now been established that it is possible to reduce the static and dynamic loading between the sleeper and the ballast. In a conventional track the sleeper is supported by a series of point contacts from the ballast. The dynamic loads then cause wear and breakdown of the ballast, so called ballast attrition, which results in more dust, and greater deflection of the track.

It has been proven that by fitting a resilient pad to the sleeper soffit face, the ballast stones embedded themselves into the pad and as a result that there is a greater surface area now supporting the track load thus reducing the loads transmitted to the ballast. The resilient pad acts as a spring to reduce the level of dynamic impact reducing the peak loading on the ballast. This combination of effects significantly reduces the track deterioration and increases the time between grinding and ballast cleaning and tamping.

The facts
- Reduction of maintenance work on track systems
- Amortisation of the cost of soling within 2 to 3 years
- Increasing of passenger comfort
- Long-term durability (fatigue resistance) of the soles > 35 years
- Recyclability of the soles = 100% to German Closed Substance Cycle Waste Management Act

Are you interested in soled sleepers?
Please contact Alom!

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