Elastic Bedded **Transition Zones** in Track Superstructure using Sylomer® and Sylodyn®

Advantages:

- Smoothing of differences in the bedding
- Preventing impact loads during train passage
- Even distribution of loads
- Minimization of track subsidence
- Reduction of vibrations
- Reduction of Life Cycle Costs (LCC)

Transition zones at turnouts or bridges require great attention as there are often sudden differences in the track's stiffness. The resulting dynamic loads increase LCC and reduce the level of comfort.

Getzner is working to help solve problems of this nature.

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For many years Getzner has been offering tried and trusted elastic bearing elements of Sylomer® and Sylodyn®, such as baseplate pads, sleeper pads, ballast mats and slab bearings for slab track, with the goal of achieving smooth track subsidence in areas characterized by varying superstructure conditions. Optimized bearing systems for transition zones can be generated using mathematical calculation models and simulations based on the Finite Elements Method.

We will be more than happy to assist you personally with any questions you may have on this subject.

Problem	Getzner solution
Varying degrees of track subsidence when traffic passes through the transition zones lead to impacts on the wheel-track system and to dynamic stresses in the entire track superstructure.	Methodical use of Getzner's highly-elastic bearing elements made of Sylomer® and Sylodyn® helps to smooth out differences in the bedding in transition areas which stem from the track superstructure. Differences in track subsidence are minimized. Smoothed track subsidence in the transition zone reduces the dynamic shock pulses to the wheel-track system and the superstructure.
Differences in settling due to different types of superstructure design results in an increase in dynamic shock pulses to the superstructure as the age of the track increases.	Installation of elastic bearing elements reduces the dynamic shock pulses and the vibrations transmitted when trains pass. Movements in the ballast bed are reduced with a beneficial impact on track settlement.
After a short period of time, the problems described above lead to the development of a step pattern in the differences in the superstructure. The additional loads on the superstructure described above increase exponentially.	Development of steps in the superstructure stiffness is retarded and minimized. Maintenance requirements for the transition areas is reduced with the use of elastic bearings made of Sylomer® and Sylodyn®, with an ensuing reduction of LCC.