



LOW VIBRATION TRACK (LVT)

System advantages

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- **Effective vibration attenuation**

The LVT-system ensures effective vibration attenuation due to the dual-level elasticity of the system with a mass (concrete block), between two elastic components (rail pad and block pad).

The attenuation of high and low frequencies is achieved by the combination of these two different elasticities.

With the LVT HA (high attenuation) system, the latest design development of the LVT-system, vibration attenuation has been improved even further. This leads to a 5-10 dB reduction at 50 Hz with the system.

- **High flexibility of the LVT system**

The LVT-system can be designed according the requirements of the project with adjustable support stiffness to optimize vibration attenuation. The system allows the installation of various rail fastenings as well as the adjustment of the stiffness in terms of changing traffic conditions (axle loads) during the life cycle of the line, by changing the block pads to meet the new demands.

- **Absence of reinforcement in the track concrete**

To provide its full function, the LVT-system doesn't need any rebar in the second stage concrete. Beside cost saving, especially if coated rebar in the concrete is required by the client, the risk of corrosion is eliminated.

- **Highly accurate track geometry**

The deep embedment of the LVT blocks in the track concrete result in a good lateral resistance and dynamic gauge control. A constant gauge of +/- 0.5 mm is maintained using temporary gauge bars. The top-down construction procedure avoids the adding up of the components production tolerances.

- **Proven maintenance free operation – still good access to all LVT components**

Even the LVT-system has been proved to be a maintenance-free, except for standard rail maintenance, it provides a good access to all components to enable the change of single components in case of a derailment or adjustment in case of track substructure settlements.

- **No electrical conductivity**

The LVT-system shows very good electrical insulation. Without any direct link between the LVT-blocks electrical conductivity can be avoided.



- **Aerodynamic and access advantage**

An obstructions-free centre of the LVT slab track guarantees an aerodynamic track. Additionally a good access for maintenance staff as well as safe rescue routes for passengers in case of emergency is possible. A variable design of the slab track drainage is possible.

- **Flexible positioning of drainage**

The drainage of the track can be designed according to the requirements of the project. Due to an obstruction-free centre a flexible location of the drainage in the centre of the track as well as on the field side is possible.

- **Easy concreting**

Due to no need of expensive form work the concreting process is very easy. High installation rates have been realized.

- **Operation of work trains**

Possibility to operate work trains on the track as soon as LVT has been assembled on the tunnel invert, base slab or viaduct deck, which allows E&M and other works to proceed simultaneously with the trackwork.