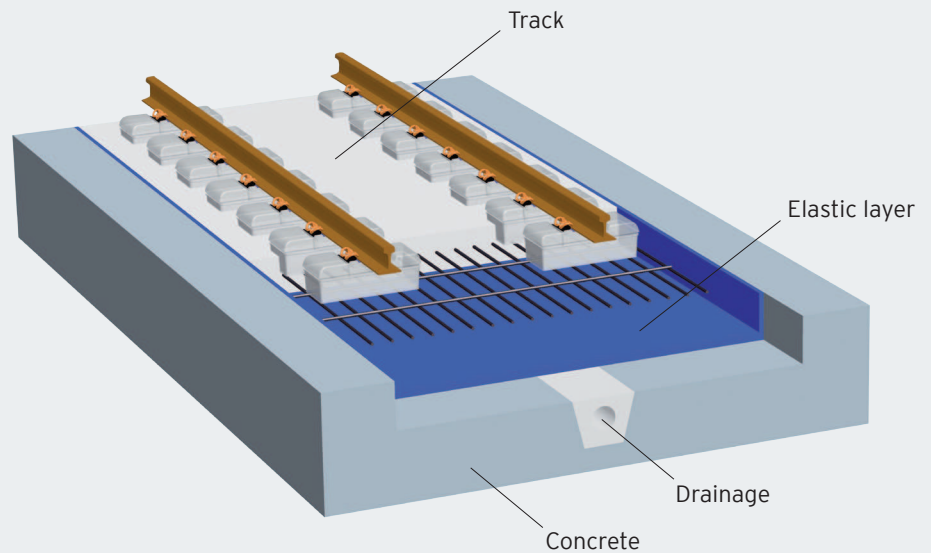


# Guideline for the Installation of full-surface Mass-Spring System with Sylomer® and Sylodyn®-Mats

## 1. Preparatory measures

The mats are produced in sheets with a standard width of 1.5 m. To make installation as quick and economic as possible, the mats are pre-cut at works depending on the geometry and the marginal installation conditions and according to the agreement with the client. The floor mats can be installed longitudinal or perpendicular to the centre of the track. When laying the mats perpendicular to the centre of the track, the length of the pre-cut mats corresponds to the width of the trough, the width of the mats remains 1.5 m.

Longitudinal installations are normally only useful for long straight sections. For handling reasons the length of the mats should not exceed 12.5 m. If the width of the trough is not a multiple of 1.5 m, it is possible to cut the mats longitudinal, whereas for economical reasons attention has to be paid to keep waste produced as low as possible. The height of the side-wall mats depends on the trough height. Side-wall mats should rest on the floor-mats not on the sub-grade. Furthermore, sufficient space for the top closing - normally a permanently elastic joint sealing - must be considered. In order to make installation and handling as simple as possible, it is recommend to supply the side-wall mats in their standard length of 1.5 m and pre-cut the corresponding height at the works.



### Advantages of a full-surface mass spring system

- Simple, fast and inexpensive construction methods
- Low risk of construction errors
- Wide-area load distribution in the subsoil
- Damping of structural vibrations of the track support elements
- Low number of installation joints
- High horizontal stability of the entire system
- Economy of the entire system

# Installation of a full-surface Mass-Spring System



## 2. Delivery and storage

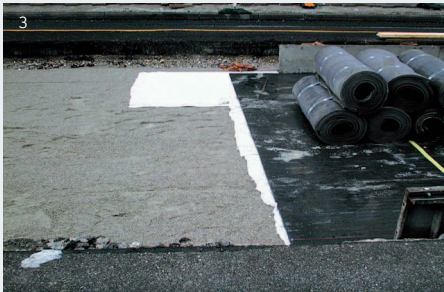
**F**loor mats are delivered in rolls, side-wall mats on pallets. If the measurements of the mats vary, they are clearly indicated with a sticker on the outside of each deviating roll. The mats have to be stored under dry and clean conditions. Longer (on-site) storage should be in an upright position, also avoiding direct solar radiation, until installation is carried out (see picture 1).



## 3. Installation

**D**uring installation it has to be paid attention that the concrete slab on the elastic bearing is completely decoupled from the surroundings by the mats. Sound bridges must be avoided. The sub-base must be free of pointed and sharp-edged objects, which could damage the resilient layer (see picture 2).

The mats have to be installed in dry condition. This ensures an easy handling and glueing of the sidewall-mats. Additionally the sealing of the joints with tape is possible. The intrusion of water to the mass-spring system during operation has to be avoided. Otherwise a sufficient drainage has to be installed.



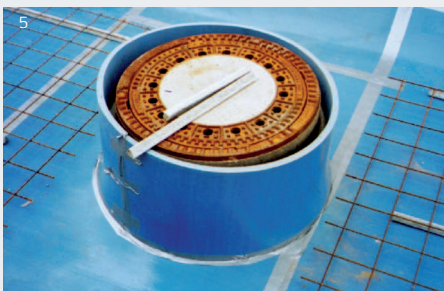
In case of bad sub-grade, the mats can be protected e.g. by a geo textile laid between sub-grade and mats (see picture 3). The efficiency of the measure increases with the stiffness of the subsoil. Therefore a layer of concrete is an approved solution. Generally, light mass-spring systems can of course be built in many different ways. Difficult on-site conditions can be overcome by mats made of Sylomer® and Sylodyn® due to their high flexibility.



### As a guideline one of various types of application is shown:

**Step 1:** Having finished the excavation and sub-grade work two concrete joists are casted on both sides to provide supporting side walls for the concrete slab. The floor mats are rolled out on the prepared sub-base between the two joists over one or several concrete sections and tightly buttjoined together (see picture 4).

Possible length corrections of the mats or adjustments can be done with Stanley knives. To avoid penetration of concrete, concrete milk or mud during casting the butt joints are covered and sealed with a tough commercial fabric tape. The side-wall mats resting on the floor-mats are glued vertically onto the pre-cast concrete joists.



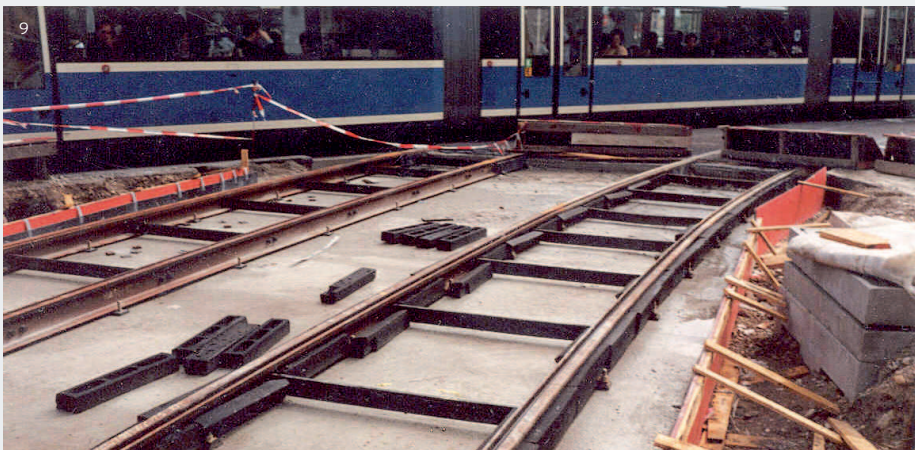
All butt joints must be covered with fabric tape to avoid any sound bridges created by concrete penetrating through the joint. Any objects that are penetrating the elastic layer have to be decoupled elastically (see picture 5).



**Step 2:** The resilient layer made of Sylomer® and Syldyn® now simultaneously serves as “lost formwork”. If necessary reinforcing steel is placed. It has to be paid attention that the mats are not damaged due to high punctual loads (i.e. penetrating the resilient layer, see picture 6).



**Step 3:** The concrete for the concrete slab is brought in and ruled. The tracks are laid, adjusted and covered (see picture 7, 8, 9).



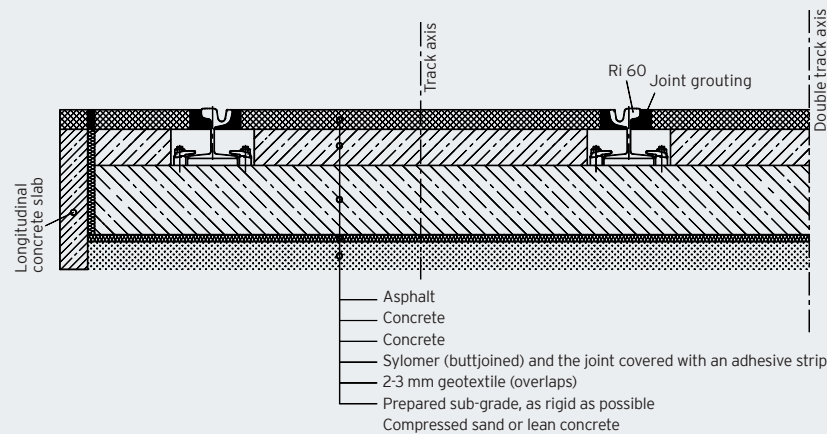


**Step 4:** The longitudinal joints between track and road are sealed permanently elastically (see picture 10).



**Additional information**

The Installation of the elastic mats can easily be adjusted to local conditions and to the planned progress of construction work. Independent of the chosen progress of construction work, it has to be paid attention that the concrete slab is decoupled from the surroundings. Thus, for example the floor mats have to be around 3 cm wider than the previously concreted slab if you choose to install the side wall mats in the second step (see picture 11).



The sketch shows an example of a mass-spring system.

All information and data is based on our current knowledge. Further Information can be found in our actual mass-spring systems brochure. We reserve the right to changes subject to regular product improvements.