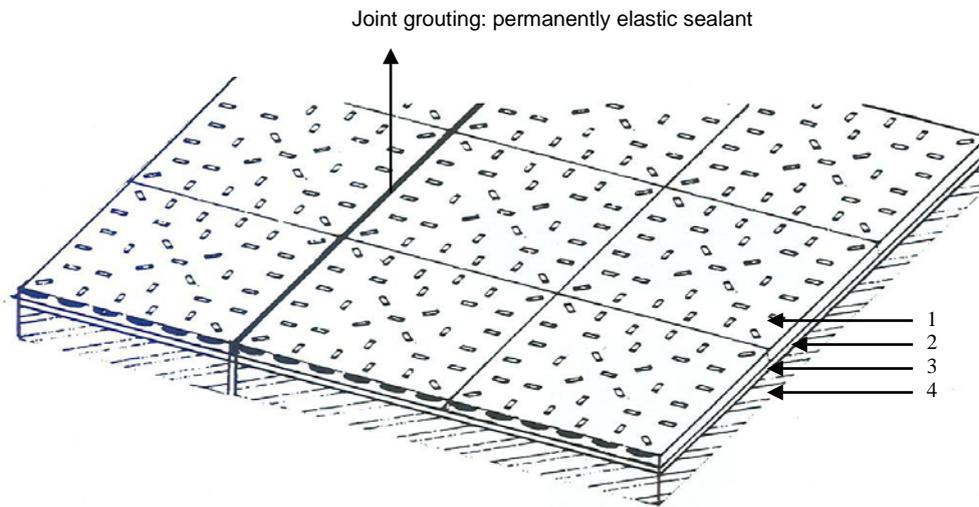


## Information on the installation of **IML® steel** industrial floor panels



1. **IML® steel** industrial floor panel
2. Bedding mortar
3. Bonding slurry
4. Load-bearing concrete to DIN 1045-2, minimum compressive strength 20/25 or as specified by the designers.

### 1. Load-bearing concrete

Minimum compressive strength to DIN 1045-2, class 20/25, thickness depending on the load or the designer's specification (also applies for any blinding concrete).

Roughen the surface (brush finish), return to process any smooth areas afterwards. Remove any contamination e.g. paints, oils, greases, plastics or similar; pretreat contaminated surfaces by milling or shot-blasting. If the floor panels are to be laid on old concrete surfaces ascertain its strength class and the surface tensile strength on site.

The evenness of the surface of the load-bearing concrete must comply with the requirements of DIN 18202, Table 3, Line 2.

### 2. Floor structure

Take a level to establish the thickness of the mortar bed which must be between 40 mm and 60 mm thick. In the event of thicknesses greater than 60 mm, a levelling screed with a minimum compressive strength class according to DIN 1045-2, 20/25 (old class B25) is necessary.

A two-layer structure at least 80 mm thick is necessary for floors with thermal insulation. Thickness and hardness grade of the insulating layer as specified by the designer.

### 3. Joints

Joints between buildings and expansion joints in the load-bearing concrete must be installed in corresponding positions and have the same width. Joints between bays which extend through the load-bearing concrete including the levelling screed must be included.

Slab sizes in building interiors up to 120 m<sup>2</sup>, exterior slab sizes but covered up to 50 m<sup>2</sup>, slab sizes exposed to the weather up to 36 m<sup>2</sup>. (Larger slab sizes are also possible by agreement in air-conditioned buildings with constant temperatures are possible). Joints between bays should be designed as right angles wherever possible. If slabs are exposed to the weather in the open air or subject to significant temperature variations in enclosed spaces, edge lengths greater than 6 m should be avoided. (Extremely high differences in temperature such as red-hot metal and water **MUST ALWAYS** be avoided).

Edge joints must be installed against vertical walls and penetrating structures. The joint should have a width of approximately 8 mm and be sealed with permanently elastic sealants agreed with the designer.



### 3a. Joint area

Edge protection must suit the loads to which they are exposed and take the form of double-sided **IML® steel** industrial floor panels or steel edge protection profiles conforming to Load Group I (heavy) (materials handling equipment with steel or polyamide tyres) or Load Group II (moderate) (materials handling trucks with pneumatic tyres).

### 4. Method of installation and mortar used during installation

**IML® steel** industrial floor panels may be laid with straight joints or staggered joints. If necessary, **IML® steel** industrial floor panels can be cut or supplemented by half panels.

Source materials are cement complying with DIN 1164 CEM I, CEM II, strength class minimum 32.5, aggregates according to DIN 4226, frost resistance eF, aggregate gravel sand with 0/8 particle size. Consistency: plastic, - slump 35-41 cm. Strength class  $\geq$  ZE 30 according to DIN 18560 or  $\leq$  B25 according to DIN 1045 in each case with cement content  $Z \geq 350$  kg/m<sup>3</sup>.

Plant mixed dry mortars and concretes are preferred; plant mixed wet mortars are unsuitable.

If the composition is determined on site by measuring volumes, the minimum cement ratio must be increased by 50 kg/m<sup>3</sup> and maintained.

### 5. Substrate treatment

Determine level markings, pretreat the load-bearing concrete as described in Section 1 on page 1 and wet it thoroughly. Apply a bonding layer (1 part cement and 1 part water) with a stiff brush so that the surface can be worked within two hours. Apply a layer of bedding mortar about 1/2 of the specified thickness on parts of the floor which have been well grouted and keep damp.

### 6. Laying and jointing the panels

Lay a row of panels as an outside frame at a right angle to a string-line with joints 2-3 mm wide. Allowance must be made in this row for any joints, building/expansion joints and joints between bays which have to be installed.

Lay the mortar and compact well. Depending on the surface area, lay between 15 and 35 m<sup>2</sup> of mortar on forms up to the height of the finished panel flooring (once again compact the mortar well and uniformly). Use a rubber hammer to gently hammer in the **IML® steel** industrial floor panels in the outer area of the panel side bar along a string-line. The bedding mortar must protrude from all openings and cover the openings completely.

Wet 4-5 rows of panels well at a time after laying. Clean the mortar residues from the surface several times using a squeegee. Cleaning the surface several times is essential to avoid premature drying of the mortar bed.

### 7. Subsequent treatment and initial use

Protect areas of newly laid floor panels against premature use by means of warning signs and tapes. Continue to treat the floor panels by keeping them wet. Cover with plastic sheets (essential on warm days) for 2 to 4 days depending on the type of cement used.

Initial use: after 14 days if cement 32.5 R is used and no hardening test carried out; after 7 days if cement 42.5 R. With hardening test on separately prepared test specimens.