

**Applications**

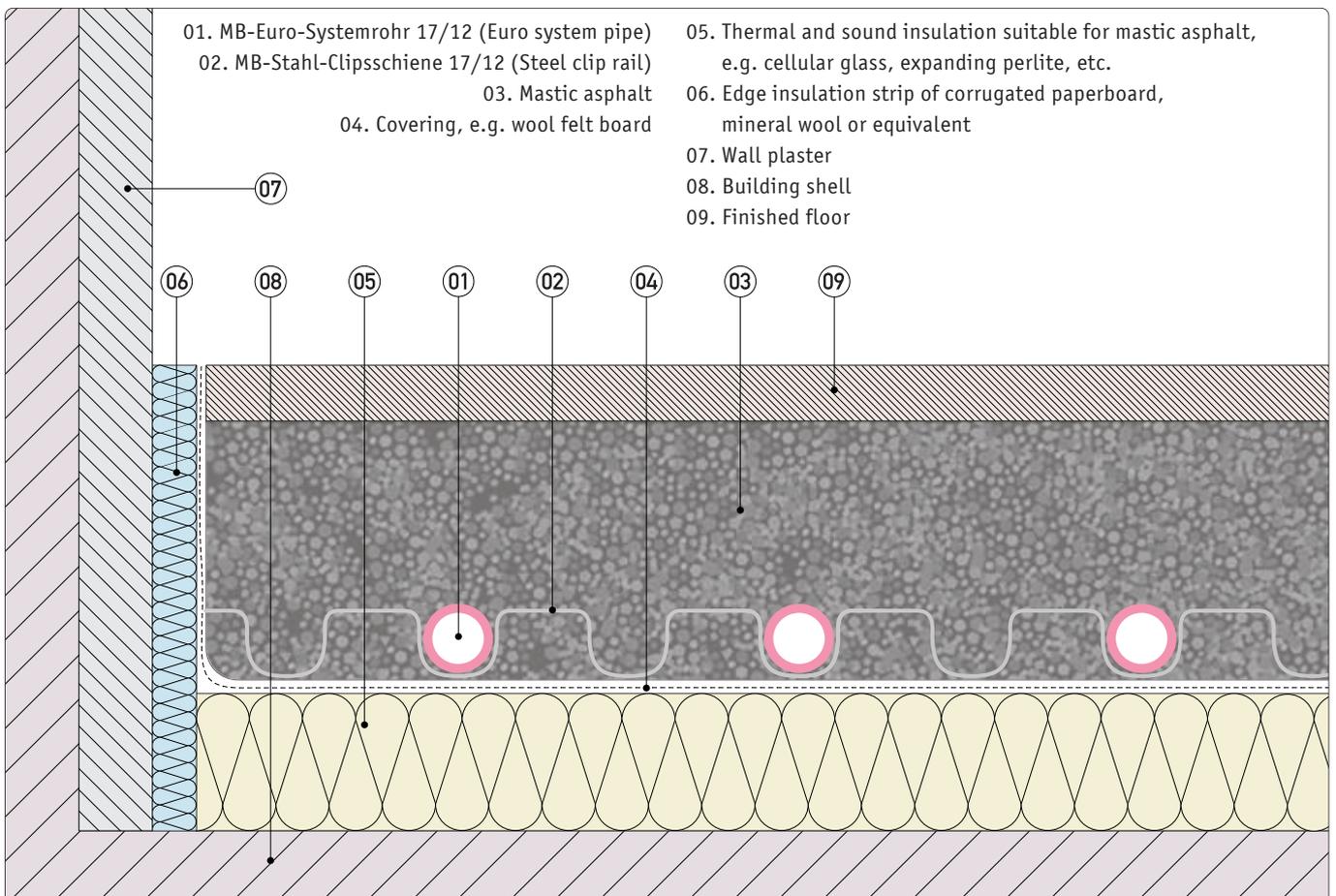
MB-Gussasphalt (Mastic asphalt) is a heating system for residential, industrial and outside areas. These areas can be exposed to normal weather conditions. Special advantages are easy of application, high resistance, quickly ready for flooring installation, good impact sound properties and low installation heights.

**Load capacity and construction example**

On principle suitable for any traffic load. The entire construction is determined by the structural engineer. The structural engineer measures the requirements based on how the area will be used. This includes e.g. concentrated loads from parked vehicles and even their dynamic loads when approaching/leaving. The construction layout shown below is merely an example. The location of the MB-Euro-Systemrohre (Euro system pipes) are always based on the specifications of the structural engineer. The height reference point on the site which must be met must be checked to ensure the planned construction height is given throughout. When planning the construction layout, the relevant laws, regulations, directives and standards must always be observed.

**System installation**

Installation follows the MULTIBETON plan. Then follow the installation and technical guidelines. Planning and creating the MULTIBETON surface heating/cooling must further comply with the relevant laws, regulations, directives and standards. Additional instructions of manufacturers for other trades and the recognised rules of technology and proper trade workmanship must be observed.



The illustration and design are non-binding and only exemplary.

**Construction**

When used as heating screed, the mastic asphalt should be at least 35 mm thick. All of the materials such as insulation, uncoupling layer, edge insulation strip, etc., must be non-flammable.

**Thermal and impact sound insulation/paperboard**

The insulation requirements and insulation thickness must be specified by the planner in accordance with the laws and standards for mastic asphalt. In addition, the sound insulation requirements must be observed. If a construction project requires additional sound insulation, this must be expressly requested by the builder beforehand. When installing the impact sound insulation, this should preferably be done as one layer. The thermal and impact sound insulation suitable for mastic asphalt is covered with e.g. wool felt underlay.

**Edge insulation strip**

The corrugated paperboard edge insulation strip has the following important functions, among others: 1. Sound insulation, 2. Compensating expansion in the heated load distribution layer, 3. Insulation between cold building parts and the heated screed. Under the standard, the edge insulation strip must be secured to prevent shifting when the mastic asphalt is installed. The edge insulation strip must have at least 5 mm to expand. The edge insulation strip is placed on the finished floor or, in the case of two-ply insulation, over the bottom insulation layer. Once the flooring has been laid, the protruding edge insulation strips are cut.

**State of construction**

Windows and exterior doors should be installed before MULTIBETON underfloor heating is installed. Building service installations and wall plaster have been completed and pipe openings sealed.

**Joints**

Mastic asphalt expands and contracts by nature. Expansion joints must be installed at doors, around the perimeter and throughout the surface to ensure the mastic asphalt will not be damaged. A joint plan showing the type and location of joints must be drawn.

**Weight-bearing substrate**

The load-bearing floor must be sufficiently dry to hold the load distribution layer and be even. It must not have bumps, pipework or similar. Avoid acoustic bridges and/or fluctuations in the screed thickness. If piping needs to be installed on the load-bearing floor, these must be defined. The floor must be matched to a level surface to hold the insulating layer. This must not be compensated with loose natural or crushed sand fill. The height reference point on the site which must be met must be checked to ensure the planned construction height is given throughout.

**Construction waterproofing**

Building parts in contact with the ground must be sealed in compliance with the standards. These are floors on the ground floor in buildings without basement, or basement floors. The need and form is determined by the structural design. This seal must be installed before the radiant heating is installed.

**Levelling courses**

If the required flatness tolerances of the load-bearing floor are not met, it must be levelled with a levelling course. This requirement applies to all load-bearing floors in existing buildings and new constructions. The type of levelling course must be compatible with the planned radiant heating system and room use.

**Flooring**

Since surface heating is quite common, the builder has vast flooring options to choose from. Almost all manufacturers offer flooring suitable for underfloor heating. Flooring such as textile flooring, natural stone, elastic flooring, ceramic flooring, parquet, laminate and even wooden flooring can be used.

**Silent cooling**

MULTIBETON underfloor heating is ideal as "silent cooling". These systems are inexpensive, as they only require a cooling unit or a reversible heat pump with the corresponding control unit. The maximum output of "silent cooling" comes from the dew point calculation, the calculated lowest cooling flow temperature and the user's comfort level. At an output of approx. 30 – 50 W/m<sup>2</sup> this ensures comfort in summer and smaller air conditioners can be installed.