Multi-Layer Pad Mounts for Isolation of Swimming Pools

Multi-Layer Supershearflex Pads with Shims

APPLICATION

An economic swimming pool isolation mount for moderate isolation performance. Often installed under pools located over carparks and basements as well as some rooftop pools.

FEATURES

- 2 to 5 layers of 17mm thick cross-ribbed elastomeric pads (Supershearflex) to achieve a nominal static deflection of 5mm to 12mm
- Two different grades available (red and blue) with differing dynamic characteristics: red is designed to function best at 400kPa to 500kPa pressure and blue is designed to function best at 250kPa to 300kPa
- Marine grade aluminium adhered in between layers with an option of stainless-steel shims for added corrosion resistance
- Available in different sizes, from 50mm x 50mm to 450mm x 450mm
- Compatible with various construction methods to suit builder's preference

DYNAMIC CHARACTERISTICS

Rubber mounts differ from spring mounts in that the natural frequency is a function not only of deflection, but also of the rubber hardness (durometer) which is an indication of rubber's damping capabilities.

For effective assessment of theoretical isolation efficiency, the dynamic characteristics should be accounted for. More details are available on the Supershearflex datasheet.

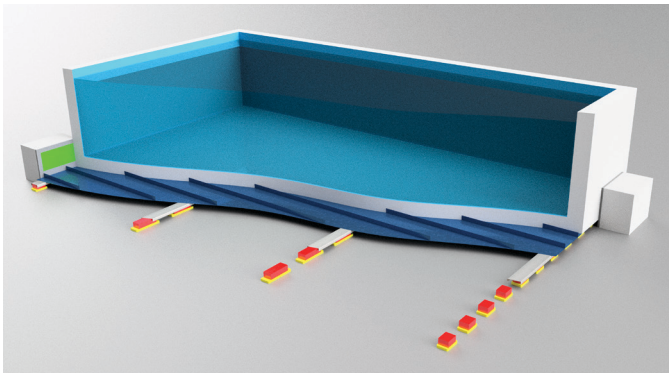
INSTALLATION METHODS

Various installation methods are available, and the method depends on the pool design, site conditions and builder preference. The three most common methods are briefly outlined below. Project specific installation drawings with instructions are provided for each project.

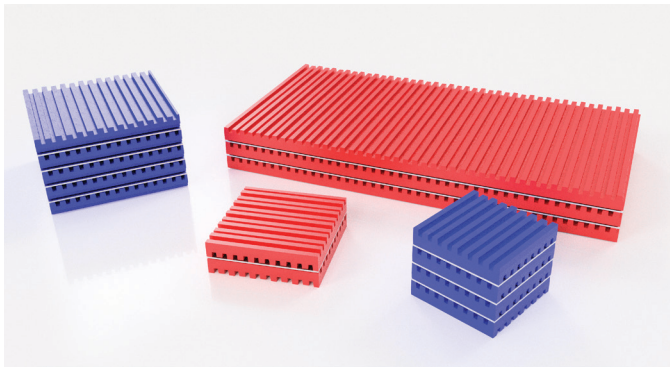
Beam and Deck

Pads are arranged in rows, topped with channels and metal tray formwork. Any gaps are sealed, and a concrete pool base is cast onto the formwork.

- Recommended for large pools of simple shapes
- Not compatible with pools with sloping pool shell bases



BEAM AND DECK INSTALLATION SCHEMATIC



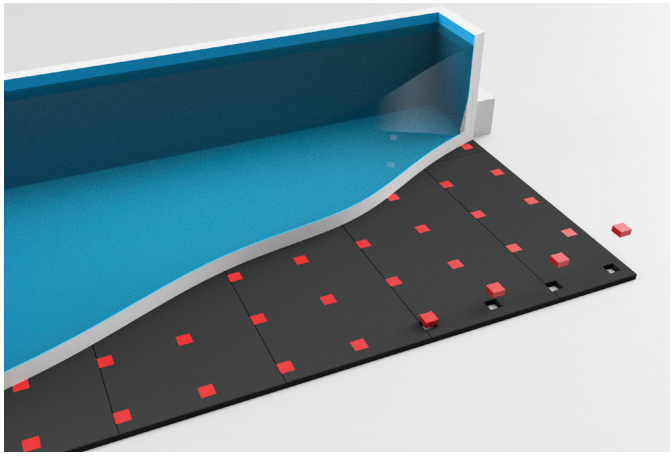
VARIOUS MULTI-LAYER PAD MOUNTS

BEAM AND DECK INSTALLATION EXAMPLE

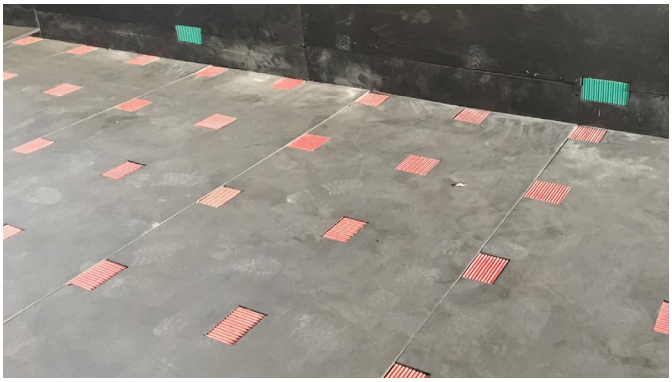
Embelfoam Formwork

A layer of compressible foam is laid out over the entire base and pads are inserted into pockets cut into the foam. Gaps are sealed, and a concrete pool base is cast onto the foam and pads.

- Recommended for pools with curved profiles
- Drainage is not required as there is no cavity below the pool shell
- For large pools, Embelfoam can be supplied pre-cut for quick installation
- Mounts do not require level packing and may be installed on slight slopes.



EMBELFOAM FORMWORK INSTALLATION SCHEMATIC

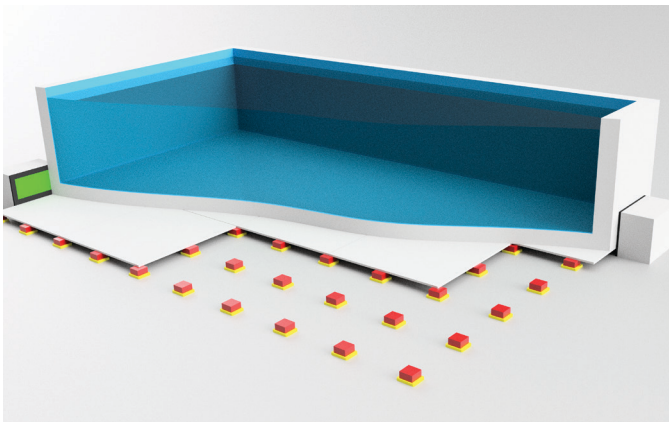


EMBELFOAM FORMWORK INSTALLATION EXAMPLE

FC/CFC Formwork

Pads are arranged in an array (typically 600mm x 600mm) and a layer of FC or CFC boards are laid over the pads. Gaps are sealed, and a concrete pool base is cast onto the boards, or a pre-cast pool is placed on top.

- Recommended for pools of simple shapes
- Can be used with pre-made stainless or fibreglass pools.



FC/CFC FORMWORK INSTALLATION SCHEMATIC

FC/CFC FORMWORK INSTALLATION EXAMPLE

INSTALLATION CONSIDERATIONS

- Packing – mounts must be packed to be level such that they are loaded evenly (Embelfoam formwork method excepted)
- Perimeter separation – the pool shell must be separated from all non-isolated entities – an air gap or a 20mm Embelfoam separation layer should be used
- Lateral restraint pads – the pool must be restrained laterally under seismic conditions – lateral restraint pads should be used, backed by structural walls, hobs or brackets
- Formwork sealing – it is critical that the formwork is well sealed as to not leak concrete slurry into any cavities between the pool shell and non-isolated entities: this could compromise the isolation system

TECHNICAL ASSISTANCE

All Embelton offices can provide detailed technical assistance on the use of this product in specific applications.

CONDITIONS OF SALE

These products are sold subject to the published Embelton General Conditions of Sale, copies of which may be inspected on request.

EXAMPLE SPECIFICATION

Vibration isolation mounts shall be three-layer Supershearflex pads of 54mm free height, with aluminium shims between layers, having 7.5mm nominal deflection at normal working loads. They shall be type Multi-Layer SuperShearflex pads supplied by Embelton.