

## Installation of Elastic rubber tiles for Playgrounds, sport grounds & terraces

### General Information

Following our installation guidelines and tips will result in durable and nicely appearing areas for playgrounds, sport grounds or terraces. They will also be almost maintenance free for many years.



In general, rubber tiles are likely to expand and contract with changes in humidity and temperature. Dimension differences of up to 2,5 % in either direction are possible under extreme conditions – when tiles are not fixed to the ground by gluing. Laying such tiles in the morning hours at 5 C will be a different size than a tile laid at 25 C in the afternoon. Before you start your installation, lay out all tiles for work starting the next day. Allow tiles to equalize to ambient temperature.

Gluing of rubber tiles, either permanently to the ground or at least side-to-side are the only recommended methods of installation.

Any rubber tile of less than 35 mm in thickness must be fully adhered to the ground – such as asphalt or cement. Improper installation will void warranty.

The suitable glues tested with Our Rubber-Tiles:

**1-Component glue 1174:** For total glue down on a hard base, such as asphalt or cement.

**1-Component glue OC500 (formerly SH100):** For Side-to-side gluing of tiles on compacted loose base or to upgrade a „total glue down-area“.



*PU-Glue 1174*



*PU-Glue OC500 (formerly SH100)*

Other glues (Uzin, Forbo, Henkel, ...) might also be appropriate. We strongly suggest testing those glues with our rubber products before any larger installation.

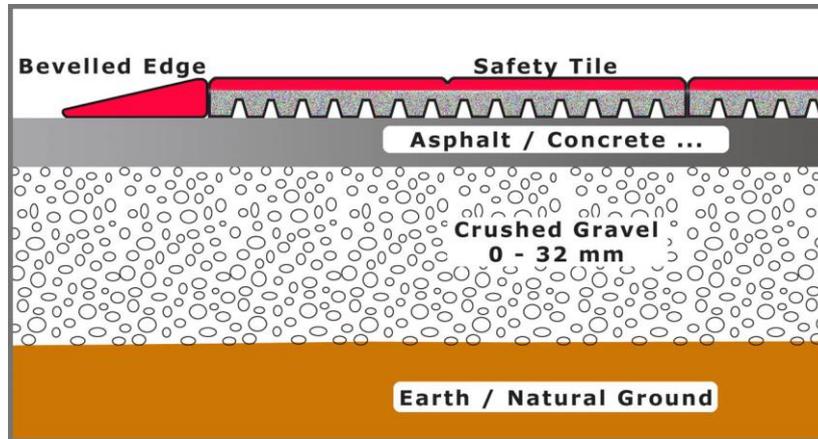
Insure good drainage for any area. Use drainage pipes in lower spots or a well defined gradient (slope) of the surface.

Tools and Materials required for installation:

Tape measures, Chalk line, Utility knife with good blades, jigsaw with wood blade or smooth wave blade, white paint pen, cutting table, caulk gun for PU-glue OC500 (formerly SH100), Framing square, kneepads, safety glasses, protective gloves.

## Preparation of the Sub-Surface

Allways ask a qualified professional for advise on preparation of your sub – surface.



### **A. Concrete Sub-Surfaces**

For best results (and long lasting areas) when installing rubber-tiles we recommend concrete as a sub-surface and „total glue down“ as adhering method.

Concrete sub surfaces must be at least 28 days old (thoroughly cured and free from hydrostatic pressure) before any rubber tiles are adhered to such ground. Make sure that the surface is level, clean and dry.

A good drainage is key to a long lasting area. A slope of app. 1 - 2% is usually sufficient (1-2 cm in height per 100 cm in length) to eliminate standing water. Make sure that there is no ponding anywhere in your area.

Bonding failure very often results of moisture! Make sure that rubber-tiles and sub-surface are free of moisture.

### **B. Asphalt sub-surfaces**

Must be cured for at least 120 days. They should be free of oil, grease and all other contaminants. Pressure wash and remove loose material prior to installation and allow to dry totally.

A good drainage is key to a long lasting area. A slope of app. 1 - 2% is usually sufficient (1-2 cm in height per 100 cm in length) to eliminate standing water.

Bonding failure very often results of moisture! Make sure that rubber-tiles and sub-surface are free of moisture.

### **C. Compacted granular surface**

Rubber-Tiles of more than 30 mm in thickness can also be laid on a compacted granular surface.

Excavate the area to a depth of app. 30 cm. A rough recommendation for the first level is app. 20 cm of crushed gravel (app. 0 - 32 mm). Moisten and compact using a flat plate vibratory compactor.

Fill in a 6 cm top layer of fine crushed gravel, (app. 0-8 mm stones, do not use „round stones“). The use of a little cement and sand will result in smoother surfaces. Moisten and compact again.

For good results we suggest to install filter cloth over the top of the compacted surface. Each lane should overlap the next by at least 10 cm.

Ask a regional professional for advice. They do best know any specifics for the soil in your region!

### **D. Any other sub surface**

Ask your local dealer or the manufacturer for advise, prior to any installation on other sub surfaces as the ones described above. Any installation on „other sub surface“ is the sole responsibility of the installer and/or owner.

## Getting ready for installation

- Store rubber-tiles protected under the black plastic sheet (delivery packing) until installation can be started.
- Store adhesives in temperatures above 10 C and below 30 C Temperature for installation should not be below 10 C and not above 40 C
- No moisture should be present at any time during and at least 12 hours after installation. If there is the chance of rain (or similar) after the installation, make sure to cover installed area with suitable protective plastics.
- Lay out all tiles for work starting the next day. Allow tiles to equalize to ambient temperature.

## Installing Rubber Tiles

Any Playground-Equipment or poles (goals, basketball-poles) should be in place prior to installation of rubber tiles. The sub-surface should be properly prepared.

### **Installing on bound grounds (cement or asphalt) by „Total glue down“**

*This method is recommended by the manufacturer*

Draw a chalk line on 2 sides of your area, leaving an „L“-shape. Leave appropriate space if you consider using bevelled edges (ramps).

Turn over the first tile with 2 people, so that you face the underside of the tile. This is either the feet structure (egg-carton-structure) or a structure with water drainage channels. No heavy weights are needed on the tiles. The weight of the tile itself is sufficient for the bonding process.



Use glue 1174 and put glue on at least 60% of the „feet“ or on 60% of the fields. The corners and the middle of the tiles are the most important spots. Remove any spills of glue immediately with a scraper. Dried glue is almost impossible to remove. The amount of glue needed is app. 400 gr. / m<sup>2</sup> with PU1174 for „total glue down“ and / or app. 30 gr. / running meter when gluing side to side with PU OC500 (formerly SH100).

Lift tile carefully, turn over and lay in the corner of your marked „L“.

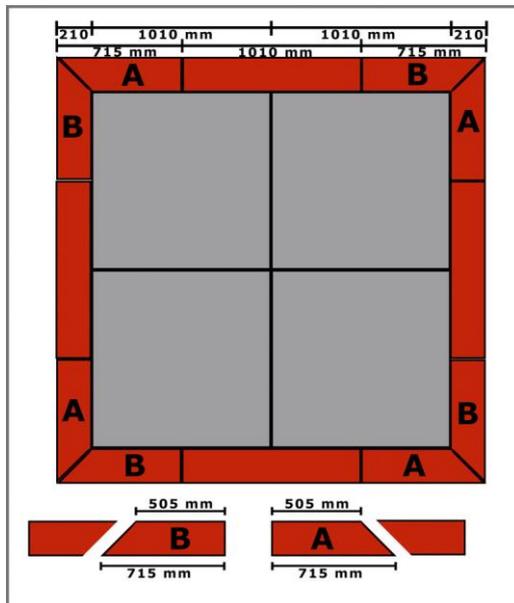
If you want to glue the sides of the tiles as well (gives extra strength) use a caulk gun and use glue OC500 (formerly SH100). Carefully apply glue app. 1 cm under the surface of the tile. Only apply glue to sides, where you are going to place the following tile shortly. When you squeeze one tile to the next, make sure, that no grey PU-OC500 (formerly SH100) is squeezed on the top of the tile. If so, remove with a scraper.

Work along one of your chalk lines, then start the next row. Make sure, that all tiles are aligned. Pushing one tile against the next might result in disalignment, that needs to be corrected immediately.

Working around poles / playground equipment is easy. Simply cut a straight line into the tile, cut the correct diameter of your pole and put the tile in place by twisting the gap open and closing it around your pole.

When all tiles have been laid, bevelled edges can be installed.

## Installing bevelled edges



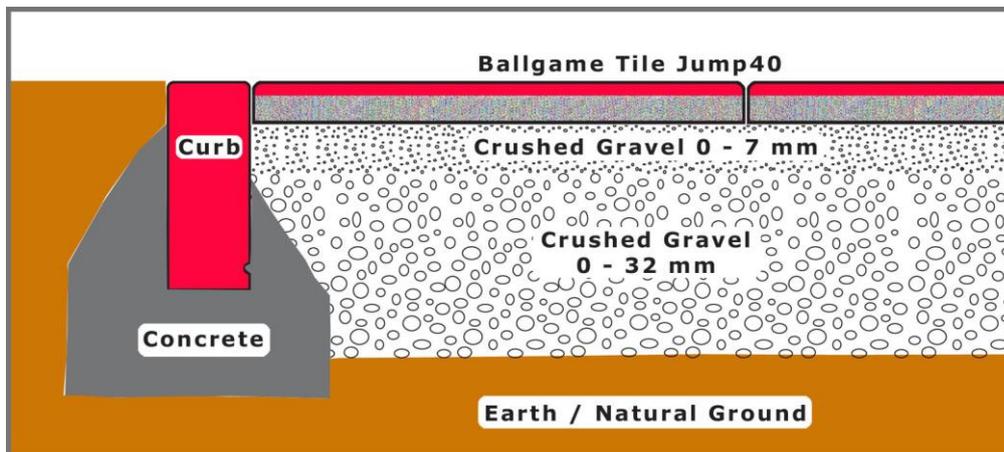
The figure shows bevelled edges surrounding a playfield of 2 x 2 m. For each corner you need to cut Shape A and B, each from one full length bevelled edge of 1010 x 210 mm (or 1010 x 310 mm for the 60 mm high version)

Glue bevelled edges to the ground and also to the sides of the rubber-tiles. You will need app. 200 gr. of PU1174 and 30 gr. of PU OC500 (formerly SH100) per bevelled edge. Simply use an **A3 V-Notch-Throwl** to apply the glue onto the backside of the bevelled edge. Use another bevelled edge to keep it straight. Apply OC500 (formerly SH100) to the rubber tile where the bevelled edge will be attached. Carefully turn over the bevelled edge and put in place.

Make sure that there is no foot traffic on the installed area for at least 24 hours.

## Installing on compacted granular subbase (crushed gravel) by „side to side gluing“

Install some kind of border (edge restraints) for the desired area size. Calculate with a tile size of 101 cm x 101 cm. So for an area of 6 x 6 tiles your border-frame should measure 6,06 m x 6,06 m inside. Still, since rubber tiles are likely to change there dimensions, it might be necessary to cut the tiles to match your frame.



Figure, Ballgametile Jump 40, installed on crushed gravel, border frame material: rubber curb „Standard“, fixation by side to side gluing

To avoid trip hazards any frame should be installed flush with the ground.

Possible frame material: cement stones, cement curbs or a suitable wood frame (e.g. lumber) and best suited: rubber curbs laid into fresh cement. Rubber curbs are considered the best solution since they are flexible and allow rubber tiles to move a little bit. Make sure that all angles in the frame measure exactly 90 degrees.

For best results, rubber tiles should also be glued to the surrounding frame.

Insert one container of PU-Glue OC500 (formerly SH100) (grey colour) into a caulk gun. Apply the plastic nozzle. Cut the plastic nozzle app. 2 cm under the top in an angle of app. 45 degrees. Apply the glue app. 1 cm under the surface line of the tile on 2 connecting sides.

# INSTALLATION GUIDELINES



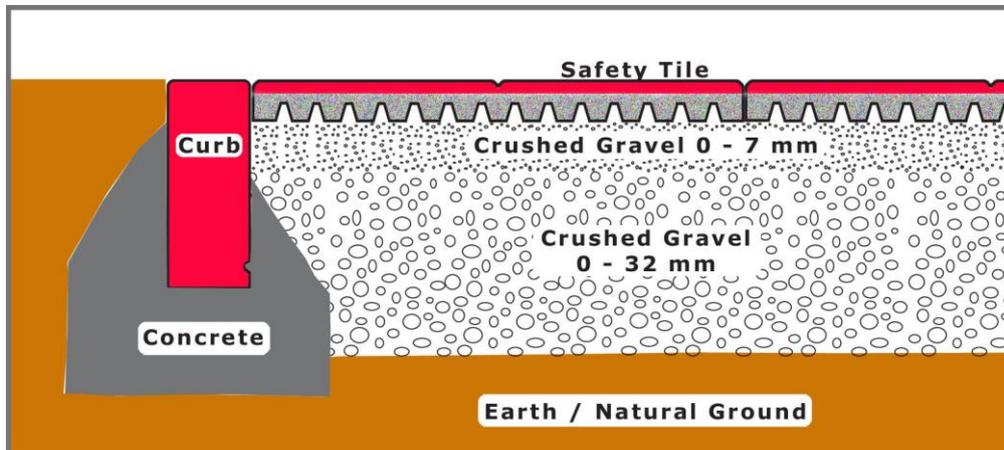
Lay down this tile in a corner of your area with 2 persons and firmly press the two sides with glue against your frame. Do this from outside of your area not stepping on the compacted granular base. Apply glue to the side of your first laid tile you will be connecting next. Apply glue to one side of your second tile (that will touch the frame). Position the second tile carefully, so that you need to shift the tile as little as possible (so that the granular base is affected as little as possible). Work down one side of your area. You might need to cut the last tile in this row.

Next, work along the line creating an L-shape of your area. You might need to cut the last tile in this row. Now work on the next rows, just making sure not to step on the base.

## Installation of Rubber-Curbs

To avoid trip hazards rubber-curbs should be installed flush with the surrounding ground.

Rubber-Curbs are laid into a fresh bed of cement (quality of such in accordance with local requirements). The cement bed should measure app. 20 cm in width and 20 cm in height. Shape the cement around the rubber-curb as shown in illustration xx. Make sure, that the cement moves into the grooves of the curb. The adjoining edges can be glued together with PU-Glue OC500 (formerly SH100) for extra strength.



## Installation of rubber tiles with pin connectors (for 30mm, 42mm, 45, 60 or 65 mm thick tiles)

### Getting ready for installation

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- Store adhesives in temperatures above 10 C and below 30 C Temperature for installation should not be below 10 C and not above 40 C
- No moisture should be present at any time during and at least 12 hours after installation. If there is the chance of rain (or similar) after the installation, make sure to cover installed area with suitable protective plastics.
- Lay out all tiles for work starting the next day. Allow tiles to equalize to ambient temperature.

Install tiles in a fixed framework (e.g. rubber curbs or concrete curbs).

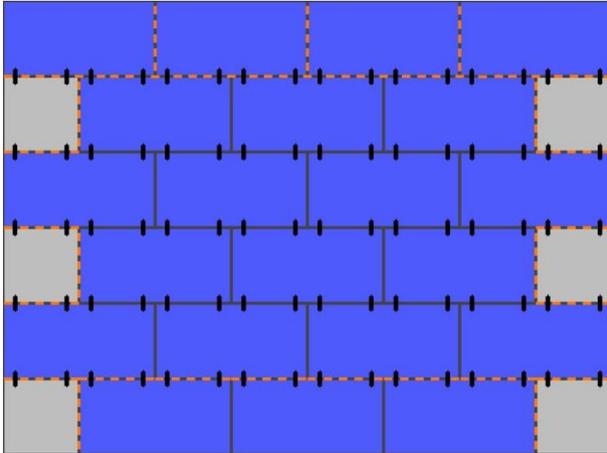
The outer tiles of the area need to be glued to each other (or the ground if applicable) with a PU-Glue (e.g. our PU OC500 (formerly SH100))

Press the pin connectors in by hand or use a rubber hammer.

# INSTALLATION GUIDELINES

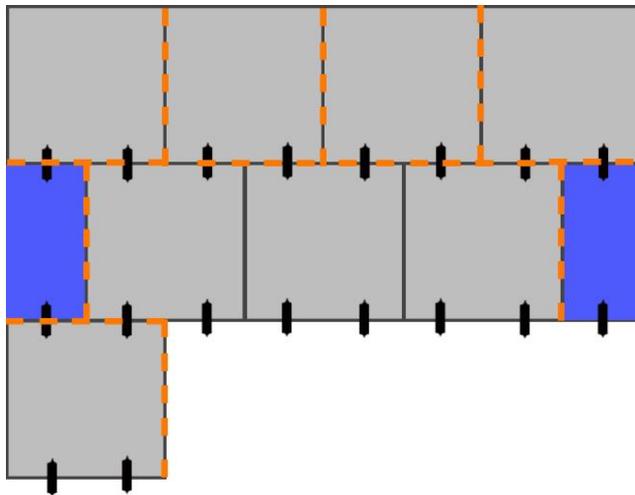
Make sure that the tiles are aligned perfectly by using appropriate tools (e.g. a thin rope). Work row by row and do not start in a „L“ shape.

If you have purchased 1m x 0,5m sized tiles you need to cut the desired amount of 0,5m x 0,5m sized tiles. Divide the tiles in the middle where you can find the cruziform pattern. One of those 0,5x0,5m tiles is the first tile in the 2nd row of your area. The cut size should face the outside of your area. 0,5x0,5 sized tiles can also be ordered directly. Colours between 0,5x0,5 and 1,0x0,5 may vary due to the recycling character of the goods.



*Fig.: Installation of 1,0x0,5m tiles combined with 0,5x0,5m tiles.  
Pin connectors are black, gluing lines are red*

If you use 0,5m x 0,5m sized tiles as the base tile you need to cut the desired amount of those tiles in half (app. 0,25 x 0,5m) and use such tiles as the starter tile in the 2nd row of your area – the cut size facing outside. 0,25m x 0,5m sized tiles can not be ordered, they need to be cut out of existing 0,5x0,5m tiles.



*Abb.: Installation of 0,5x0,5m tiles combined with 0,25x0,5m tiles. Gluing lines are red.*

Make sure, that the outer tiles of pin connected areas are glued together! If you use a framework (recommended) glue to the framework as well.

## Cleaning of safety tiles / elastic tiles

The surface of the tile must be cleaned regularly. As a rule, brushing the surface is sufficient to remove coarse dirt and leaves and sand. Any weeds that arise must be removed between the plates. Depending on the amount of dirt on the tiles, a high-pressure cleaner can also be used. Do not use the highest level of pressure at less than 6 cm from the tiles. Try your washer / pressure level carefully so you do not 'attack' the granules of the tiles. Inadequately cleaned areas will have less protection against falling, as the fine drainage channels of the panels can clog.

Safety tiles with a synthetic grass top layer can be cleaned easily with a leaf blower. Industrial vacuum cleaners are also suitable – if possible to use.

## Inspection and maintenance of Safety tiles

Tiles purchased as safety tiles are used for laying on children's playgrounds and in children's play areas in order to protect against serious head injuries in accordance with the standards mentioned. Any other use is not part of the intended use.

In order to ensure the safety of the laid areas in the long term, the areas must be cleaned, checked and maintained at regular intervals. The time intervals result from the official / legal regulations, as well as from the relevant standards 1176/1177.

During the inspection, it is checked that the tiles do not show any significant wear (the focus here is particularly on areas with punctual loads such as slide outlets and swings) and that there are no stumbling edges / gaps between the safety tiles (and any adjacent posts, play parts or edge boundaries).

If the safety tiles are heavily used or in any condition that can reduce the shock absorption (e.g. deterioration of organic materials, vandalism, increased solar radiation, ...), a higher frequency of inspections / maintenance may be required.

Damaged tiles must be completely removed and replaced with tiles of the same make. Side-glued tiles are detached from the adjacent tiles with a carpet knife and replaced with new panels - with the sides being glued again. Fully glued panels are detached from the substrate, the substrate is cleaned and the new panel is fully bonded again.

If the playground equipment needs to be inspected, the tiles can be loosened as described above and re-attached accordingly after maintenance.

Only spare parts from the manufacturer are to be used for replacement or repair. The manufacturer will help you identify the necessary spare parts.

During maintenance, check that the water drainage on or under the surface is working.

During the installation, inspection and maintenance work, the area must be blocked off / marked as blocked so that children are not exposed to any danger.

The operators of the areas must document the cleaning, inspection and maintenance of the areas.

## Installation of foam pads (shockpads) under fall protection plates

The foam pads (Art.-Nr. : 8SCHFP20) are supplied in dimensions of 1.5 x 2.0 m x 20mm thickness. They are placed loosely on the prepared (leveled, water-permeable and compacted) substrate, joining shockpads are connected with hook tape. The tiles can be cut to size with a utility knife. On the side, the foam pads are held in place by a fixed border.

The safety tiles are now laid floating on the base, glued side to side. (see instructions above). The surface of the safety tiles is installed flush with the edging surface.

*All the above is to the best of our knowledge. Because of various storage conditions or installation conditions (outside of our control) and the multiplicity of possible use we can not take any responsibility and / or guarantee for installation results.*

*For further information please contact the respective companies or a dealer of your choice.*