

PUZZLE MAT 3D® - INSTALLATION GUIDE

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I. Installation steps

1. Remove the topsoil layer down to the firm subgrade.
2. Construct a base layer of crushed aggregate (200–400 mm thick) using 0/32 mm aggregate in accordance with DIN EN 13242.
3. The base layer shall be compacted in successive lifts using suitable compaction equipment. Following compaction, the surface shall be uniformly level and shall achieve a minimum EV₂ value of 45 MPa.
4. Install a permeable levelling layer approximately 30 mm thick using a 0/8 mm aggregate–cement mixture in accordance with DIN EN 13139. The mixture shall be prepared at a ratio of 7:1 (aggregate : cement) with an earth-moist consistency. Bring the levelling layer to the required level using suitable measuring and screeding tools, and strike off the surface using screed rails and a straightedge. Ensure that the surface is even and free from high spots or depressions. Allow the levelling layer to cure for at least 3–4 hours before installing the grass grid panels.
5. Start from the corner and work outward step by step, fitting each tile carefully so it lies flat and level. Pay close attention to the alignment of the intermediate elements. Optionally, the system build-up may be enhanced with XPE puzzle panels made of thermally bonded polyethylene foam featuring a flush-fitting interlocking connection system.

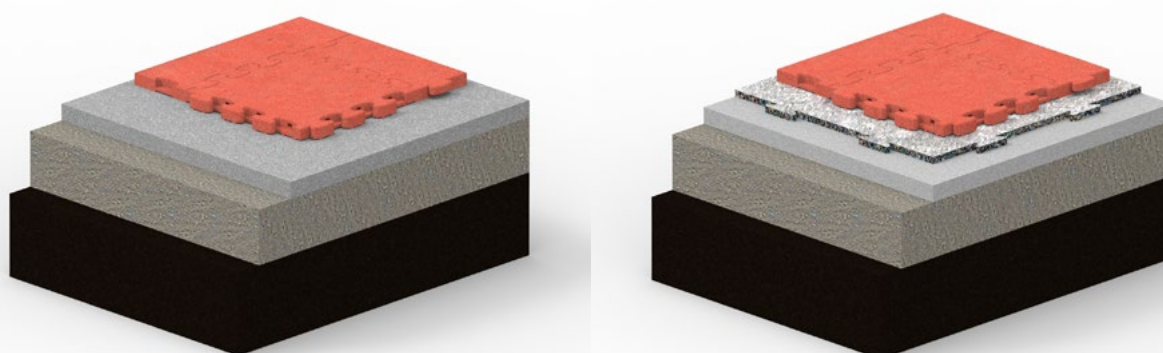


Figure 1

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II. Installing the tiles

When laying the fall protection tiles, the puzzle elements shown in Figure 2 must be placed on the intermediate elements and the buttons pressed into the button indentations.

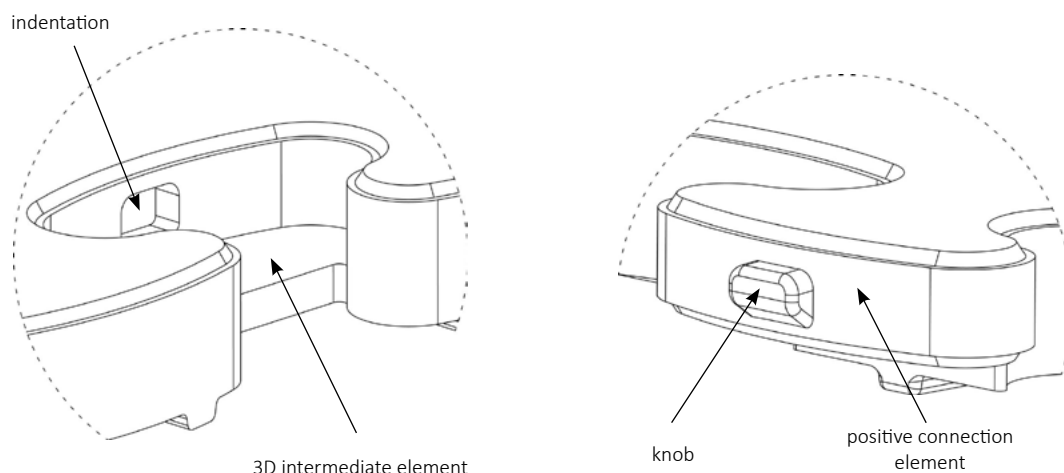


Figure 2



Figure 3

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Figure 4

When installing the Puzzle Mat 3D® system, it is important to follow the installation sequence shown in Figure 5.

- the corner elements marked with 3 are connected to the edge elements marked with 2A;
- we have the sides with the same properties marked respectively with the letter “a” in green and with the letter “b” in blue;
- in the next step, the fall protection tiles marked with 1 are linked together;
- the different sides are put together. The puzzle elements with positive connections are linked to the intermediate elements with negative connections
- after the puzzle elements have been connected to each other, the surface has to be closed off with edge and corner elements.
- it is important to arrange the puzzle elements in the same way when laying. Always start with the edge tiles with intermediate elements, whereby the PM3D tiles are always arranged during laying so that the “a” side without intermediate elements faces to the left (Figure 7).

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- ① Puzzle Mat 3D® Tile
- ②B Edge Tile without Intermediate Element
- ②A Edge Tile with Intermediate Element
- ③ Corner Element

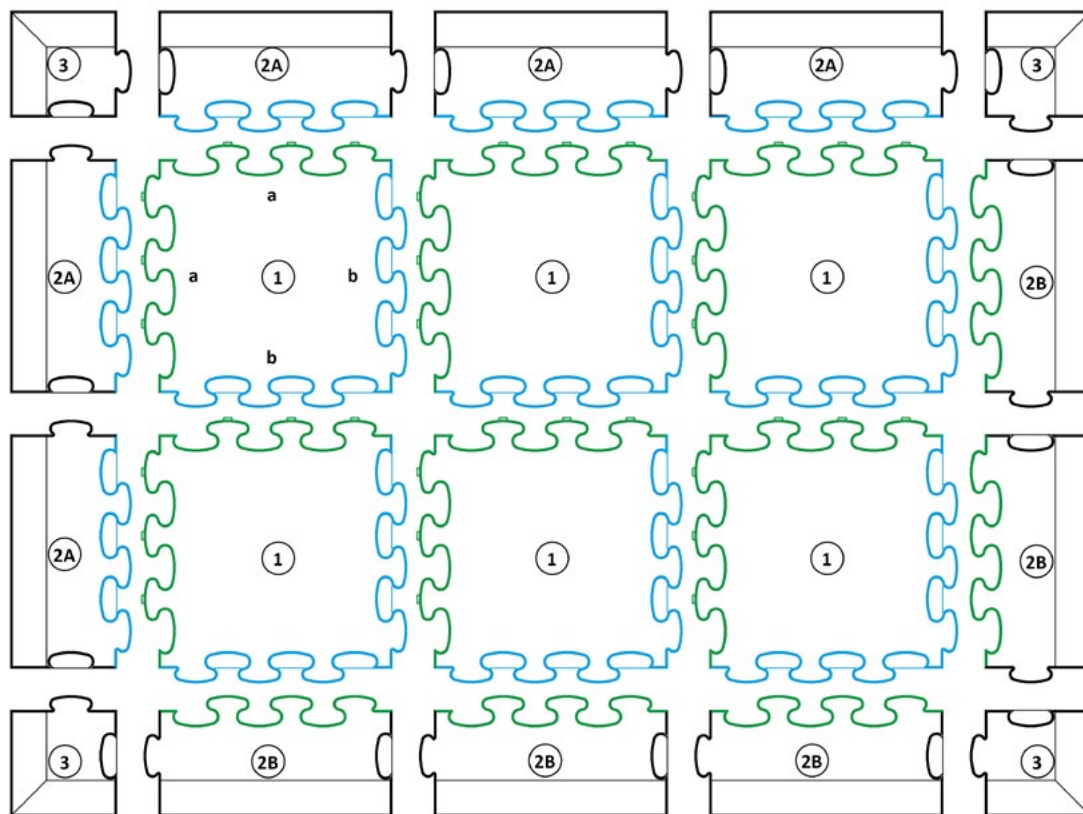


Figure 5

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Negative corner tiles as shown in Figure 6 consist of edge tiles cut to size during production. Negative corner tiles can be used for L-shaped installations or for building paths. The negative corner tiles can be ordered in versions A, B, C and D and can be installed as shown in Figure 7 below:

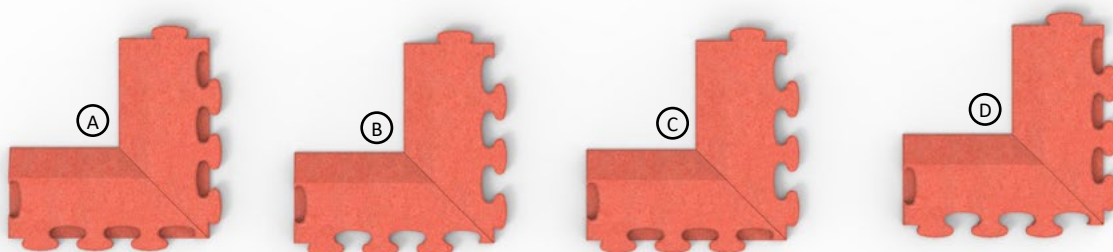


Figure 6

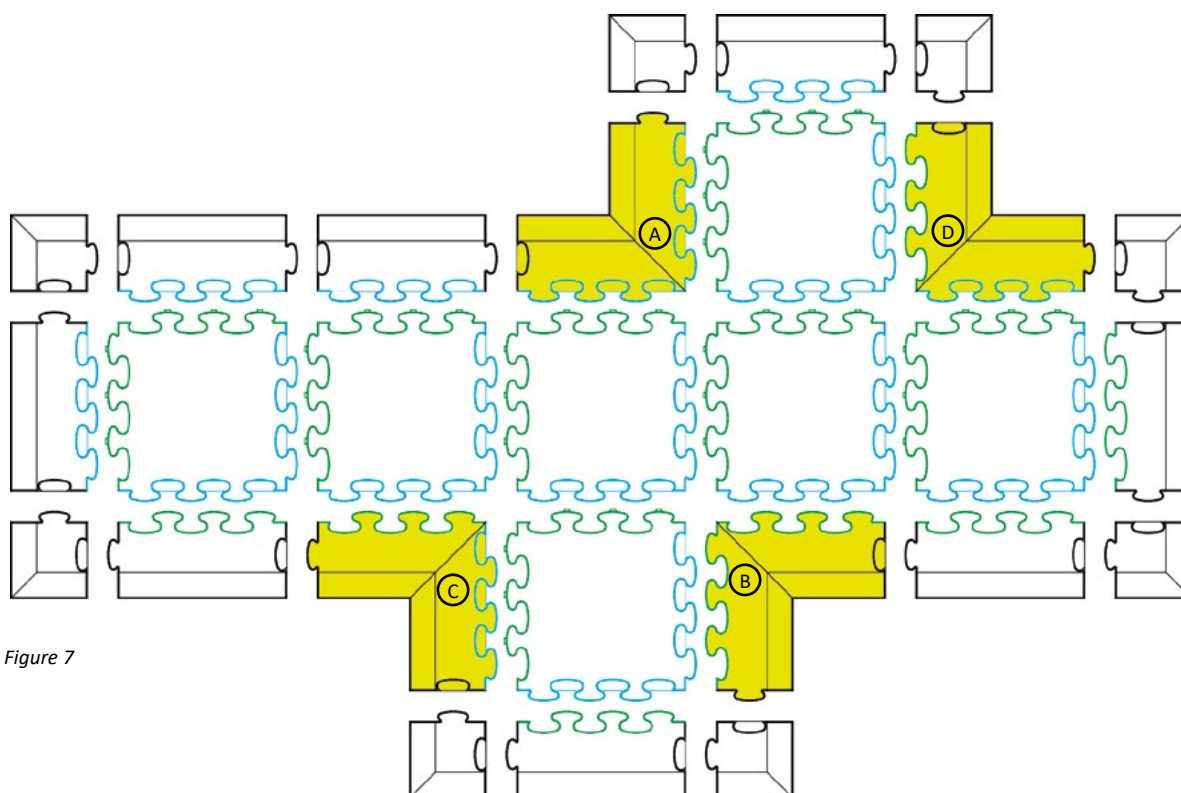


Figure 7

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For an effective installation process, it is recommended to lay as shown in Figure 10. The “a” side of the Puzzle Mat 3D® tiles without intermediate elements should always face to the left. Figure 8 shows that the tiles can also be laid if the sides without intermediate elements face in the other direction. This connection is not recommended, as otherwise the intermediate elements of the Puzzle Mat 3D® fall protection tile will face each other and can no longer be connected. Figure 9 shows that the tiles can also be arranged so that the “a” side of the Puzzle Mat 3D® tiles without intermediate elements faces to the right. This is not recommended, as otherwise additional elements such as negative corners will be more difficult to install.

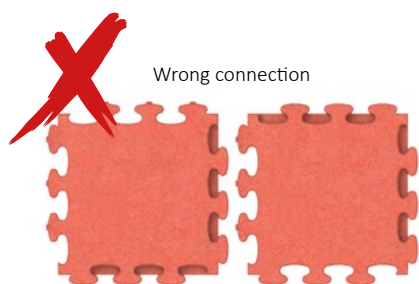


Figure 8

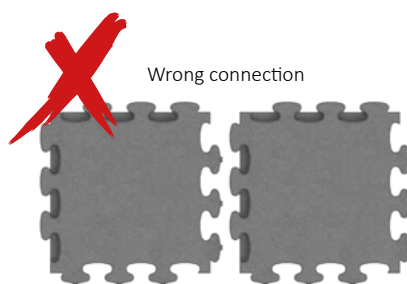


Figure 9

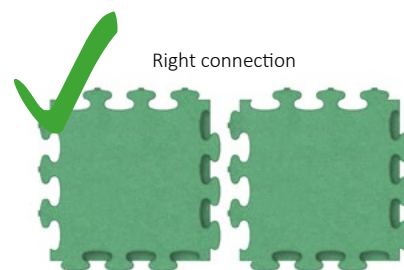


Figure 10

III. Special dimensions

For custom square-meter requirements, special dimensions, installation and material tolerances, or when edging playground equipment, the individual slabs can be cut using a reciprocating saw with a coarse-tooth blade or a jigsaw with a soft blade (e.g., Bosch T 313 AW). If edging is required, it should be installed after the slabs have been laid in order to avoid inaccuracies when positioning the slabs.

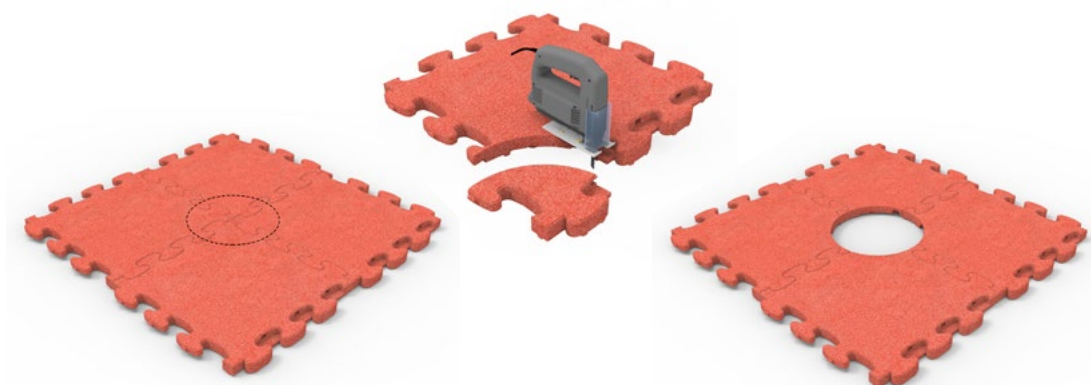


Figure 11

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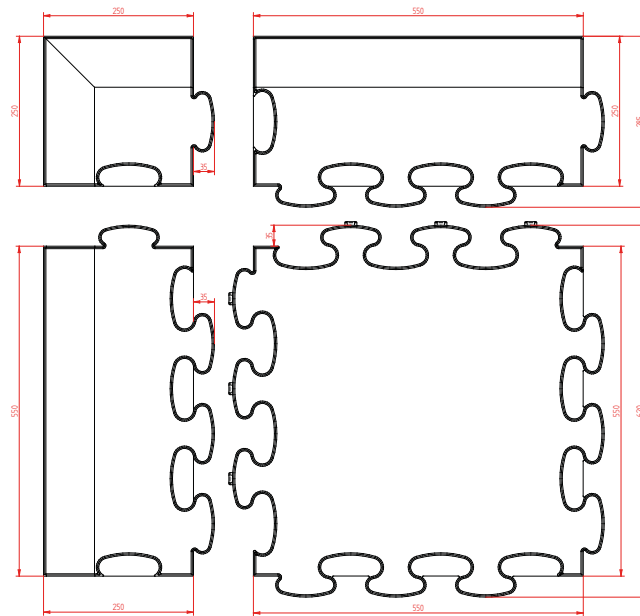


Figure 12

IV. MAINTENANCE

It is recommended to clean the surfaces of the rubber tiles once a week using a rice-broom or a water jet with moderate pressure (max. 30–50 bar, distance 30 cm). If the surface becomes soiled (e.g., by spilled liquids), it is recommended to clean the floor (wet) with a floor-cleaning machine. If the rubber flooring becomes more heavily soiled, a neutral cleaning agent or disinfectant may also be used. When using such agents, it must be ensured that the chemicals come into contact with the surface only at low concentrations and for a short period of time. Acetone-based and chlorine-based binding agents must be avoided.

Rubber tiles that are mechanically damaged during use must be replaced as soon as possible to prevent accidents. To replace a damaged tile, the affected tile must be pried out with a screwdriver. If the replacement is carried out on a solid sub-base, the tile can simply be pressed in. If the sub-base is not well compacted, the interlocking elements of the replacement tile should be removed. In this case, the Puzzle Mat 3D® is installed without the interlocking elements and gains stability through the cohesion of the remaining PM3D® tiles.

Gum-tech® recycles old Puzzle Mat 3D® tiles for a reprocessing fee of 150 EUR per ton. In addition, the material must be properly packaged and shipped to the Gum-tech® recycling facility. Alternatively, the tiles can be disposed of in accordance with the legal regulations of the respective country. For this, please contact a licensed waste-management company or your local municipal administration.