



PLASTIC
CELLARS.CO.UK



ITMSplast®

Plastic production, quality products from the Czech manufacturer



Installation instructions

for plastic underground cellars
and storage spaces

TECHNICAL DESCRIPTION OF THE PLASTIC UNDERGROUND CELLAR/STORAGE SPACE

GENERAL

Plastic underground cellars/storage spaces of any shape (circular, rectangular) are constructed so that they NEED to be encapsulated in concrete all around. In most cases, the structural ability of the plastic underground cellar/storage space is not provided by its construction, but concrete.

In case of a larger load in the surroundings (consider truck movement, etc.), it is necessary to consult concreting with a static who suggests the method and strength of the concrete ring beam around the plastic cellar.



How to place the plastic underground cellar/storage space into the ground

1. Marking of the place where the plastic underground cellar/storage space will be placed.

It is recommended that the storage space be increased by 200 mm compared to the basic external dimension of the product. This creates a basic handling space for placing the product into the excavation.

2. In the place designated for the placement of the cellar/storage space to the ground, it is necessary to make a pit where the product will be seated.

The pit size depends on the size of the plastic underground cellar/storage space + handling space.



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3. As soon as the pit is ready for the place where the plastic underground cellar/storage space is to be stored, it is necessary to level the pit bottom.

When the bottom is straight, thin concrete (concrete with a higher water content) can be applied to the pit. Slight concrete must also be aligned (flatness max. ± 5 mm at 2 m). If the bottom of the pit and the concrete are not flat, the plastic underground cellar/storage space will be deflected from the axis. The concrete thickness applied to the bottom of the pit is 150 mm (unless otherwise specified by the manufacturer). At the bottom of the pit, the concrete must include a reinforcement mesh, at least $\phi 8/8-150/150$. In this way a base iron-concrete slab is made.

4. The perimeter of the plastic underground cellar/storage space is equipped with plastic ribs (rings). There are drilled holes, mostly of $\phi 8$ mm.

The holes are used to pass the reinforcement wires (rebars) through.

5. As soon as the base slab has hardened, a plastic underground cellar/storage space can be placed on it.

6. The plastic underground cellar/storage space is ready for concreting, it can be filled with water (or braced in an appropriate manner) and gradually encapsulated with concrete. The water level must always be 200–300 mm above the concrete level around the plastic cellar. Concreting of the plastic underground cellar/storage space is always done gradually and manually. In most cases, dry concrete is used to encapsulate the plastic cellar perimeter (in case of groundwater/clay soil it is necessary to use suitable protecting concrete). The manufacturer does not recommend that the perimeter of the plastic cellar be encapsulated in one day. The manufacturer recommends moving every 500 to 100 mm (depending on the weather) every day up to the plastic ceiling of the plastic underground cellar/storage space.



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7. If the perimeter of the plastic underground cellar/storage space is already encapsulated with concrete, which has absolutely hardened, the plastic ceiling of the product can be concreted, which must be supported in a suitable manner (e.g. roof battens, squared timber, etc.).

8. As soon as a plastic ceiling is sufficiently supported, it is possible to step on it and insert reinforcement mesh with an overhang that copies the ground plan of the cellar including the reinforcements. The concrete layer will be applied to the reinforcement mesh. The thickness of the concrete ceiling depends on the planned load (most often the thickness of the concrete layer applied on the ceiling is 150 mm); consultation with the static is essential. Concrete is applied slowly and manually to the plastic ceiling.

9. After hardening of the iron-concrete ceiling, the plastic underground cellar/storage space can be covered with soil and grass.

10. The manufacturer recommends taking pictures during all construction work.

11. Also, the manufacturer recommends that the product be placed in by the construction company.

12. All work with concrete must be done manually, not with the help of machinery.

The same applies to the subsequent filling of the plastic cellar perimeter with soil – it is also done manually.

13. At low temperatures, special care must be taken. The material which the cellar/storage space is made of is frost fragile and prone to rupture in frost.

14. After all work has been completed (matured iron-concrete slab on the lid, the lid design backfill), the supports are removed from the plastic underground cellar/storage space, and the product can be fully used to your satisfaction.

We wish you a lot of satisfaction
with your plastic underground
cellar/storage space

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