Installation guide for a cellar/shelter Kolomaki Quick for concreting or self-supporting.

The cellar/shelter for concreting is also suitable for places with a higher static load.

Installation procedure:

At the selected location, we make a 20 cm wider excavation on each side of the cellar/ shelter (see drawing) to create a working space for concreting (Quick for concreting) or gravel (self-supporting Quick).



For concreting

The cellar/shelter is placed on a compacted and levelled 100 mm thick layer of aggregate, fraction 8/16.

We will install the cellar/shelter using mechanisation. After settling the cellar/shelter, we will make a concrete slab with a height of 100 mm on the floor. Due to the load during concreting, after the cellar/shelter floor has hardened, it is necessary to support the ceiling using 4 stands and one wooden beam in the centre of the ceiling.

The walls of the cellar/shelter must be reinforced. We recommend using the concreting kit that you can order to make this proces easier. You can also your own materials and reinforce the cellar with 2 longitudinal wooden prisms 80/80 mm placed at a height of 500 and 1000 mm before concreting. These prisms will be spanned using horizontal wooden

spacers of 80/80 mm placed approximately at quarter lengths of the beams. Only then is it possible to concrete the cellar/shelter walls.

If the cellar/shelter is installed in places with a high groundwater level, drainage must be provided around the cellar with water drainage outside the cellar. The cellar/shelter is not intended for places with groundwater.

We must not pour more than 100 cm of concrete in one day. The thickness of the concrete around the cellar/shelter is recommended to be 150 mm.

Stand-off and removal of struts can only be done after the concrete has hardened sufficiently - at least 10 days.

Self-supporitng

The cellar/shelter is placed on a compacted and levelled 100 mm thick layer of gravel. It is the surrounded by 200mm of gravel form each side. Gravel must be layered to ensure the cellar/shelter doesn't move in the excavated pit. Once cellar/shelter is covered by gravel earth may be put on top for isolating or decoration.

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Construction excavation

The construction trench must be excavated in a sufficiently large area to maintain the width of the working area. The slope, or the slope of the excavation, will result from the local geological conditions. The recommended slopes of the construction pit walls are:

Ground type	Permissible slope of the hill The ratio of the height to the length of the slope
Dusty clay	1 : 0,25
Clay gravel	1 : 0,25
Earth	1 : 0,25 - 1 : 0,5
Clay	1 : 0,25 - 1 : 0,5
Clay loam	1 : 0,25 - 1 : 0,5
Sandy clay	1:0,5
Boulder sand	1:0,75
Loamy sand	1:1
Sandy earth	1:1
Sandy gravel	1:1
Rocky earth	1 : 0,5 - 1 : 0,2

In the case of more complex geological conditions, the structural engineer will determine the protection of the walls of the excavation.

The dimensions of the construction excavation are determined by the type of cellar - see drawing. The maximum height of the embankment in standard installation is 40 cm above the basement.

Location relative to buildings

The cellar/shelter must not be bellow a building. Loads caused by any construction could lead to deformation of the structure. The cellar/shelter must be at least 1 meter away from the building.

Location on a slope

If the cellar/shelter is located on a slope, it is important to check the terrain to prevent landslides or other complications. A static calculation and assessment of the suitability of the stability of the subsoil or slope is carried out by a structural engineer or building designer every time the cellar is placed on a slope.

Non-standard mounting situation

All non-standard assembly situations must be assessed by the structural engineer or building designer in order to exclude possible damage or imminent danger. On the basis of the project, a static assessment prepared by a professionally qualified authorised person must also be provided.

Transportation

The cellar/shelter must be transported, loaded and unloaded with care. Impacts during loading and unloading are not allowed. Fastening the cellar/shelter during transportation must be done carefully, it is not allowed to use excessive force that can lead to deformation of the product body. It is recommended to load and unload the cellar/shelter using a crane, excavator or a forklift.