



Level 3



4–6 days

# Pond with pond liner

## Detailed instructions

### for building a pond with pond liner

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Water attracts. It is not without reason that ponds quickly become the centre of life in your garden. The dream of having a garden pond using pond liner is easily achievable. You don't even have to be a passionate DIYer. All you need is a little enthusiasm to dive in and build a pond system in your garden. We'll show you how.

**We hope you have lots of fun and success with your pond project.**



**Step  
1****Requirements**

Before we get down to the fine details, we first need to clarify how much time you should plan in for your project, and which products, tools and materials you will need.

**Why a pond with pond liner?** The main advantage of the liner pond is its flexibility, as you can design it freely to suit your tastes and your garden. If you have a pond volume of 2500 litres or more, a liner pond is preferable to a pre-formed pond.

**Building time:** The cost of building a pond with pond liner depends largely on its size. The larger it is, the more time, manpower, building materials and plants you need. For a truly eye-catching effect as well as the fact that larger bodies of water tend to be easier to take care of, it makes sense to build the pond as large as possible within your desired size range.

The most time-consuming part is the excavation of the pond pit. To remove 1 m<sup>3</sup> of soil, a person with a shovel, spade and – if necessary – a pickaxe needs about 1 ½ hours. If the soil is heavy in clay or full of stones or roots, you will need longer.

All of the following information in this description relates to the planning and implementation of a regular pond with liner, occupied by a few small fish. This project will take about 4 to 6 days of work.

**Recommendation:** If you have people helping you or you are able to use a mini digger or dumper (motorised wheelbarrow, available for hire), the time required is reduced. Organising people to help you with your pond construction project is generally a good idea. Depending on the size of the pond, it is much easier to lay out the fleece underlay and pond liner when working as a pair or in a group of four.

**Tools and materials you will need**

To build the liner pond, you will need garden tools such as a shovel and spade, wheelbarrow, watering can or garden hose, string (e.g. cord) and a boxcutter as well as a spirit level and a folding rule or tape measure.

Sand is also required for building the liner pond. We recommend about ½ m<sup>3</sup> of fine play sand or masonry sand (without gravel or stones).



## Step 1 – Requirements

### OASE products you will need

For your budget planning, consider the following materials and products:

- Pond fleece based on the liner size (article no. 37248)
- Pond liner with accessories such as liner adhesive or universal adhesive (article no. 53622)
  - The method for calculating how much fleece underlay and pond liner you need can be found under „Step 3: Construction“, as the measurements are ideally taken from the pit of the pond.
- Pond edge system the length of the pond circumference (article no. 57751)
- Pond pump or water feature (article no. 70235)
- Filter system (article no. 50454) and hose (article no. 37176)
- Plant baskets (article no. 53755), embankment mats (article no. 36296)

Depending on what features you would like to have, you can add optional accessories such as:

- FoamFix for fixing stones, etc. (article no. 70972)
- Liner transitions for laying hidden cables and hoses (article no. 57154)
- Stone liner (article no. 40293)
- Decorative objects such as pond figures or water-spouts (article no. 36774)
- Materials for a stream (see detailed description „Building a stream“)

**Also available from your plant store:**  
pond and swamp plants of your choice

Once you've got all your materials together, it's on to the next step – preparation.

## Step 2

### Preparation

You know what materials and tools you need, you have them ready to hand or have hired them and you have made arrangements for people to help. The next step is to determine the exact location for the pond.

If you are creating a new pond, we recommend that you consider the following criteria when determining the location:



**Sun exposure:** Plan your pond in a semi-shaded spot in your garden. There, the water does not heat up excessively in summer, meaning the fish are not harmed. Sunshine exposure of about 4 to 6 hours a day is optimal.

**Vegetation:** It is best to find a clear spot where, during the course of the year, the amount of pollen, petals and leaves from surrounding garden plants which falls into the pond is kept to a minimum.

**Viewing angle:** Most importantly, the pond should be visible from your favourite spot in the garden.

## Step 2 – Preparation

**Expert tips:** You can use the excavated earth to shape the garden and pond landscape or pass it on to your neighbours and friends for them to use. It is best to plan this in the preparation stage.

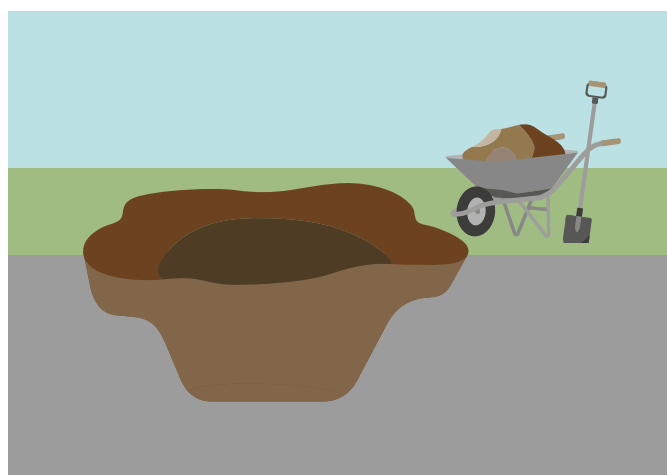
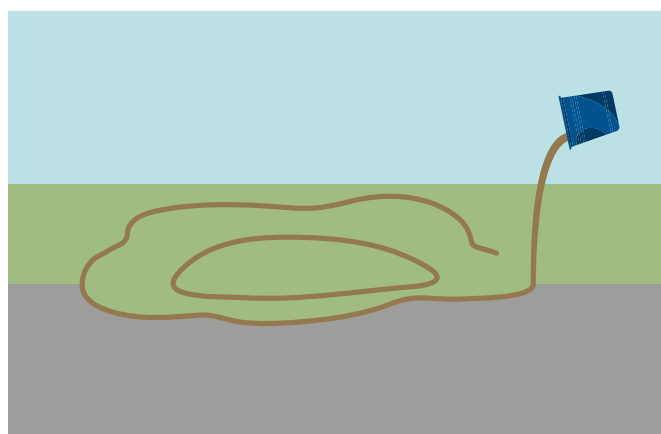
Prepare the site so that you have space to move and nothing is in the way. Plan the site and the individual steps so that all work can be carried out step by step, smoothly and in sequence.

## Step 3 Construction

Your pond with liner already exists in your dreams, now it's time to make it reality. Get all the necessary tools, materials, products and plants ready, because it's time to build.

### Marking the contours:

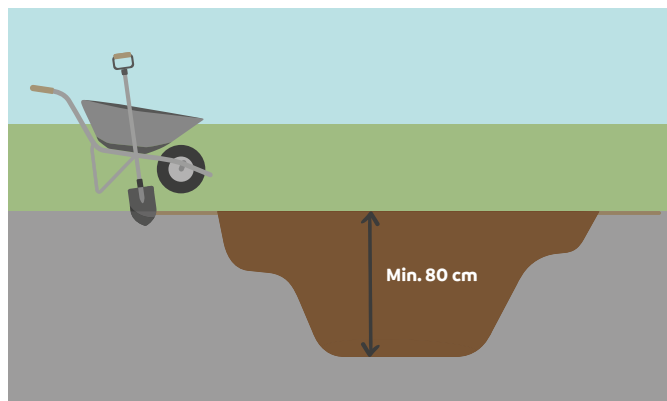
- **Circumference and breadth:** Prepare the excavation at your chosen spot in the garden. To do this, mark the size and shape of the pond using some string or by sprinkling a line of sand. For the total size of your pond, consider the water area plus at least 30 cm of boundary zone for planting.
- Within the outline, mark the deep zone with a second line (about 1 m<sup>2</sup>).
- Remember: The larger the deep zone, the steeper the bank of your liner pond will be later. Steep banks must be reinforced by formwork blocks or similar.



### Excavate the pond:

- Excavate the pond according to the desired shape. The different pond zones should be as follows:
  - Bank zone 10–15 cm
  - Shallow water zone 20–35 cm
  - Deep water zone 60–80 cm
- ✓ If you want to keep fish in the pond and keep them over winter, provide a freeze-proof deep zone of at least 80 cm. Without fish, a deep zone of 60 cm to 80 cm is sufficient.
- Make the bank very flat at one point or at two opposing points. This allows animals that have accidentally fallen into the pond (such as hedgehogs) to easily climb out.

### Step 3 – Construction

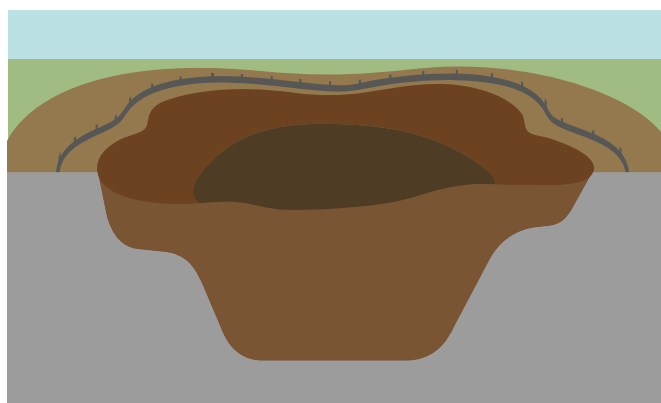


- Pond building is much easier if you work in a team of two or more: One can dig while the other wheels away the soil.
- Remove any sharp stones and roots from the bottom and sides of the pit that could later damage the pond liner.
- When the excavation is complete, smooth down all surfaces using a spade or shovel.

**Expert tip:** Add a layer of sand about 5 cm thick to the smoothed surfaces. This lets you model the shape more finely. In addition, the layer protects the pond liner from sharp stones and roots, increasing the protection offered by the fleece underlay.

#### Building a capillary barrier:

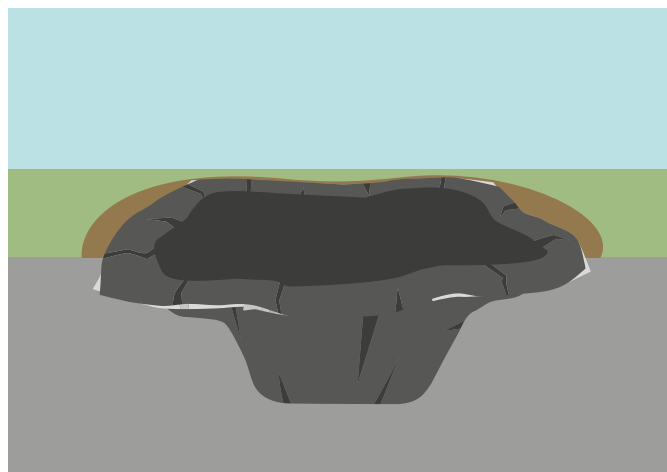
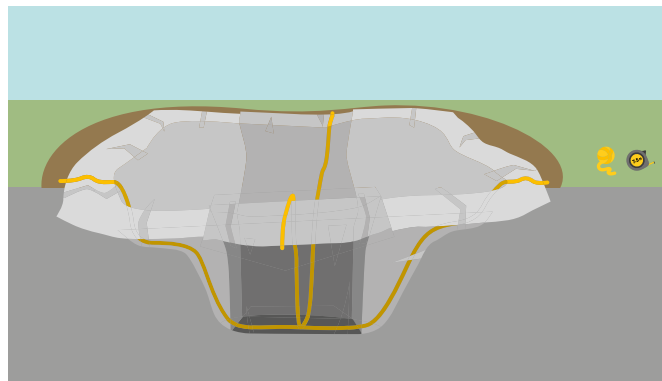
Once you have worked out the basic shape of the pond, lay a pond edge system all around to prepare for the capillary barrier. The top edge protrudes 5 or 6 cm above the ground when laid out. With this, you will later use the liner edge to form a boundary between the pond water and the soil surrounding the pond. Without this barrier, a wicking effect (capillary effect) could arise, whereby soil coming into contact with pond water draws large amounts of water out of the pond like a wick.



### Schritt 3 – Construction

#### Laying the liner:

- Use the tape measure to calculate the amount of fleece underlay and pond liner you will need:
  1. Length of liner/fleece: Pond length + 2x depth + 2x edge addition of 50 cm
  2. Width of liner/fleece: Pond width + 2x depth + 2x edge addition of 50 cm
  3. Liner/fleece length x liner/fleece width = liner/fleece to be ordered in m<sup>2</sup>
- Once you have obtained both materials, start laying out the fleece underlay. The reason for the underlay is that the weight of the water in the pond puts a lot of pressure on the liner. This can lead to sharp stones penetrating the liner even after several years. The fleece underlay protects the liner from such damage. Therefore: Wherever liner will be placed later, you must first lay out fleece underlay.
- The liner is then laid out on top of the fleece.



- Spread the liner out in the garden for a few hours before laying it to straighten out the twists and creases that occur when packing and transporting the liner.
- Lay out the liner with as few creases as possible. In places where this is not immediately possible, smooth out the creases and weigh them down with smooth stones. Position the liner so that it has at least 20 cm of excess length around it to be able to fix it behind the capillary barrier. However, you must wait until the first water is added before fixing it. This is because the weight of the water will pull the liner in a bit (see picture 7).

**Expert tip:** If possible, lay the liner on a warm day, which makes it smoother and easier to handle.

### Step 3 – Construction

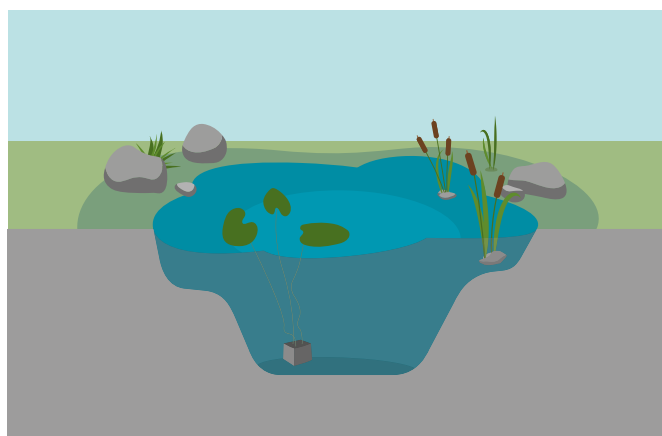
#### Install the technical equipment and decorate the pond edge:

- Be it decorative items or equipment, rinse all materials and products with clean water first to avoid introducing dirt into the pond water.
- Now you can already start shaping your pond's exterior. For instance, you can line the pond edges with decorative stone liner or stones.
- Now place the required pond equipment such as filter, pump, water feature and lighting in and around the pond according to their instructions.
- Initially, fill one third of the finished liner pond with water and allow it to rest for half a day so that the liner can settle. Repeat this procedure with the second third. Finally, fill the pond to the edge.
- Fix the liner around the edge of the pond. To do this, pull the liner behind the pond edge system and hammer it into the soil. Fully laid out, the liner now protrudes about 5 cm from the ground and covers all the soil in such a way that it does not come into contact with water. Your capillary barrier now effectively prevents any wicking effect.



#### Plant and decorate the pond edge:

- Plant the pond in its shallow water, swamp and bank zones. Place the pond plants in special baskets and plant soil. For the start, it may make sense to weigh down the baskets and the plant soil with some large pebbles, so that they remain in place as far as possible and the soil is not washed into the pond water.
- You can also decorate the pond as you like. For example, pebbles, large rocks, tree roots or thick branches or trunks are suitable for this purpose. Also a nice touch: fancy water garden art, for instance pillars or sculptures by regional artists or artisans.
- Wait around 2–3 weeks for a pond biology to develop before introducing any fish. Your aquarium specialist will tell you if it is the right time for introducing fish, or other aquatic animals on the basis of a current water sample.

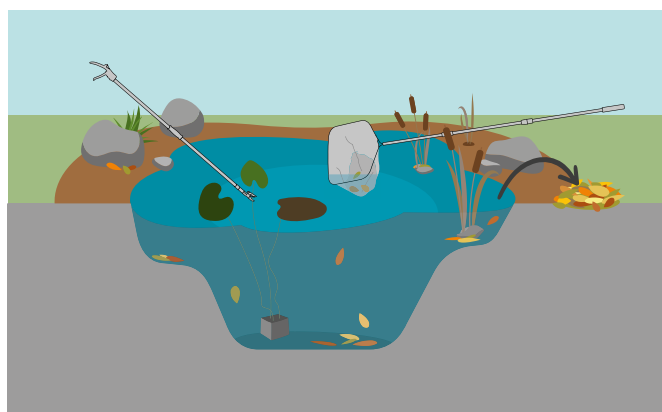


## Step 4

## Maintenance

Was your pond project a success? Enjoy your biotope pond with liner and keep it in top condition with appropriate maintenance:

- **Waterline:** Check the water level in the pond regularly and top up with water if necessary.
- **Vegetation:** Examine the surrounding vegetation from time to time. Cut back any plants that protrude too far into the pond and remove any unwanted greenery that has begun to grow there.
- **Nutrient Input:** If possible, take preventive measures to prevent anything from entering the pond which will become food for algae after decomposition. Space-saving helpers for effective pond cleaning include pond scissors (article no. 51243) and pond grabbers (article no. 40291).
  - **Plants:** Cut off dead plant parts near the pond early before they get into the water.  
From petals to foliage: Petals in spring, pine needles in summer and leaves in autumn: you should prevent all of these things from getting into your pond, for instance by setting up a foliage protection net (article no. 53751, 53752, 53753, depending on the pond size).
  - **Pond mud:** If mud has formed at the bottom of the pond, remove it with a PondoVac pond vacuum (article no. 50110).
  - **Fish feeding:** In order to minimise the amount of nutrients that enter the water from fish food (food residues, fish faeces), you should introduce fish in a disciplined manner, feed moderately and install a pond filter system to remove the food residues.



**We hope you enjoy your new DIY water garden!  
It is sure to be eye-catching for everyone from day one.**

Did you find this project interesting and are already itching to get started on another one?  
For more inspiration, including detailed DIY guides, visit [www.oase.com/diy](http://www.oase.com/diy).