

Right first time

Pond construction expert, Bill Gale begins a new series which aims to help you plan your pond and get it right... first time



A shaded pond built by Sussex Koi

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Bill Gale is the proprietor of Sussex Koi Ltd near Chichester and specialises in pond construction from design to completion. The largest pond built to date is 57,000 gallons, and the furthest away was an indoor 20,000-gallon pond in Dubai. Bill also visits Japan regularly to hand select high quality koi to grace your ponds at affordable prices.

How many times have you heard someone say, "I wish it was bigger (and we are talking pond size here)! I wish I had added a bottom drain, or a skimmer would have made all the difference". Well, over the next few articles I hope that I can help you to 'do it once, do it right' and guide you through some simple but important considerations that will see you through from conception to completion and stocking of your pond.

There are many important points that need to be addressed long before the first spade full of soil is dug. Among them is: budget, position, shape, size, liner/fibreglass, materials, pump/gravity fed, what filter etc. So let's address these points so that you can understand what it is you need to take into account.

the budget

Like all big expenses and purchases you make in life, you plan them and work out the costs to make sure they

are affordable. Well it really is no different when it comes to koi ponds.

It is pointless just digging a huge hole in the garden and then finding out that the cost for the liner/fibreglass, filters etc just outweigh the project. And there is absolutely no point in fitting inadequate filtration and trying to cut costs, as you will defeat the whole project.

where should we have the pond?

The positioning of your pond is very important. So many people just look at the floor area without paying attention to what may be above the proposed pond area. It's important to check out what trees may be there as these will drop leaves and twigs etc into the pond. These can then block the drains and place excessive loads on the filters.

Try to find an area with a fairly clear space above, that is not too far away to be enjoyed from your house. This ▶

...astonishingly, around 90% of all fish health issues can be avoided through better water quality!

This huge pond is ready for fibre glassing



way you can enjoy your pond during the winter months when many people tend not to venture into their gardens.

what shape should the pond be?

Ponds are built in many different shapes: round, oval, kidney, square, oblong, figure of eight, triangular, irregular, the list is endless. It really does not

matter what the cosmetic finish of the outer shape of the pond is, as long as the inner finish of the pond is designed to give good water circulation.

For example a square shape pond from the outside should have all four inner corners rounded off up to the water level. This ensures that the water returning to the pond does not hit a flat wall; it is encouraged to flow round the pond because of the rounded corners.

A biological filter could therefore be thought of, alternatively, as a 'biological reactor'

An indoor pond built by Sussex Koi





We built this pond set in a Japanese garden

does size really matter?

In the case of your koi pond, yes it does. I very often get calls from hobbyists, telling me that they had dug their pond and wanted to know what filter system they should use. My first response is to find out the size of the hole so that I can work out how many gallons of water the pond would end up with.

I have been known (on more than a few occasions) to have to then tell the customer that they will need to spend in the region of three to four thousand pounds on an adequate filter system for the size of pond they are building. A deadly silence takes over on the other end of the phone and, of course, they end up saying that it's just too much money.

So, please, remember the first thing to do is budget!

Another reason size should be mentioned, is that you will need to be able to catch your koi at some point. This could be for any number of reasons, the most common being for taking them to shows or dealing with sickness. Therefore your pond should not be of a size that makes it impossible to use a pan net with an extendable handle for catching your koi. If your pond is too big to do this, then you need to purchase and use a seine net.

liner or fibreglass?

The decision you make on the type of waterproofing you choose to go for

will make a considerable difference to the cost of your pond.

Liner

The most common liner in use is the Butyl liner, normally .75mm thick. Providing some form of substantial underlay is used – such as liner underlay, old carpet or sand – and that every precaution is taken to remove any sharp objects, there is no need to put in a concrete base or build walls, therefore making a huge saving on building materials and time.

However there is one major drawback when using a liner and that is the unavoidable creases that you get when trying to work the liner round bends and corners. However the use of Butyl double sided tape does help the creases to lay flat.

The only way you can totally avoid creases with a liner is if you have either a square or rectangular shaped pond. This will enable you to fit a box welded liner. As the name suggests, you literally dig a hole that is to a specific square or rectangle size and the liner is welded in all four corners to fit. But this does call for the hole to be perfectly dug and I would suggest that sheets of inch thick polystyrene are placed around the walls prior to the liner being fitted. This will enhance the fitting of the liner and act as thermal insulation.

Fibreglass

Without doubt if you can afford to fibreglass your pond, in my mind this is the way go. ▶

Some media, such as Kaldnes, are actually self-cleaning and require no maintenance if used in a moving bed...

Yes this is the most expensive method of waterproofing your pond but for piece of mind for at least 25 years if it is done correctly, it's worth it.

When budgeting for fibreglass you must take into account all of the building materials and labour time costs that will affect it.

The pond floor will need to be reinforced concrete and the walls built from concrete blocks. You will then need to render the walls and screed the floor to ensure you have a good smooth surface overall for the fibreglass to adhere too. The screed and render should have rein fibres mixed into it to increase the strength of the pond and reduce the chances of cracking. Remember the fibreglass will take the shape and form of whatever it is going to cover, so if you do not render the walls, you will actually see the form of each concrete block through the fibreglass.

The render and screed should be allowed to procure for seven days before the fibreglass is added, and then this can only be done if the pond is perfectly dry.

If you have no experience of fibreglassing then it is recommended that you call in an expert. A good

fibreglasser will lay two x 450-gram chop strand matting, plus one x tissue layer and a flow coat of the chosen finish colour, normally green or black. So if your budget enables you to have a block built fibreglass pond, then this is the way I would recommend you go. Believe me, if you don't you will only wish you had!

health and safety

The main aim of any koi pond is to make it a safe environment for the koi to live in. The least amount of protrusions there are in the pond the better. Most abrasions found on koi are picked up on items in the pond, such as water returns and submersible pumps. So these things should be considered at the planning stage and avoided if possible. If planned correctly the only thing that should be in the pond is the bottom drain dome with the integral air diffuser.

step by step

Finally in this first article I have added a step-by-step film strip for you to follow that hopefully will help you to understand some of the issues we have covered and some that will crop up in future articles. [鯉](#)

Next month

Next time I'll be looking at some of the equipment that is available and how to decide what you really need.



A filter will take time, maybe several weeks, to adjust to increasing bioloading, so go slowly!

