

## Correct Fish Pond Liner Size

### How should I choose which fish pond liner to use?

*By Stephen M. Meyer*

**Q.** I want to install a fish pond this spring. After doing a lot of reading and thinking I decided to use a pond liner rather than cement or fiberglass. I thought everything would be fairly simple at that point, but when I went to investigate pond liners I discovered a large selection of materials and a wide range of prices. How should I choose which liner to use? Our winters are cold, the ground heaves when it freezes and the soil is very rocky. We also have many tree roots throughout the soil. I want to make the pond about 26 feet long and 14 feet wide in a kidney shape. How do I determine the correct liner size?

**A.** Let's start with the liner sizing. The basic rule is simple. To determine the liner's length, measure the longest distance across the pond (that is its maximum length). Add to this twice the maximum pond depth. Then add another 2 feet. For the liner width, measure the maximum width of the pond, add twice the depth, and then add another 2 feet.

You didn't indicate the pond depth you are considering. I suggest you think in terms of 2 feet on average, with a 4-foot deep section and a 1-foot shallow area. In your case the liner should be 36 feet by 24 feet, for a total of 864 square feet.

You will almost certainly have excess liner material when the pond is finished. Depending on its dimensions you may have enough excess to construct a waterfall or small stream. You should also save several 1-foot-square pieces for patching, should the liner get punctured.

It used to be that if you wanted to install a pond liner you had three options: 1) create a temporary pond using a 3-mil painter's plastic drop cloth (it would barely last a summer), 2) use a swimming pool liner treated with heavy baths in potassium permanganate, and then let it sit for a year without fish (to remove toxic chemicals), or 3) use a 20-mil PVC liner.

Today, the range of fish-grade pond liners is large and growing, and both their quality and price are rising. Still, there are significant differences worth considering.

One popular pond liner is the classic PVC liner, which is sold in various thicknesses. For example, some pond suppliers offer 20 mil and 32 mil PVC liners. Thicker liners tend to handle outdoor wear and tear better, and this is reflected in the "warranties" that come with them. Tetra offers 10 years for its 32 mil PVC liners. (Understandably, such warranties are very specific. If your golden retriever jumps in the pond and puts a claw through the liner, it's your problem.)

In very cold climates PVC liners get stiff and brittle. Some will crack under stress and are more easily punctured or torn by tree roots and rocks in the subsoil. PVC liners are also UV sensitive, so it's important to properly cover the material with water, stone, wood or other material. Nevertheless, these are relatively inexpensive liners and can be found in many basic sizes in local aquarium stores. This means they are ideal for weekend projects. Add to this the fact that most first ponds are remodeled within the first few years of construction, and I believe that PVC liners are the best choice for new pondkeepers.

EPDM is another liner material. It is a thicker (45 to 60 mil), more rugged material. EPDM is heavy and therefore also a bit more difficult to work with. These liners have better cold weather properties and UV resistance. Twenty year warranties are common.

If you decide on EPDM be sure that you buy certified fish-safe liners. Some EPDM marketed for roofing work is toxic to aquatic organisms, so do not just drop into the local building supply house for a liner. Fish-safe EPDM liners are available from most pond retailers and mail-order pond firms.

A third option is a multi-layered plastic material. These are lightweight, yet very rugged. They hold up well in cold. I have noticed they tend to tear more easily than EPDM if a coarse surface (such as a stone) scrapes along the liner. The primary source for these liners is Reef Industries (713-507-4200) in Houston, Texas.

Selecting a liner requires some thought. Better quality is not necessarily always the best choice. For example, a thicker, more durable liner isn't always preferable. Thicker liners cost more — sometimes a lot more. If this is your first pond I can almost guarantee that after a year or so you will want to make it bigger, change its shape and orientation, or link it to a

stream or second pond. Paying twice as much for a liner with a 20-year lifetime may not make sense if you rip up your pond every three years. Less expensive liners are the intelligent choice here.

If you are doing the project on your own, a light, easy to maneuver liner is important. If so, multi-layer plastic liners fold and sculpt well. These are also among the least expensive of the liners on the market. Conversely, a long-established pond in need of a new liner might be best served by a very high-quality EPDM liner with excellent durability and longevity.

What is very clear to me is that pond building has never offered more or better choices in construction materials. This is good news for novice pondkeepers and old hands in the pond hobby.