

# Facts and Formulas

To buy the right size liner, measure the length in feet of the completed excavated area, add twice the maximum depth in feet and add 2 ft for overlap, X, the measure of the width in feet add twice the maximum depth in feet and add 2 ft for overlap.

--For Example: Take a pool that measures 8' in length, 12' in width and 2' deep. You would have to take the length of 8', add twice the depth, which is 4', and then add 2' to calculate a final measurement of 14', to calculate the width you take the measurement of 12', add twice the depth, which is 4', and add 2' to calculate a final measurement of 18'. The liner size you would need for this size pool would be 14' x 18'.

Underlay fabric should be used around the SIDES of the pool where most abrasion occurs and leaks appear. Sand 2 - 3" deep is best for under the bottom of the pond. Use liner scraps to pad along inside walls where stone will be placed.

To calculate the water volume of your pond, multiply the average length x the average width x the average depth to arrive at cubic feet. Multiply cubic feet x 7.5 to determine gallons.

To minimize water quality problems, we suggest stocking no more than 1" of fish per cubic feet of water (i.e. 53 cubic feet = 8 -10 fish 4-5" in size).

Filter pumps should circulate the pond every 2 - 4 hours. Effluent type ("solids handling") pumps are best for filtration.

To estimate water volume required for a waterfall or stream, use the basis of 100 GPH per inch of width (i.e. 1200 GPH for a 12" wide waterfall.) This provides a minimal (+/- 1/4" deep) sheet of water. For a "heavy" flow and for streams, multiply this figure by 2, 3 or 4. Be sure channel edges are high enough to contain this water flow.

Pump flow rates, assuming smooth bore, flexible, non-kinking tubing as large or larger than the pump's outlet, are determined by the VERTICAL lift - measure from water surface (base pool) to highest point of outlet.

Energy efficient "mag-drive" pump have limited lift ability - check the charts.

To maintain a healthy natural balance in a pond:

- Use 1 bunch of oxygenators for every 1-2 sq. ft.
- Cover 60% of the water surface with a combination of water lilies, floating plants (such as hyacinths) and "marginal plants"
- Add one Japanese Trapdoor Snail for every 1-2 sq. ft.