

FORMULAS FOR POOL CAPACITY

L = length W = width V = volume D = depth

r = radius (half of the diameter of a circle)

π = (pi) 3.14 (a factor used in calculations with circles)

SURFACE AREA

Rectangular pool = L x W

Circular pool = $r^2 \times \pi$

Right triangle = (L x W) \div 2

AVERAGE DEPTH

For constant slope: [D (minimum) + D (maximum)] \div 2 = AVERAGE DEPTH

Note: For multi-depth pools calculate the volume in sections of constant slope and add them together.

CUBIC FEET OF VOLUME (surface area times average depth)

Rectangular pool V = L x W x D

Circular pool V = $r^2 \times \pi \times D$

POOL GALLONAGE IN CUBIC FEET (cubic foot of water = 7.5 gallons)

Rectangular pool gallons = L x W x D x 7.5

Circular pool gallons = $r^2 \times \pi \times D \times 7.5$

FLOW RATE/TURNOVER RATES

SPAS: Required turnover every 30 minutes therefore required flow rate is:

Gallons \div 30 minutes = minimum (min) flow rate in gallons per minute (gpm)

LIMITED USE POOLS: Required turnover at least every 8 hours (8 x 60 min = 480 min)

Gallons \div 480 minutes = min flow rate in gpm

GENERAL USE, LTD USE OVER 2000 SQ FT SURFACE AREA AND ATHLETIC CLUB POOLS: Required turnover at least every 6 hours (6 x 60 min = 360 min)

Gallons \div 360 minutes = min flow rate in gpm