



PRIMARY PACKET

Calculation Formulas

CH 3 - Amount Conversions

- Ounces to Pounds Ounces ÷ 16 = Pounds
- Fluid Ounces to Gallons Fluid Ounces ÷ 128 = Gallons

CH 3 - Surface Areas

- Rectangle / Square Length x Width = Square Feet (ft²)
- Circle 3.14 x Radius x Radius = Sq. Feet (ft²)
(Radius = Diameter ÷ 2)

CH3 - Pool Volume

- Rectangle Length x Width x Average Depth x 7.5 = Gallons
 o (Average Depth = Shallow + Deep ÷ 2)
- Circle 3.14 x Radius x Radius x Avg. Depth x 7.5 = Gallons

CH 3 Water Loss Formula

- Length x Width x .0833 x 7.5 = Gallons for 1inch

CH 6 Saturation Index

- pH + Temperature Factor + Calcium Factor + Alkalinity Factor – TDS Factor = SI

CH 7 Breakpoint Chlorination (Removal of Chloramines)

- Total Chlorine (TC) - Free Chlorine (FC) = Combined Chlorine (CC)
- Combined Chlorine x 10 = Breakpoint Chlorination (BPC) Amount
- BPC – FC = Desired Change in ppm

CH 10 Flow Rate & Turnover Rate

- Pool Volume ÷ Flow Rate ÷ 60 min/hr = Turn Over Rate in Hours
- Pool Volume ÷ Turn Over Rate ÷ 60 min/hr = Flow Rate in gpm

CH 11 Filter Sizing

- Flow Rate (FR) ÷ Filter Media Rate (FMR) = Filter Area (ft²) (FA)
- Flow Rate ÷ Filter Area = Filter Media Rate (gpm/ ft²)
- Filter Area x Filter Media Rate = Flow Rate (gpm)

CH 12 Heater Sizing

- Pool Volume x 8.33 x Temperature Adjustment = BTU
 (Adjusted Temp - Starting Temp = Temp Adj.)

CH 13 Spa/Therapy Water Replacement Contaminant Prevention

- Spa Volume (Gallons) ÷ 3 ÷ Average Users Per Day = Complete Water Replacement(Days)