



• STANDARD 6 • CALCULATING WATER STORAGE FOR RESIDENTIAL PROJECTS

STEP 1:

Determine the cubic footage of each residence, including attached garages, covered porches, etc... everything under the horizontal roof line. (Length x Width x Height).

STEP 2:

Single family residences have a Nation Fire Protection Association (NFPA) Occupancy Hazard Classification of 7. Calculate the water storage requirements as follows:

FORMULA 1:

Length times Width times Height (Use 10' for single story structures) = Total Cubic Feet.
The Total Cubic Feet is then divided by 7 = Minimum Water Storage Quantity in gallons.

EXAMPLE: 2,500 SF home X 10 = 25,000 ÷ 7 = 3,571 (then round up) = minimum tank size of 3,600 gallons

STEP 3:

When an exposure is within 50 feet of an existing building and the exposure is greater than 100 square feet of total floor space, use the following calculation:

FORMULA 2:

Length times Width times Height (Use 10' for single story structures) = Total Cubic Feet times 1.5, then divide by 7 = Minimum Water Storage Quantity in gallons.

EXAMPLE: 2,500 SF home X 10 = 25,000 X 1.5 = 37,500 ÷ 7 = 5,357 (then round up) = minimum tank size of 5,400 gallons

NOTES:

- Water storage for multiple structures without an exposure hazard shall be calculated based on the single largest structure as in Formula 1.
- Water storage for multiple structures with an exposure hazard shall be calculated based on the single largest structure as in Formula 2.
- Water storage requirements may change if a residential sprinkler system is installed.
- All storage requirements are per National Fire Protection Association 1144.
- **The minimum water tank size allowed by Cal Fire for residential use is 2,500 gallons.**
- You must meet or exceed the minimum tank requirements for your project.
- Two or more tanks may be connected with 4" plumbing to meet fire requirements.