

CAPACITY ESTIMATIONS

Here is a quick method for estimating resin throughput capacities from conductivity in micromhos/cm.

Assumptions:

1. pH = 6 to 8
2. Each ppm as Calcium Carbonate (CaCO₃) = 2 micromhos/cm, so micromho/cm divided by 34 equals loading in grains/gal. (Each grain per gallon equals 17.1 ppm as CaCO₃).
3. Assume 90% of capacity is used, mixed bed endpoint is 1 megohm and two bed endpoint is 100,000 ohm.

TYPE OF RESIN	RESINTECH NAME	CAPACITY IN KILOGRAINS/CU.F.	
		90%	90%
Cation Resin	CG8-H	36	32
Anion Resin	SBG1-OH	23.5	21
Mixed Bed	MBD-10	12	10.7

To calculate the capacity from the conductivity reading, multiply the resin's capacity times 34 times 1000, all divided by the conductivity.

EXAMPLES

What is the cation resin capacity of a water with 250 micromhos conductivity?

Using 90%: $(36 \times 34 \times 1000)/250 = 4896$ gallons per cubic foot CG8-H

What is the anion resin capacity of a water with 250 micromhos conductivity?

Using 90%: $(23.5 \times 34 \times 1000)/250 = 3196$ gallons per cubic foot SBG1-OH

What is the mixed bed resin capacity of a water with 250 micromhos conductivity?

Using 90%: $(12 \times 34 \times 1000)/250 = 1632$ gallons per cubic foot MBD-10

1. A grain is an archaic way of expressing weight. 7000 grains = 1 pound 17.1 ppm (as CaCO₃) = 1 grain/gallon
Resins are rated in thousands of grains per cubic foot (or kilograins - kggrns)
2. The conversion from eq/liter (or meq/ml) to kilograins/cu ft is 1 meq/ml = 21.8 kggrn/cu ft