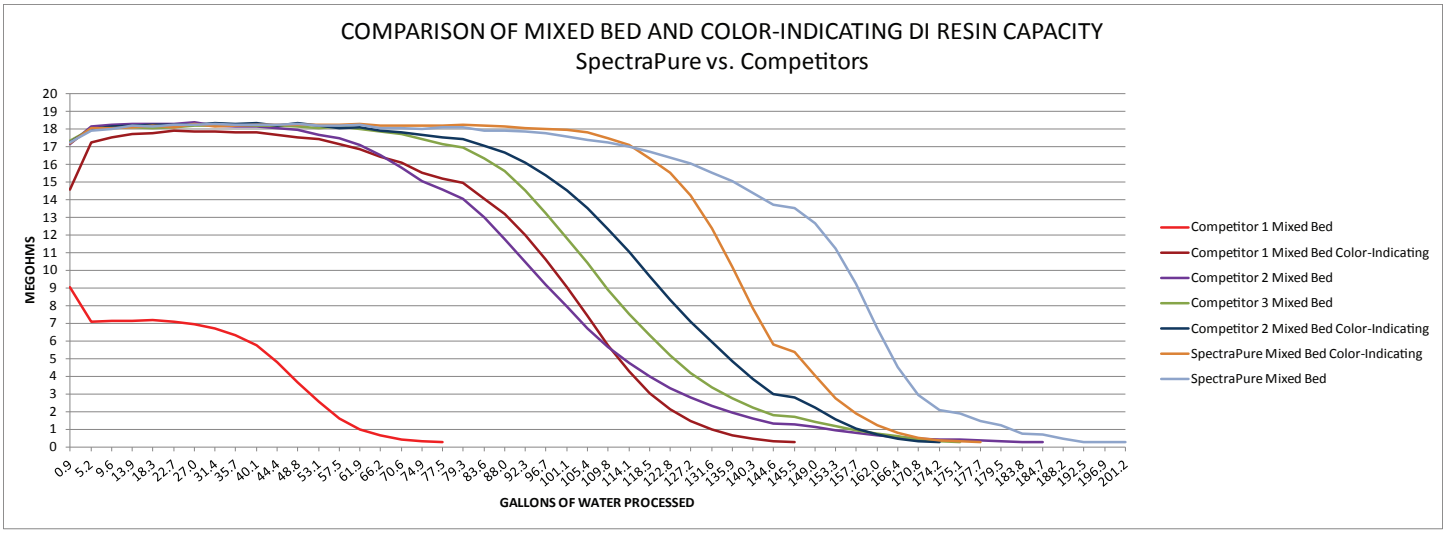

Since pure water is a poor conductor of electricity, purity is best measured using resistivity (megohms) or its inverse, conductivity (microsiemens). Water is considered to be ultrapure when the resistivity is 18.2 megohms. This is represented by the vertical axis on the above chart. The horizontal axis represents the total number of gallons processed.
Standard inline TDS (Total Dissolved Solids) meters will typically read 0 ppm until they reach approximately .25 megohms, at which time they will read 1 ppm. They will not indicate the efficiency of the removal capacity of the DI resins up to that point. You will notice that 4 of the samples reach the point of exhaustion (.25 megohms) at approximately the same point but their paths to that point are quite different, resulting in entirely different removal capacities.

Points to consider when reading the above chart:

- Does the water achieve a reading at or near 18.2 megohms?

  As you can see in the above chart, the mixed bed resin from Competitor 1 doesn't even achieve half of that value. It starts to drop quite radically after 40 gallons and is seriously depleted after processing just over 60 gallons of water.

- How long does the curve stay at or near 18.2 megohms?

  The removal capacity of the DI resins is represented by the area under the curve. Generally speaking, the longer the curve stays at or near 18.2 megohms, the greater the removal capacity of the DI resins.

- How sharply does the curve drop from 18.2 megohms to the point where your meter reads 1 ppm?

  This depicts how long your DI resins work at a reduced capacity before your meter shows that it is time to replace them. The steeper the drop on the curve, the more time your DI resins spend at their peak efficiency.

By analyzing and comparing the area under the curves, we can obtain a correlation between the removal capacities of the different resins.

Although both of SpectraPure's resins stay at the maximum removal capacity for the same amount of time, the color-indicating resin drops more sharply resulting in a removal capacity of .9 that of our standard mixed bed resin. Both of SpectraPure's resins remain at their peak removal capacity for a longer amount of time and have a higher removal capacity than any of the competitors' mixed bed or color-indicating resins.

Here is a breakdown of the individual resins and their removal capacities compared to SpectraPure's mixed bed resin:

- SpectraPure Mixed Bed - 100%
- SpectraPure Mixed Bed, Color-Indicating - 90%
- Competitor 2 Mixed Bed, Color-Indicating - 78%
- Competitor 3 Mixed Bed - 72%
- Competitor 2 Mixed Bed - 65%
- Competitor 1 Mixed Bed, Color-Indicating - 63%
- Competitor 1 Mixed Bed - 13%