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## pH MEASUREMENT

pH is a measure of the hydrogen ion concentration of a solution, or the acidity of the solution.

Alkalinity depends on the concentration of hydroxyl ions. However, since the sum of hydrogen ions and hydroxyl ions is constant in water solution, two scales are unnecessary, and pH values are used to express alkalinity as well as acidity.

The degree of acidity corresponds to pH values. For example, a solution with a pH value of 5.0 is ten times as acidic as one with a pH of 6.0. And a solution of pH 4.0 is 10x as acidic as one of pH 5.0. It follows then that 4.0 has an acidity value 100x as great as pH 6.0. Similar relationships hold on the alkaline side of the scale. That is, a solution with a pH 9.0 is ten times as alkaline as one which has a pH value of 8.0.

pH measurements are made with a pH meter that gives a direct reading, or by pH sensitive test papers, which when dipped in test solution produce a sharp color change. The pH measurement is obtained when the test paper is matched to the color key.

## WHY IS pH IMPORTANT IN POLISHING GLASS?

- Polishing compounds may lose suspension properties and settle hard when the proper pH range is not maintained.
- Some types of glass may be etched or leached by polishing with slurry with an incorrect pH. Glass by its composition is alkaline, and as the surface residue is carried into the polishing slurry it continues to increase alkalinity.
- Too high or too low pH will cause operator discomfort and may in some cases, cause skin rashes.
- Some polishing compounds have a higher stock removal in certain pH ranges. It is important to know this pH range and to control it.