ENDURABLE pH PENCIL

Product Information
The Endurable pH Pencil is a reusable tool to determine the pH of concrete prior to application of Endurable sealers, coatings, and dyes. It is important to test the pH of concrete before application of decorative concrete products to confirm the pH is in the suitable of range of 8 and 10. If the concrete falls outside of this range, it is necessary to mitigate the pH issue before proceeding with the use of decorative concrete products, such as sealers, coatings, dyes, etc.

It is important to understand the basic chemistry of concrete and how that determines the proper pH level of concrete before application of sealers, coatings, and dyes. When concrete is poured, the pH is upwards of 13. While the concrete remains wet while it is curing, the calcium hydroxide (or free lime) in the concrete mix is turned into calcium silica hydrate. When this process is completed after 28 days, the pH of the concrete ends up between 8 and 10.

Capable manufacturers of sealers, coatings, and dyes, must formulate the products to perform at a pH between 8 and 10, knowing this range will match cured concrete. There are a few factors that can cause the pH of the concrete to fall outside of the proper range.

Concrete that dries out too quickly will be left with an abnormal amount of calcium hydroxide. Along with resulting in concrete that is soft and prone to "dusting," the pH will most likely be left too high. A good solution to this problem is the application of the proper type of concrete hardener, such as Endurable Concrete Hardener. (More information to follow on this.)
Concrete that has a moisture issue will often result in pH that is too high. This can happen if there is moisture from underneath that never allows the concrete to complete its curing process. Moisture problems often are accompanied by vapor pressure issues that can create delamination issues with sealers and coatings. Testing for moisture is very important before placement of sealers or coatings.
Use of cleaning or degreasing products that are outside of the pH range of 8 and 10 will leave the concrete with an improper pH level. This is why Endurable Surface Cleaner is a good choice. It works very well in addition to matching the proper pH levels in the concrete for application of sealers, coatings, and dyes. If concrete is outside of the proper pH range of 8 and 10, sealers and coatings often times will not cure out properly. They may "kick off" too fast, cure too slow, or a number of other issues can occur which may be noticeable immediately or can take several months to present themselves.
One common mistake that can be made is the use of concrete hardeners or densifiers that have pH levels higher than 10. Most sodium, lithium, and potassium hardeners and densifiers have pH levels above 10. In fact, most have levels above 11. It not the silicates or silica themselves that are usually the problem, but the liquid carriers in which the silicates and silicas are delivered that present the high pH levels. The pH of Endurable Concrete Hardener falls into the proper range at approximately 9. PLEASE NOTE THAT IF THERE IS NO INTENT TO APPLY SEALERS, COATINGS, OR DYES TO THE CONCRETE, USE OF SILICATES OR SILICAS WITH pH LEVELS ABOVE 10 SHOULD NOT POSE A PROBLEM.
ONE FINAL NOTE ABOUT THE pH OF CONCRETE: IF CONCRETE IS ABOVE 10, IT CAN CAUSE PROBLEMS WITH THE APPLICATIONS OF SEALERS, COATINGS, AND DYES, BUT THE STRUCTURAL INTEGRITY OF THE CONCRETE WILL NOT BE COMPROMISED. HOWEVER, IF CONCRETE IS BELOW 7, THE STRUCTURAL INTEGRITY OF THE CONCRETE WILL BE COMPROMISED. IT MAY NOT HAPPEN OVERNIGHT, BUT OVER TIME, THE CONCRETE WILL DISINTEGRATE.

APPLICATION INSTRUCTIONS

1. Moisten surface with distilled or ionized water
2. Mark concrete with Endurable pH Pencil
3. Wait 15 seconds
4. Compare with color chart
5. Pencil mark may be removed with Endurable Surface Cleaner

WARRANTY
Evaluate whether this product is suitable for the intended application. Conditions of product use are outside of Endurable's control and vary widely, the following is made in lieu of all express or implied warranties of merchantability: Endurable's only obligation and the customer's only remedy are replacement of product, at the option of Endurable. In no case will Endurable liable for any direct, indirect, special, incidental, or consequential damages including lost profits, goodwill, or business opportunity.

TECHNICAL ASSISTANCE
For technical questions or support, call 800-910-3120 ext. 1 between the hours of 8:30 am to 4:30 pm PST.

STORAGE AND SHELF LIFE
Product has a shelf life up to 3 years. Store product between 40 and 80 degrees Fahrenheit. Keep product free from excessive heat, moisture, and freezing.