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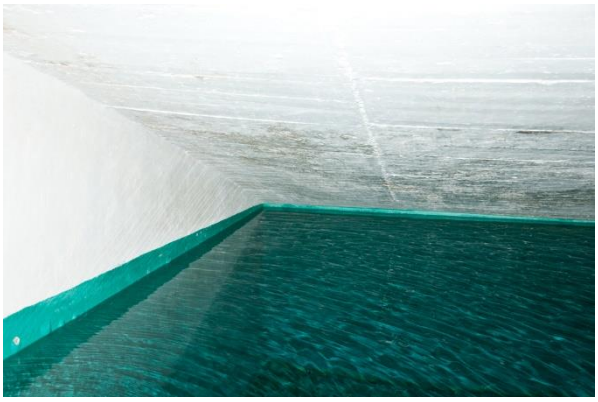
Drinking Water Testing with a pH Meter

„Drinking water“ – what is it in reality? What are the criteria for assessment of its quality? In fact, lots of various tests are to be carried out before water gets an approval of being “drinking”. Contaminants and pesticides, pH level, turbidity, minerals, levels of acidity and alkalinity, its corrosive properties, hardness, fuel residues – these and many other aspects are checked carefully and this takes a lot of time and efforts. Just a visual inspection and smelling do not give the correct answer to the question whether water is potable or not. Water may undergo numerous treatment process, artificial bleaching, disinfection, excessive chlorine application with the purpose to present it as “good quality” product. It is important not only to get an impression that the water is appropriate for consumption, but to be really confident that the levels of substances menacing human health are not exceeding the permissible levels, that water is free from leads, metals, excessive chlorine amounts.

Deviation from the norms usually brings to the changes in taste, smell, sometimes visual purity and - what is not seen or felt – composition. One of the main important factors to check in drinking water is pH level. Depending on it, the water qualities may vary tremendously, from very acidic (low pH) to alkaline (high pH). A perfect ideal standard for drinking water would be pH between 6-8.5. It has been recognized that water with this pH level has the most favorable impact on the humans. Water with the low level of pH < 6.0 is considered to be dangerous to the human health and even more, to the environment and may affect negatively living creatures in flora and fauna. High concentration of metal parts in it, due to the high level of acidity, not only brings to negative impacts on taste quality, on piping, but may really cause serious damage to the health of its consumers. Very alkaline water (when pH is > 8.5) carries also a few “problems”, like hardness. In addition, water with

very high pH becomes “resistant” to disinfection. The water, the pH of which is fluctuating within the specified limits of 6-8.5 can be most effectively purified, filtered and disinfected, has less corrosive properties in comparison to water with high acidity.

Monitoring of the pH level is quite and easy and must be carried out regularly. Any change in the pH level, especially if it goes down, is an indication that water properties are undergoing negative changes and appropriate measures should be taken to increase the level. The required measurements can be carried out with various pH meters / pH measuring kits, with the observance of the necessary measures, like correct functioning of the device, measurement in-line, avoidance of contamination of the water samples with the substances from outside.



Requirements and parameters applied to drinking water are all specified in the EU in the standards on Drinking Water. The regulations cover all the necessary aspects and they comply with the Health Care Organizations which clearly define the permissible amounts, in which various substances and minerals may be present in the potable water. Thus, continuous control with the help of the reliable equipment and compliance with the regulations allow for timely treatment changes / quality improvements and avoidance of aggravating consequences which may occur in case of consumption of water, the composition of which is not appropriate for that.