

Save Electric Energy of Heating Coil of Water by Water Treatment

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ABSTRACT

By survey we mostly used electric energy in daily life. In domestic purpose hot water are used for various applications. Various coils are used for heating purpose to save electric energy up to literature survey coil design made by various author but in this experiment water properties will change and studied about water properties after treatment. There are various method which are used for to change property of water like in this experiment we concentrate on pH of water. Ph of water changes by natural resources and observe what effect on water heat property by changing property of water. There will be getting best method to reduce electric energy so whenever coil or electric furnace boiler used there will be water treated process will conduct. There is hypothesis is if change in pH of water due to that electricity required to heat water is also vary. In Soudhi Arabian countries they are studied in water property because mostly there are available sea water which pH is large so when use is water for that that steam generation that time required fuel is large if compare with when pH is less Because impurities added in water.

Keywords: pH, Water treatment, Natural resources, Energy meter.

1. INTRODUCTION MAIN

This experimental study showed various methods which can save electric energy and due to that energy produced resources will increase. In boiler system water converted in to steam and we used this steam for to run turbine and produce electric energy. Now days there are some private sector also who produce electric energy by using boiler system or other application means boiler are used mostly which work electric furnace. Saving energy is big challenge in front of us for that we got observation that maximum energy we use for heating water. In this paper we studies about water treatment after water treatment we can used this water for to make steam and observe that which method are suitable for to save energy in this experiment set up we used aqua guard concept what actually they do they reduce ph and contamination remove by using filter so by reducing ph or increasing how will save energy. During this experiment some time we use natural resources stone and other sources. This is new concept so data is not available anywhere. Density changes of water by adding some impurities here we add some impurities so thermal conductive increase and require energy reduce. In power plant to reduce pH of water they are use chemical which cost are large so electric generation cost increases so electric energy should available in lowest cost and for that initial cost will be reduce by using natural resources which cost is less so cost of generation of electricity reduce. Here we changes potential of hydrogen so change so heat transfer property will vary.

2. Experimental Procedure and Methodology

In this experiment we use various natural resources like stone which available at river side, peat moss, driftwood. This natural resources reduce pH of water due to that pH will vary effect on thermal conductivity and amount of energy required to change temperature increase. In every day this material dipped in water and by varying time pH of water is also varies and observes that water in for various applications we target on to consume electric energy. By set up read energy meter reading then after take reading of energy meter.

Temperature plays a significant role on pH measurement. This is a well-know fact for most users of pH test equipment. However, the temperature affects not only your sensor but also your sample. All solutions will change their pH value with temperature. This is a result of the shifting of the chemical equilibrium of the components, mainly of dissociation. Ionization usually increases with temperature. So the amount of H⁺ active in solution will therefore typically increase with temperature, the pH should decrease. This trend should hold for any ionisable system.

What is “Low” pH? – A low pH means that there is an increase of hydrogen ions, making the water more acidic. There is less paper which related with this topic which proved that if PH Value changes then Temperature get defect. Water pH levels play an important role on the health of bodies of water and their ecosystems. This includes both plant and animal life. The range of pH

levels span from extremely acidic (0.0) to extremely basic (14.0), with a neutral value of 7.0. A healthy habitat for most fish life typically requires pH levels between 6.5 and 9.0. This is partly due to the fact that the average blood pH for fish is 7.4. Because there is only a thin layer of cells separating the water in the environment from the blood vessels located in the gills of the fish, lower water pH may lower blood pH near the gills of the fish.

In this setup consist of heating coil, thermometer, carried pipe, stand and water tank. Heating coil is used to heat water by using electric energy. Thermometer is used to measure temp. Carrier pipe are for carrying water from water tank to reservoir, sand which support to water tank. Carrier pipe having very important role in this type of experiment because every time we change carrying material generally various type of stone we placed in this carrier pipe for some time after some time we heat water and taking reading after 5 minute.



Fig.1 Peatmoss

Sphagnum is a genus of approximately 380 accepted species of mosses, commonly known as peat moss. Peat moss store water capacity is good. Living and dead cells large quantity consisting it. Due to that plant height increases very well in manner. (Bold,1967) The empty cells help retain water in drier conditions. Hence, as sphagnum moss grows, it can slowly spread into drier conditions, forming larger mires, both raised bogs and blanket bogs. (Gorham, 1957).



Fig 2. Driftwood

Driftwood is wood that has been washed onto a shore or beach of a sea, lake, or river by the action of winds, tides or waves. It is a form of marine debris or tide wrack.



Fig. 3 Almond Leaves

These natural resources we can use for reducing pH of water.

These natural resources filled in water for some specific time and take reading after some specific time and take reading of energy meter.



Fig . 4 Energy meter

Energy meter are use for consumption of electric energy which is required for to heat water. by number of blinks also use for to evaluate the consumption of electricity.

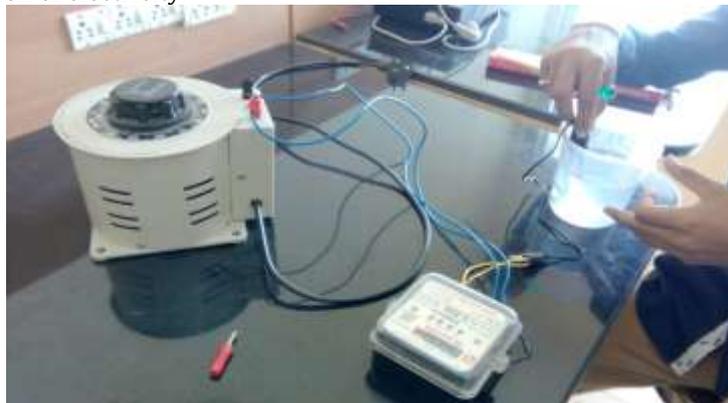


Fig. 5 Set Up.

By varying pH water and heat water observe temperature difference with required electric energy. In form of proportionally we add natural resources in water by observing it what effect on water pH observe.

3. CONCLUSION

Experiment there are four basic but evaluate best method

- 1) This experiment we get best utilization of nature resource for to save energy. There will be getting best method to reduce electric energy so whenever coil or electric furnace boiler used there will be water treated process will conduct.
- 2) By observation it concludes that change in pH of water it will affect on specific heat. Comparing its result and find best method which should suitable for domestic as well as industrial area.
- 3) Objective of experiment is save electricity. Advantages of this experiment set up are very easy and no moving parts so maintenance is low.
- 4) This experiment we get best utilisation of natural resources for to save energy. There will be getting best method to reduce electric energy so wherever coil or electric furnace boiler used there will be water treated process will conduct.

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