

Method Number: TM 110

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Method Summary**Determination of Redox Potential****Scope and Range**

The Redox potential can be considered as a measure of the ease with which a substance either absorbs or releases electrons. Suitable materials for Redox electrodes are metals which do not themselves react chemically with the solution being measured.

Redox is determined in water samples with a range $\pm 999\text{mV}$ at 20°C .

References

none

Principle

Water samples are shaken and poured into a tub ready for the Analytical Laboratory. Samples are placed in an incubator at 20°C .

Redox probe is immersed into the sample tub and a direct reading is displayed.

During the formation of the redox potential, electrons either flow from the electrode to the redox system or vice-versa. The separation of charges causes a potential to be built up on the metal surface which opposes any further migration of electrons. When a state of equilibrium is reached, the electrochemical force (potential) and the chemical forces (oxidising and reducing forces) balance each other out. The redox potential of a solution becomes more positive with an increase in its oxidising power.

Interferences

Oily samples are unsuitable for the probe.

Redox readings should be taken on site where possible or soon as possible when received in the Laboratory.