Warburg element model for an alkaline AAA battery.

***What is the Warburg element?***

The Warburg Resistance (diffusion) in a battery represents a resistance to the mass transfer, that is diffusion control. Typically exhibits a 45 degree phase shift and the dominant frequency is <Hz.ꙍ

A diagram of symbols and symbols

Description automatically generated

In a online paper the following circuit can be made for implementing the Warburg element in to the Randle circuit.

A diagram of electrical diagrams

Description automatically generated

A diagram of a circuit with text

Description automatically generated

Figure 1, EIS Randle circuit with Warburg element according to <https://pubs.acs.org/doi/10.1021/acsmeasuresciau.2c00070#>

# Source list: