

Quality Management System

Since the very beginning of its business activities, when Renata first started as a supplier of batteries to the Swiss watch industry, it developed a high level of quality-consciousness. «**Quality comes first**» rules at every level of the enterprise.

Renata's quality management system is certified according to the **ISO 9001** and **ISO 14001** standard.

The basis for providing our worldwide customers with top quality products is our continuous product and process improvement.

The open circuit voltage (OCV), closed circuit voltage (CCV) and mechanical dimensions of every single RENATA lithium battery are checked individually.

Batteries only leave our factory after a mandatory **storage period (quarantine) of at least 3 weeks**. During this period of time extensive performance testing is done.

This testing comprises:

- various leakage resistance tests
- shelf life tests
- storage under varying atmospheric conditions (artificial aging)

- discharge tests to monitor capacities
- electrical characteristic testing (voltage, internal resistance, etc.)
- visual checks, including internal components of dismantled batteries

The flow chart on next page shows the main production steps and the integrated quality control procedures for RENATA lithium batteries.

The controls on the product are the following (see process flow chart on the next page):

- 1** Statistical control ("Quality tests" step) performed for every batch, consisting of
 - a) discharge capacity check
 - b) leakage tests
- 2** After the Quality tests are successfully completed, 100% of each batch is controlled in terms of OCV, internal resistance (resistive load method) and height ("Final control 100%" step).
- 3** If the battery is tabbed, after the tab welding 100% of each batch is re-controlled in terms of OCV, internal resistance (resistive load method; "Battery tagging 100% electrical and tags" step).