

Overview of Final Inspection and Testing (Factory) and Goods Inward Testing (UK Warehouse) Of PS Products

During manufacture of Power-Sonic Batteries, product verification is carried out on 100% of all finished products which involves the following:

- 1** 2 week Rest Period after Boost Charging
- 2** Open Circuit Voltage Test
- 3** High Rate Discharge Test
- 4** High Voltage Leak Test
- 5** Internal Resistance Test followed by date stamp

Tests **2** to **5** including date stamp are carried out by the below machines:

Testing Machines



If the products meet the requirements of these tests they are then subjected to a visual examination to ensure the product is NOT marked, blemished, scratched or physically damaged in any way.

The batteries are also air pressure tested during the assembly process, this involves applying air pressure of approx 3psi to each of the battery cells to ensure that the battery cover is sealed to the battery case and to ensure that there are no intercell leakages.

During this test a pressure drop will indicate a leak and the battery will be rejected.

The Laboratory Function

The laboratory is the 'Nerve Centre' for Technical Support to PS customers and its function is primarily for in-depth testing of products described as follows:

- Verification of product conformance on a random basis
- Verification of Electrical Performance of product at different rates of discharge, if required by PS or PS customers.
- Comparative testing of PS and competitor products
- Competitor Evaluation,
- Warranty Return Analysis
- Research and Development

It should be noted that the laboratory tests of PS products are not classified as product release criteria, the prime purpose of the tests is for long term monitoring of product performance.

Receiving Inspection and Testing

Although 100% of batteries are tested at the manufacturing facility as described above, On Load Testing is carried out on random batches of product received by Wickford warehouse.

Current levels of testing are just under 40% of throughput.

In certain cases 100% of the products are tested, whereby this has been mutually agreed with the customer prior to price negotiations or at an added agreed cost.

The objective of this test is to detect obviously defective or discharged batteries that have inadvertently 'escaped' the factory tests outlined above and again its main purpose is for long term monitoring of battery quality, not necessarily classified as product release criteria.

Stock Rotation

VRLA Batteries require attentive handling and stock rotation because they slowly self discharge over time. PS has established a First In First Out procedure to minimise the need to recharge old stock batteries that have discharged to an unacceptable level. However most PS products are shipped fresh to the customer well before the battery requires a freshening charge. This is achieved by careful manufacturing/purchasing/logistics planning enabling fresh products to move swiftly from the factory to receipt at PS warehouse then onward to the final customer destination. The current specified regime for freshening charge is 9-12 months from the manufacturing date.