

Solutions@Mecmesin

Flexible Packaging Welded Seal Strength

Specification

As a global brand, manufacturing products for the cosmetics, domestic, healthcare and food industries, it is vital for **Reckitt Benckiser, formerly SSL International**, to undertake measures to critically assess and guarantee product quality. This also includes the packaging involved in the production and long-term integrity of the product. The use of **flexible packaging**, manufactured with welded seals, requires validation tests to define and standardise seal strength and overall packaging manufacturing consistency. Poor quality seals could cause leakage of the product from stresses caused due to production issues and mishandling.

Reckitt Benckiser quality specialists needed to perform various tests including, **compressive load tests** on particular forms of flexible plastic packaging. This had to take place at manufacturing cells to control in-process verification tests.

Solution

Mecmesin supplied 4 **MultiTest 2.5-xt touch screen-controlled test systems, S-beam loadcell** and a **specially manufactured compression probe**.

Following production, a sample is placed on the test system base plate. The compression test is selected and initiated via the user-interface with just two clicks to the touch screen.

As the compression probe is lowered, it places a constant rate of force onto the centre of the sample, thereby introducing a gradual increase in **pressure upon the welded seal**. Reckitt Benckiser evaluates samples at two force levels, checking seal integrity at 60kgf and 100kgf.

Sample performance is **observed 'live', in graphical form**, on the display screen and then stored. This, in conjunction with proximity to point of manufacture, enables fast and efficient quality assessments on multiple samples in any given time frame. Reckitt Benckiser initially used the MultiTest-xt to determine benchmarks of quality, through which the company can now quickly identify **'out of tolerance' samples via colour-coded results**.

System

- MultiTest 2.5-xt - touch screen controlled test frame rated to 2500N
- ILC-S 2500N
- Special compression probe

Other Solutions

- Tamper-evident ring test
- Top-load semi-automated test
- Packaging tension test
- DVD removal force
- Coefficient of friction test

Testimonial

"The new xt system is simple and tough enough for us to use in a production environment, while simultaneously allowing us to get the information we need. Being a complete system has made integrating it into our Quality Assurance system straight forward. The information we receive allows us to pre-empt issues before they can affect quality, with much less effort than previously. This means we have less waste, improved efficiencies and can spend more time making our products."

*William Thorley, Project Engineer
Reckitt Benckiser PLC*



The MultiTest-xt enables in-line quality checks on the production floor



Special compression probe applies force at 60kgf and 100kgf



Sample presented for application of compressive force