

Solutions@Mecmesin

Top-load Semi-automated Test

Specification

Silgan Plastics is a US based company that has supplied packaging for the personal care, household, automotive, pharmaceutical and food market industries for over 50 years. To guarantee their containers would perform as expected along customer production lines and remain intact during transportation and storage, the company wanted to undertake top-load tests according to internal, customer and SPI standards. A previous test unit offered limited speed range capability, therefore more flexibility was required, with the ability to analyse test data in further depth.

Solution

Silgan opted for a MultiTest 5-x semi-automatic force test system used in conjunction with compression platens. The unit afforded them the option of pre-programming different test routines and alternating speeds during measurements to suit their individual specifications. To perform the top-load measurement, a sample bottle, taken at regular intervals during production, is placed under the compression plate. Test methods differ according to the type of container and customer requirement. This includes compressing the sample to a fixed depth of 0.25" or to 1st peak travel.

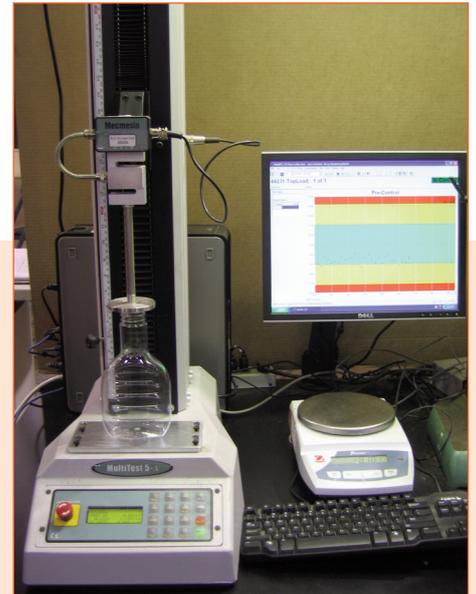
A major benefit of this system is its ability to alternate speeds during top-load measurements. The test can be run at one speed until the compression plate touches the top of the sample, then applies a compressive load at a different speed, which is pre-programmed to run automatically without the need for an operator to intervene. Post-test data can be exported to a PC where force vs time deflection curves are plotted to determine key characteristics in the products design or to investigate why the product failed the test. Using this system has been critical in enabling Silgan Plastics to optimise the design of containers to meet their customers specifications and make quality comparisons between materials. Choosing a Mecmesin system has yielded many benefits, including cost savings and provided the option to customise their top-load tests to their changing needs.

System

- MultiTest 5-x
- Compression platens (accommodating different size of container)

Testimonial

"Silgan Plastics has utilised the Mecmesin tester in several of our plants over the last two years to monitor top-load. It brings a wealth of features at a very competitive price. We pride ourselves on being the forefront of container performance and capability and the 5-x top-load tester is a valued piece of our strategy."



MultiTest 5-x shown connected to PC for post-test data evaluation



Top-load test

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