

Application Information

Cosmetic Packaging

A consumer goods manufacturer of cosmetic and hygienic products had recently opened a new production facility. Several of the production lines in the plant filled and capped a variety sized tubes and containers that are eventually sold in the millions to big box stores. Even though the new production lines utilized state-of-the-art equipment, they still needed to perform their quality testing on the finished product to ensure integrity was met in order to comply with their QC department's global standards. This quality control process directed the pulling of samples from the assembly line at regular intervals to perform a compression test of their tube packages, commonly used for toothpaste and lotions. A secondary test necessary was a cap removal torque test.

Though they were testing only a sample size, due to the massive volumes produced, the quantity requiring testing was significant. A major factor in their equipment selection was the need to replicate consistent results. For this to be possible, human errors had to be eliminated from the tests, thus manually operated force test stands were not feasible due to potential user inconsistencies. The FGS-220VC motorized test stand was the final selection due to its ability to produce consistent results and provide data output for later analysis. This test stand, combined with a FGV-200XY 200 lb. digital force gauge and a FG-M6COMP50U compression plate rounded out the force testing apparatus. During the tube container compression test, the FGV-200XY force gauge captured the peak force enabling a determination if the product passed the customer's internal QC standards. Combined with the included computer software, thresholds were input providing a quick pass/fail response on screen for the user, allowing significant time-savings and a greater amount of throughput to keep up with the required sampling levels coming off the production line.

A second test performed on the tube prior to its approval for filling with contents was a cap removal torque test. The customer selected the Shimpo Series TNP Torque Cap Tester which is designed specifically for cap removal torque tests of this nature. LED's on the unit's screen corresponding to the user-programmed limits provided the instant pass/fail analysis from the cap removal torque created by the technician. The QC department was also able to store test data on a PC for additional analysis with the included data-logging software.

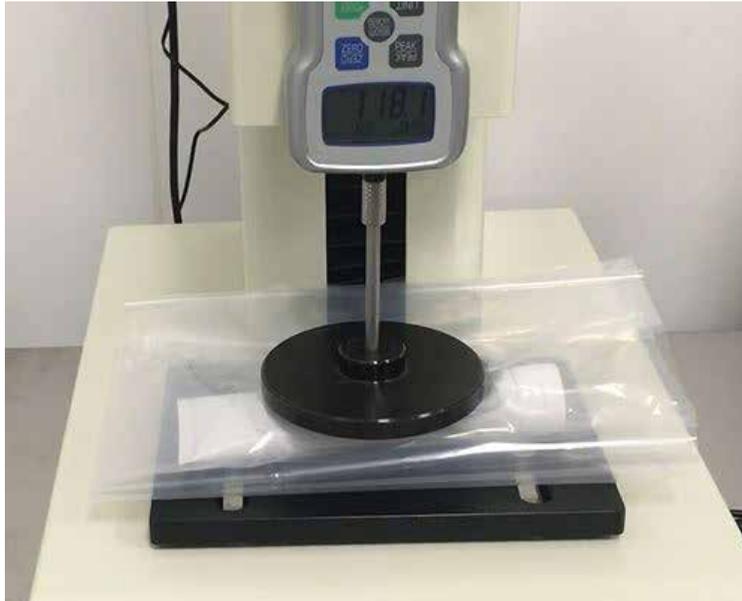
These two force and torque test instrument systems provided by Shimpo allowed the customer to adhere to their global QC standards with their containers and ensure proper production was being achieved. Plus, accomplish the tasks in a timely manner eliminating potential delays on the production levels moving through the facility.

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Equipment Used

Tube Compression Test:

- FGS-220VC Force Test Stand with Data-logging Software
- FG-M6COMP50U 2" (50 mm) compression plate
- FGV-200XY 200 lb force gauge



Container Cap Removal Torque Test:

- TNP-10 88.5 in·lb (10 N·m) capacity Digital Torque Meter

