Pressure Mapping Technology in Squeezable Tubes

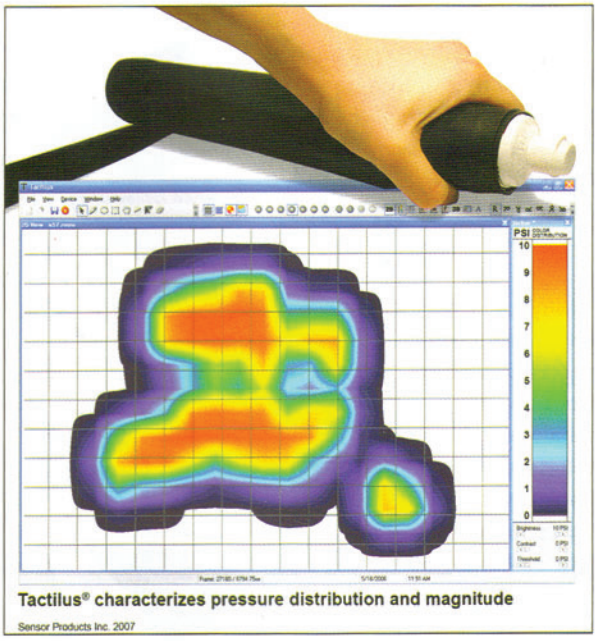
In design engineering for squeezable tubes and flexible packaging, habits of how people dispense product can now be evaluated quantitatively with Tactilus® surface pressure mapping technology from a US specialist. The Tactilus® Tube Testing Sensor System is a valuable aid in research and development and quality control for evaluation of where and how a tube fatigues as well as when labels or appliqués delaminate. This testing can help design engineers improve the functionality and ergonomics of their container by improving the grip and contact area for both user and container. This research should also result in more even dispensing of product as packaging is re-designed and modified.

The Tactilus® System comprises a matrix-based tactile surface sensor element, software and electronic hub that plugs right into any Windows-compatible PC. The sensor element is essentially an "electronic skin" that records and interprets pressure distribution and magnitude between any two contacting or mating surfaces.

An electronic hub transmits the data collected into a powerful Windows® based software tool kit. Each sensor element is carefully assembled to exacting tolerances and individually calibrated and serialized.

The Tactilus® sensor element is designed to encase a tube; when pressure is exerted upon the tube, a pressure profile will rapidly and accurately illustrate exactly where and how much force is being applied. From a human factor and an ergonomics perspective, Tactilus® aids by revealing the time and force required to expel contents from a tube and gives insight into squeezing techniques used by different demographic segments. In addition, Tactilus® aids engineers in validating and confirming what is predicated by FEA models.

The architectural philosophy of Tactilus® is modular allowing for portability, easy expansion, and simultaneous data collection of up to four discrete sensor pads. Tactilus® employs sophisticated mathematical algorithms that intelligently separate signal from noise, and advanced electronic shielding techniques to maximize environmental immunity to noise, temperature and humidity. The proprietary sensor design ensures the most robust sensor in the industry - an investment that will sustain thousands of uses.



Tactilus® characterizes pressure distribution and magnitude

Photo: Sensor Products

Tactilus® provides an array of viewing options in its software, including isobar and region-of-interest, graphical displays of data in bar charts, line scans and histograms, statistical analysis of average/minimum/maximum pressures, total force over any selected area, pressure versus time and more.

An upgraded technology yields greater internal sample speed and filtering.

Key No. 67663