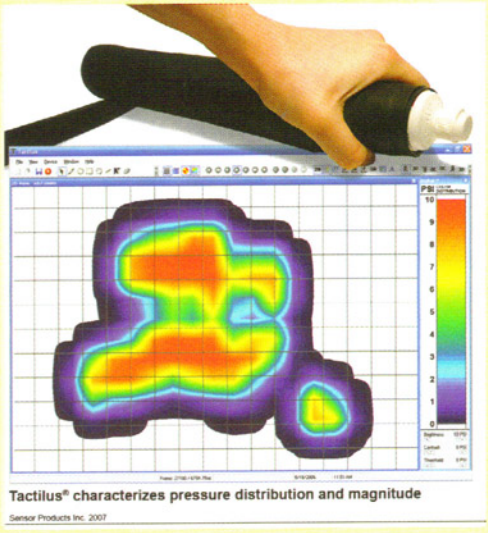
PRESSURE DETECTOR PUTS SQUEEZE ON FAULTY TUBES



Tactilus® characterizes pressure distribution and magnitude

Sensor Products Inc. 2007

In design engineering for squeezable tubes and flexible packaging, detecting how people dispense product can now be evaluated quantitatively with Tactilus® surface pressure mapping technology from Sensor Products Inc., Madison, N.J. The Tactilus Tube Testing Sensor System aids 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 product by improving the grip and contact area for both user and container. This research should also result in a more even dispensing of the product as the packaging is redesigned and modified.

The system consists of a matrix-based tactile surface sensor element, software and electronic hub that plugs right into any PC. The sensor element is essentially an "electronic skin" that records and interprets pressure distribution and magnitude between any two contacting or mating surfaces. It is designed to encase a tube and 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, this reveals the time and force required to expel contents from a tube and gives insight into squeezing techniques used by different demographic segments.

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 a robust sensor—an investment that will sustain thousands of uses.