

New pressure mapping technology to improve packaging squeeze factor

New Jersey-based Sensor Products has developed new technology that is claimed can help enhance the functionality of squeezable tube packaging.

Such packaging is most commonly used in products such as toothpastes and skin lotion, but a criticism that is often made by consumers is that it is often awkward to use and that it does not always dispense with optimum efficiency.

To tackle this problem, Sensor Products launched Tactilus, a surface pressure mapping technology that has been developed by the company to quantitatively evaluate the functionality of this type of packaging and how to best match it up to the needs of the consumer.

Matrix-based tactile surface sensor

The technology consists of a matrix-based tactile surface sensor element, which is a software and electronic hub that plugs into a Windows compatible pc or laptop.

The company describes the sensor element as an ‘electronic skin’, which records pressure distribution and magnitude between any contacting surfaces, representing the elements of the tube packaging.

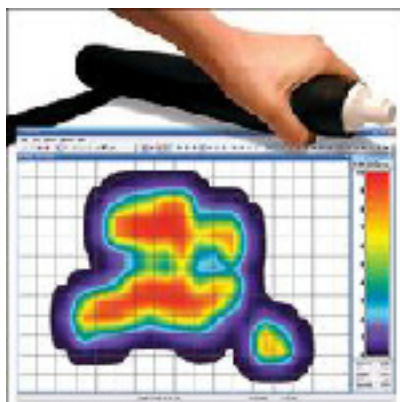
The electronic hub then assimilates all the collected data software tool kit, which helps to assess both the force exerted all over the packaging as well as its exacting tolerance.

Sensor encases the tube for optimum accuracy

This works because the equipment encases the tube and when pressure is exerted on it, the pressure profile can be rapidly recorded across the surface area whilst attempting to expel the contents.

The company claims that the data it collects is so accurate it can even be used to assess the different squeezing techniques and combine that with key information regarding specific demographic segments.

This, for example, might help to illustrate how a child typically squeezes toothpaste from a tube, as opposed to the technique used by its parents or even grandparents.



Environmental impact on packaging

Likewise, the technology can also be used by packaging engineers to validate and confirm the Finite Element Analysis models that help them to design functional and fault free packaging.

In line with this level of analysis, the equipment employs mathematical algorithms that can be used to assess the impact of environmental elements on the packaging, including humidity, noise and temperature.

The technology is available with a range of viewing options, which the company says includes isobar and region-of-interest, graphical displays of data in bar charts, line scans and histograms, together with various measures of the pressure exerted.