

Shiseido International France

Towards **total quality** in cosmetology

Shiseido International France used an experimental design to control a packaging process governed by several parameters. This statistical method which made it possible to optimise and correct malfunctions.



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OUR CUSTOMER

Corporate name:
Shiseido International France

Activity:
design, manufacturing and packaging of very high-end cosmetic products

Sales turnover:
EUR 171 M

Workforce:
561 people

The pragmatic know-how of engineers and operators is not always enough during production to clearly identify the parameters which affect quality. A statistical method such as the experimental design can therefore be implemented. This was done by Shiseido International France (SIF) which designs, manufactures and packages very high-end cosmetic products.

Preventing shape defects

At SIF, cosmetic creams are packaged in plastic tubes (mixture of high and low

density polyethylene) at a rate of 30 to 70 strokes/min. The filled tube is heated then welded. A cutting block gives the weld its final shape. However, shape defects (small ears, smile, pavement) may sometimes appear.

"The difficulty in eliminating the defects lies with distinguishing the relevant parameters and determining the proper machine settings given the possibly opposed interactions and effects", analysed Olivier Falguera, project manager at SIF.

A fractional plan of 64 tests and 10 repetitions was selected in order to limit the volume and costs of tests.

Spelling out the effects.

A working group took over performance of the experiments whose results gave rise to the creation of a model.

"One of the main difficulties was properly codifying the criteria which are mainly aesthetic, noted Olivier Falguera. However, we have clearly progressed in understanding the process. This work furthermore made it possible to spell out the effects connected with the process and those stemming from the product. It also made it possible to improve communication between the production teams and the related departments during analysis of non-conformities."

Cetim's asset

Cetim assists companies in implementing



experimental designs and, as the case may be, other statistical analysis methods. The

expertise concerning the processes and the measurement is based on the use of statistical tools.