

Markem-Imaje

A better understanding of surface quality thanks to 3D

Having examined parts samples using Cetim's new 3D surfaces measuring apparatus, Markem-Imaje could compare two batches of stainless steel coming from the same supplier.

This extremely fine and precise inspection led the company to complement its raw materials specifications.

Markem-Imaje manufactures a very diversified range of printers, marking and coding systems. "For ink jet printing, says Jean-François Abadie, design engineer at Markem-Imaje, we produce nozzles of less than 100 micrometers diameter, from a stainless steel strip of similar thickness".

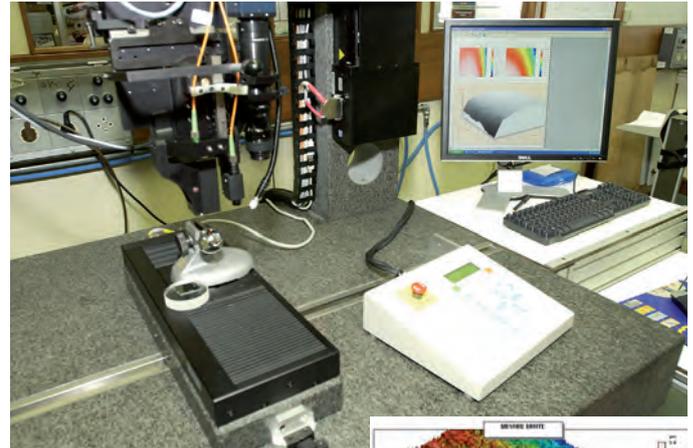
At this scale, production variations of the same material can have significant effects. Markem-Imaje thus asked Cetim to compare two stainless steel samples coming from the same supplier. Beyond traditional chemical and metallurgical examination, Cetim proposed to study the surface texture using its

new machine CLI 2000 for 3D measurement of surfaces, having a resolution reaching a few nanometers.

Revealing the invisible

3D visualization reveals, indeed, defects which are invisible in 2D, like the presence of scratches, impacts, height variations, burrs, tool marks. It thus opens to industry new ways for improving quality.

"Cetim highlighted a roughness difference between both samples, tells Jean-François Abadie. We then re-examined the point of the material's physical characteristics with the supplier and we decided to

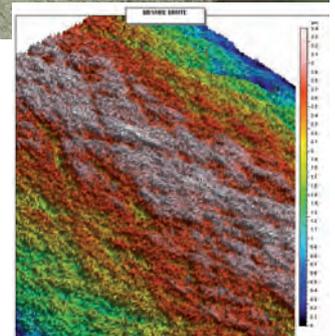


Cetim-Ch. Barret

integrate from now on, in our specifications for raw materials, other values than the roughness coefficient."

To refine the requirements

Although relatively new, this kind of examination became the subject of a standard (XP E 05.030 -1,-5,-6) which guarantees the reproducibility of the inspections and the steadiness of interpretations, no matter which laboratory practises it. Moreover, CLI 2000 answers to the next standard on 3D surface quality measurement (ISO 25178) which defines the topographic measurement criteria. "This approach allowed us to refine our requirements on products quality. We have now, with the 3D examination of surface textures, a powerful tool for improving production quality with a better knowledge of the parameters and of their control", states Jean-François Abadie.



OUR CUSTOMER

Corporate name
Markem-Imaje

Sales turnover
763 million US dollars

Activity
Markem-Imaje, world leading supplier of identification solutions, established in France in Bourg-les-Valence (Drome), manufactures a very diversified range of printers and marking and coding systems



Cetim's asset

Cetim's new CLI 2000 machine allows to carry out fine topographic measurements on very varied materials: metal, plastics, rubber, paint, varnish, skin, paper, etc.

Goals: a better understanding of phenomena which occur on surfaces, in order to improve the products' lifespan, to optimize the production equipments and to save material.