

Laser encoding gives syringes and vials an indelible ID

One square millimetre ensures that the type and origin of glass primary packaging is traceable at any time.

The innovation has dimensions of just one square millimetre. For the worldwide pharmaceuticals market it means a major step forward in terms of security: with laser encoding Gerresheimer offers a completely new indelible identity tag for prefillable glass syringes and other tubular-glass packaging for pharmaceuticals. The new technology, which also opens up a range of other useful possibilities, is exhibited by Gerresheimer at Interpack 2011.

In the case of syringes the code appears on the finger rest and in the case of vials on the upper edge for example. To the naked eye it is almost invisible and even under the magnifying glass it does not reveal any of its secrets. Only with special scanners which are available for example to the wholesale pharmacy trade and clinics is it possible to decipher the exact glass product which is involved and where, when and in which batch it was produced and for what species of drug it may have been specifically designed. This means that primary packaging which perhaps looks identical but may actually have widely differing characteristics can be clearly identified at all times. If they wish, drug manufacturers may also stipulate individual identification data to be incorporated in the coding on the glass.



Gerresheimer thereby opens up for its customers above all the possibility of a tailor-made track-and-trace solution for the drug traceability proof which is under discussion by the EMEA (European Medicines Agency) and the FDA (Federal Drug Association). This is intended to combat the market for inferior product imitations which is steadily growing around the world. “What laser coding provides is like a finger print for the individual packaging unit,” says Burkhard Lingenberg, Director of Marketing and Communication for the Gerresheimer Group: “This ensures that it can be identified over its entire life cycle and means that, if necessary, conclusions can quickly be drawn about the origin and for example the expiry date of the medicine which it contains.”

A key factor is the special laser technology which, as far as practically possible, precludes the possibility of subsequent manipulation of the tiny matrix data field. In the Gerresheimer process the code is not just applied onto the glass but indelibly embedded in it by laser. Unintentional damage to the extremely precise product ID thus provided, or any attempt to remove it, would ultimately be detected by the reader appliance in the course of origin checks. The laser bake-in technology has the additional advantage that no particles are released.

Heat transfer printing: ‘Multicolor’ provides signals on pharma glass

No need for change of materials:

The Multicolor technique uses the colour types desired by the customer

Heat transfer printing is the new way to carry out multi-colour printing on pharma glass packaging. With this innovative technology, Gerresheimer launches a high-quality and also economic design process which is likely to attract attention from the pharma industry not only in terms of marketing aspects: ‘Multicolor’ also provides better orientation for patients, pharmacists and doctors.



The brand logo in the original colour tone is one element – others include usage instructions, expiry dates, barcodes, as well as calibrations and scales for some products. Colour signals and clear visual demarcation of various information types make sense and are therefore very much in demand. The general advantages of direct printing over labelling are obvious: one of them is that only the printing ink itself comes into contact with the primary packaging, and very firmly too. The screen printing process which has been customary in the past has a disadvantage however: it permits only monochrome, i.e. single-colour, printing. Each additional colour would be disproportionately expensive because it would require for example an additional drying station to be interposed.

With its new technology Gerresheimer solves the problem in a very ingenious way. Even the colours which customers previously preferred for their screen printing can still be used without change. A special film printed in accordance with individual wishes is used for this purpose. After hardening, only the colours remain on the glass. Through the process they are fixed to the glass in a permanent and stable manner. The transfer is then complete: fully automated camera inspection monitors the results.

“We offer our customers the highest possible quality,” says Burkhard Lingenberg, Director of Marketing and Communication for the Gerresheimer Group. “And for patients what we again offer with this new development is in the end effect greater convenience – which in this area must always be ranked beside greater safety.”