



PRESS INFORMATION

## Novel Laser Coding Technology for Pharmaceutical Glass Containers

*Glass syringes can now be individually coded / Safe process  
free of micro-cracks / Reliable Track & Trace*

A completely new innovative laser-coding system enables glass containers for parenteral use to be clearly coded at the glass syringe manufacturer and tracked from production to end customer. This innovation can help pharmaceutical companies to develop a reliable Track & Trace system and further reduce the risk of mix-up of syringes and batches. At the same time, this laser-coding technology is an effective means to counter drug counterfeiters.

The benefit: patient safety for pharmaceutical and diagnostic products is guaranteed. The laser-coded containers meet the demands of clean room standards and no additional chemicals or materials are required for coding. Moreover, the laser-coding system can easily be integrated into existing filling systems, providing a stable, highly reproducible and safe process.

The laser-coding process was developed and tested under production conditions by a team of experts from the pharmaceutical industry, glass tubing production and pharmaceutical packaging supplier for software and vision inspection. Involved were the companies Roche Diagnostics GmbH, SCHOTT forma vitrum AG, SCHOTT-Rohrglas GmbH, Seidenader Vision GmbH and Vesdo AG. The proof of concept for large-scale production is now available and the process is therefore ready for implementation.



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Various tests have proven that the laser coding causes no micro-cracks and has no effect on the mechanical stability of the glass. The process can safely code each container with an individual 2D data matrix code, making it 100% readable. To guarantee 100% readability of the code on the curved glass surface of the syringe, the team has developed dedicated algorithms and test methods.

The laser-coding concept also offers a documentation tool that can provide a trail for each container including information such as: place of production, fill date, expiration date or day of use. The code is tiny – only 2 by 2mm. The 2D data matrix code which is marked on to the container is barely visible to the human eye but allows for the indexing of a database record which contains data related to the individual item, such as drug specification, dosage, production line, batch. This record can have more data added during the lifecycle of the product.

The process can be used for syringes as well as for vials, cartridges and ampoules.

*2.334 characters*



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### Contacts:

SCHOTT forma vitrum ag  
Christa Fritschi  
Marketing  
Phone: +41 (0) 71 274 1602  
Fax +41 (0) 71 274 4244  
E-Mail: [christa.fritschi@schott.com](mailto:christa.fritschi@schott.com)  
Internet: [www.schott.com/pharmaceutical\\_systems](http://www.schott.com/pharmaceutical_systems)

Vesdo Ltd.  
Sergej Toedtli  
CEO  
Phone: +41(0) 44 79 405 22 29  
Fax +41(0) 44 787 39 56  
E-Mail: [toedtli@vesdo.com](mailto:toedtli@vesdo.com)  
Internet: [www.vesdo.com](http://www.vesdo.com)

Seidenader Vision GmbH  
Heidrun Sing  
Phone: +49 (0) 8121 802-486  
Fax +49 (0) 8121 802-49486  
E-Mail: [heidrun.sing@seidenader.de](mailto:heidrun.sing@seidenader.de)  
Internet: [www.seidenader.de](http://www.seidenader.de)

Roche Diagnostics GmbH  
Dr Monika Mölders  
Communications Department  
Phone: +49 (0) 621 759 8743  
Fax +49 (0) 621 759 6074  
E-Mail: [rdg.presse@roche.com](mailto:rdg.presse@roche.com)  
Internet: [www.roche.de](http://www.roche.de) / [www.roche.com](http://www.roche.com)



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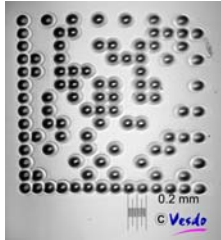


Image # 235862

Laser firing (long-wave CO<sub>2</sub> laser) on heated glass - above the transformation temperature - guarantees that there are no microcracks.

Photo: Vesdo



Image # 235866

An individual data matrix code on each container ensures a reliable Track & Trace and no mix-ups before, during and after the filling process.

Photo: Vesdo

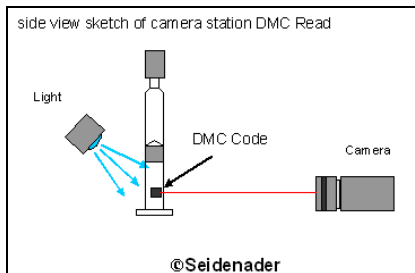


Image # 235872

Side view of camera set-up to read data matrix code.

Photo: Seidenader



Image # 235876

Individual laser coding of pharmaceutical glass containers improves the identification on fill-in and packaging.

Photo: Roche

More press photographs are available for download at: [www.schott-pictures.net](http://www.schott-pictures.net)