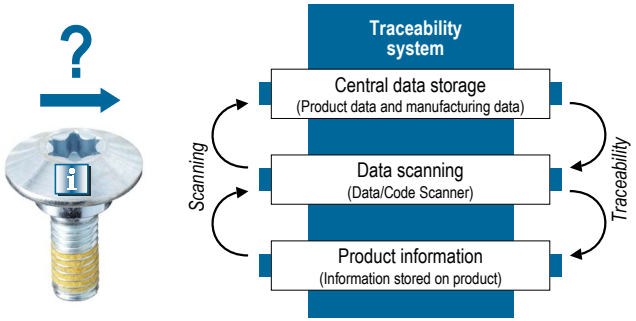
digifast

Fasteners with machine readable information storage (2D, 3D code or hologram)

betzer®
Präzisionsschrauben · Kaltformtechnik

The vision

An intelligent fastener that provides information about it´s origin, it´s manufacturing process and about it´s use

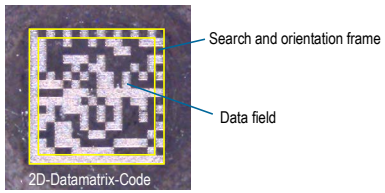


The solution

Integration of a 2D information storage on the fastener surface

2D Datamatrix code

- High density information in the smallest space
- Redundant information – failure correction




2D code by laser

Application of the Datamatrix code

- Thermal: laser
- Mechanical: print, peen, glue tag
- Chemical: etching

Advantages

- Short manufacturing cycles
- No secondary mechanical operation neccessary
- No reduction in the mechanical properties of the fastener
- Industrial standard
- Low application costs
- Robust code


2D code reader


Peened 2D code

The information stored as “Product ID”

“Product ID”
Individual identification

- Part no., serial no.
- Material heat no.
- Manufacturer
- Date of manufacture
- Differentiation of identical fasteners
- Copy protected fasteners
- Handling parameters
- Mounting devices
- Mounting location
- Data for assembly operation
- ...

Customer benefit

Tractability, information, security

... in mounting process

- Documentation of each fastener with assembly data
- Traceability down to ...
  - single fastener
  - location and date
- Online recognition of wrong fasteners
- Data for tool program and control on each fastener
- Assembly of different fasteners with a single tool
- Integration of assembly data into production data


Production assembly

... in logistics

- Less effort in case of product recalls
- Automatic information for part logistics, e.g. for kanban inventory control
- Documentation of spare parts

... security against product copies/fakes

- Identification of OEM parts and spares

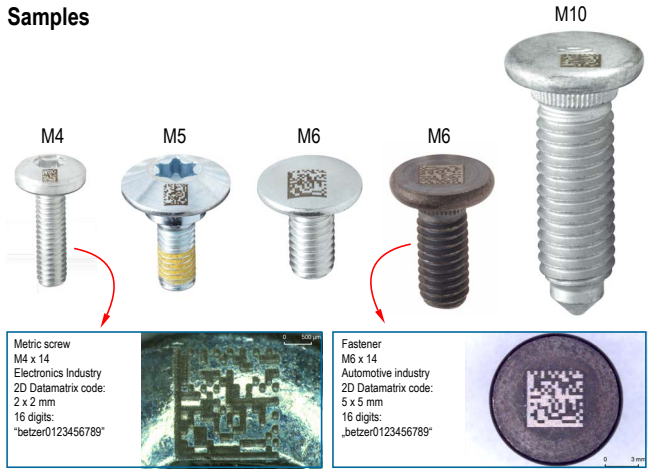

Screw with 3 x 3 mm
2D Datamatrix code

Applications

Safety critical fasteners in...

- Automotive: cars, trucks
- Aviation: airplanes
- Trains
- Wind turbines
- Chemical industry
- Arms
- Construction: bridges, buildings
- Power plants
- ...

Samples



Application field trucks

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