unitech
because we care

DPM (Direct Part Marking)

WHY (Reason to Build This Technology)

DPM Technology (Direct Part Marking) is a process that allows users to imprint a bar code directly on an item instead of printing the code on a paper label. Different technologies are available to directly mark objects such as laser marking, chemical etching, dot peen marking and ink jet printing. One of the advantages of this technology is that the code is permanently marked on a surface and will survive for a long time (ideally forever), regardless of the part being passed by any stress, the code still maintains well during its' life cycle.

The main reasons of using DPM technology are:

- Items that need to be passed through harsh testing processes. (chemicals agents, thermal cycles, oil, moisture, etc.)
- Items that need to be tracked during their entire life cycle.
- Very small items (difficult to label).

HOW (Concept of This Technology)

Laser Marking

Laser marking is currently the most popular choice used with DPM technology. It is compatible with a wide range of materials and offers several benefits like high quality marking, high throughput and no consumables. Laser Marking works by creating a change of the material characteristics through the interaction with a laser beam.

Dot Peen Marking

Dot peen marking is created by mechanical percussion, which actually punches holes in the material. The holes created by the mechanical percussion cause a different reflection or diffusion of the incident light on the surface to recreate the dark and light elements that characterize a bar code. Dot peen marking is generally used with metal parts and it is very common in the automotive industry.

www.ute.com

unitech
because we care

DPM (Direct Part Marking)

Ink Jet Printing

Ink jet printing mark is created by directly spraying ink onto the surface of the part and then caused a pattern of spots. The ink jet method is generally compatible with any substrate material, such as plastic, metal, glass, etc. Since this method is based on an ink deposit, the ink marking is less persistent than other methods and could be inappropriate for harsh production environments.

WHAT (Case Study Benefits)

In sum, when you want to track your most valuable assets through their lifecycle, direct part marking (DPM) offers permanence no other label format can match. We hear your voice. unitech's DPM solution family can let you read the DPM barcode easily no matter marking on reflective, shiny, polished or contrasting rough surface. It is just like read and go.
Here is our offer for DPM solution family :
Reader : MS842 & MS842P
Mobile : PA720, PA730 & TB128

FAQ

- Why normal 2D imager has difficult to read DPM code but MS842DPM can ?

  DPM involves markings applied directly to a part surface that incorporate code(s) used to implement and facilitate comprehensive, full life-cycle applications using intrusive or non-intrusive marking methods. It is not an easy job like reading a barcode on paper, label….etc. The different surface can result various interference, hence the decoder has to manage the engine to do a proper Gain and Exposure control to get a better image and send to decoder library.
  That's why it takes more complicated computing and efforts to do a decoding.

- Which industries have been using DPM and/or will adapt DPM?

  Aerospace, Automotive, Electronics, Manufacturing, Semiconductors.

- What are the advantages of using DPM barcode?

  - Lifetime item identification and traceability
  - Greater visibility into assets and components
  - Improved asset, inventory and maintenance management
  - Enhanced product and channel protection