

#### Overview

This standard is for people who set and monitor numbering, bar-coding or inline data printing equipment. The numbering equipment may be conventional numbering 'clocks' or 'blocks' or ink-jet, thermal or laser technology.

Numbering, bar-coding, as well as the addition of batch information and variable personal data to printed material is very common in the printing industry. From gaming tickets through stationery and packaging to direct mail, the range of printed products which now contain such information is huge.

Mechanical numbering 'blocks' which print sequential numbering series can be found on letterpress machines and mechanical numbering 'clocks' which perform a similar operation are found on many small offset lithographic machines or on standalone numbering machines. For these type of devices, the operator must be able to set up the equipment so that the impression is clean and of the right weight so as not to damage the product or the equipment. Because these devices are inked in a conventional way, they have to be kept clean in order to avoid 'sticking' or jumping. On some products, one or more of the same numbers have to be printed, on others, multiple numbering heads usually require the sequence of numbering to be carefully worked out so that the numbers count forwards or backwards to create a sequential set when the product is guillotined.

Over the last decade, an increasing number of programmable impact and non-impact devices have emerged to print data onto substrates. Impact printers typically have a 'foil' ribbon from which the foil coating is transferred to the printed product when it is struck by the print head. Non-impact printers include ink-jet units, which are capable of printing at high speed onto moving substrates, and thermal print heads that require thermal sensitive substrates or transfer ribbons in order to produce an image. These digital driven devices are programmed by a computer or by a touch-screen or keyboard supplied by the device manufacturer.

Commercially available numbering software is also increasingly common and these programmes are capable of setting up complex sequential numbering in multiple positions on a sheet for subsequent printing to a laser or ink-jet printer. This standard may be used for operators of such software providing the numbering is sequential, not static.

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### Set up and monitor numbering, bar-coding or inline data printing equipment



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This standard cannot be used for the printing of a static bar-code contained as part of a larger printed image because the standard requires the setting up (including programming for digital devices) of numerical or other inline data printing equipment.

### Performance criteria

### Set up numbering, barcoding or non-impact printing equipment

- You must be able to:**
- P1 identify the numbering or other data requirements from the job instructions
  - P2 determine the sequence, orientation and position of the numbering or data on the sheet
  - P3 for multiple sequential numbering, calculate the starting number for each number position
  - P4 if required, mount the numbering device(s) or print heads in the required position
  - P5 put the correct ink or transfer media into the equipment
  - P6 for digitally driven devices, input the required data, create the layout, and apply the correct fonts, including barcode font and format
  - P7 set the numbering device or print head to produce a clean image without causing physical damage to the substrate to be printed
  - P8 check that any sequential numbering will operate correctly and count in the right direction
  - P9 carefully check that any batch coding data is set-up correctly and any barcode images can be read by a barcode scanning device
  - P10 obtain approval from the appropriate person to begin production
  - P11 where it is not possible to set up the required numerical, barcode or other variable data to the required standard, inform the relevant person without delay

### Run and monitor the quality of numbering, bar-coding or non-impact printing during production

- You must be able to:**
- P12 make sure that the quality of the printed image(s) is fit for purpose
  - P13 regularly check that any numbering or variable data is maintained in sequence
  - P14 immediately stop production if the numbering or variable data sequence has failed
  - P15 regularly check that the numbering, bar-coding or other data can be read, including by a 'reading' device such as a barcode scanner, where required
  - P16 correct faults that it is your job to correct, including resetting any numerical sequence.
  - P17 immediately report any printing problems that it is not your job to correct

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- P18 remove or clearly identify any defective product
  - P19 follow correct procedures for the disposal of any defective product
  - P20 keep samples of the printed product as required
  - P21 keep records of the data printed, including details of any batch coding or numbering sequences used

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## Set up and monitor numbering, bar-coding or inline data printing equipment



### Knowledge and understanding

#### The Law as it affects printing

You need to know and understand:

K1 data protection

#### Ethical Issues relevant to printing

You need to know and understand:

K2 confidentiality

#### Health and Safety

You need to know and understand:

K3 your duties and responsibilities for health and safety as defined by any specific legislation covering your job role

K4 manufacturer's health and safety requirements relevant to your job

K5 how to stop a machine in the event of an emergency

#### Communication

You need to know and understand:

K6 how to communicate with colleagues

#### Workplace policy and practice

You need to know and understand:

K7 workplace objectives, priorities, standards and procedures

K8 the range of work carried out in the workplace

#### The identification and assessment of printing options

You need to know and understand:

K9 the stages in the printing process from pre-press to printed product

#### Time and Resources

You need to know and understand:

K10 how to maximise productivity

#### The operation of equipment

You need to know and understand:

K11 the operation of numbering, barcoding or non-impact inline printing equipment

K12 the principles of barcode construction, including the use of 'check' digits

### Printing

You need to know and understand:

K13 the principles of impact and non-impact numbering and inline data printing

### The causes and treatment of common faults

You need to know and understand:

K14 processing faults

K15 machine faults

### Administrative procedures

You need to know and understand:

K16 recording and reporting

K17 product labelling

### Environmental

You need to know and understand:

K18 any specific environmental legislation that covers processes in your company

K19 control of pollution

### Quality Assurance and Control

You need to know and understand:

K20 techniques for controlling quality

K21 equipment for controlling quality in barcode production

### Problem Solving

You need to know and understand:

K22 sources of information

K23 techniques for assessing machine faults

### Materials

You need to know and understand:

K24 the types and characteristics of paper, board and other commonly used substrates

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- K25 the types and characteristics of ink and coatings
  - K26 how to maintain the quality of materials during storage and handling

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<b>Originating organisation</b>	Proskills
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