PRODPP125 - SQA Unit Code F3MA 04
Plan and capture digital images

Overview

This standard is about converting analogue material into digital form. It covers all aspects of scanning, including detailed intervention where automatic settings do not give the required result.

The standard applies if you produce digital artwork for print or work in a pre-press or digital printing environment.

Subject to the demands of any brief, you are responsible for deciding on the approach you want to take, both creative and technical. You need to have enough flexibility to change your approach when you think it is necessary.

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Performance criteria	**Decide on the scanning approach**

You must be able to:

P1 make an accurate assessment of the suitability of the material for scanning

P2 tell customers, clearly and accurately, about the advantages and disadvantages of scanning the material

P3 tell customers, clearly and accurately, when approaches other than scanning may be more suitable

P4 make an accurate assessment of the scanner operations necessary to produce the required output

P5 recognise when the scanners in your workplace will produce the sort of output your customers want

P6 make arrangement to sub-contract any scanning work you cannot carry out in the workplace

P7 select the most suitable scanning equipment for the material to be scanned and the output required

Prepare equipment and material for scanning

You must be able to:

P8 carry out any low-resolution scanning necessary to establish the correct software values

P9 apply the correct software values for:
  P9.1 the material to be scanned
  P9.2 the output required

P10 make sure that the scanner to be used, and the material to be scanned, are clean

P11 handle safely the material to be scanned

P12 load correctly the material to be scanned

Produce scanned images

You must be able to:

P13 produce scanned images which are correct in terms of the following:
  P13.1 physical size
  P13.2 file size
  P13.3 content
  P13.4 orientation
  P13.5 colour
  P13.6 sharpness
  P13.7 brightness (exposure)
  P13.8 contrast
  P13.9 colour space - RGB, CMYK and greyscale
  P13.10 output resolution

P14 produce scanned images which are free of the following unwanted

effects:

P14.1 physical defects — fingerprints, dust damage and scratches

P14.2 newton's rings

P14.3 moiré patterning from screened originals

P14.4 pixelisation

P14.5 colour

P14.6 posterisation

P14.7 halo effects

P15 assess the scanned images accurately against customer requirements and workplace standards

P15.1 detect any problems with the scanned images

P15.2 identify correctly the causes of the problems - those due to faulty scanning and those due to other factors

P15.3 discuss any scanning problems with the correct colleagues and, where necessary, with customers

P15.4 agree the action to be taken to resolve the problems

P15.5 recognise any potential legal issues arising from the nature of the scanned images

P15.6 follow workplace procedures in dealing with potential problems

P16 carry out any discussions with customers positively and constructively

P17 maintain the confidentiality of customer material

P18 save the scanned image data files in the correct format

P19 produce scanned images to the correct image profiles

P20 maintain version control

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Knowledge and understanding

Produce scanned images

You need to know and understand:

K1 **the law as it affects printing**
K1.1 defamation
K1.2 copyright and ownership of images
K1.3 obscenity
K1.4 incitement
K1.5 forgery
K1.6 data protection

K2 **ethical issues relevant to printing**
K2.1 confidentiality
K2.2 personal issues important to others, e.g. ethnic origin, gender, religion, sexuality

K3 **health and safety**
K3.1 hazards and risks in your own job, their assessment and the action to take to deal with them - including relevant regulations on the safe handling of equipment and materials, and the safe use of computer equipment
K3.2 manufacturer's health and safety requirements relevant to your job

K4 **the safe handling of customer material**

K5 **security and storage**
K5.1 secure means of archiving digital and conventional artwork

K6 **communication**
K6.1 with customers
K6.2 with colleagues

K7 **workplace policy and practice**
K7.1 workplace objectives, priorities, standards and procedures

K8 **the identification and assessment of printing options**
K8.1 the reasons for selecting one process over another
K8.2 the choice of processes for any particular product
K8.3 the role of images in graphic communication
K8.4 changing image styles, fashions and demands in printed products
K8.5 the stages in the printing process from pre-press to printed product

K9 **time and resources**
K9.1 the relationship between resource usage and profitability
K9.2 how to maximise productivity

K10 **the operation of equipment**
K10.1 the set-up of scanning equipment
K10.2 the operation of scanning equipment

K11 **digital imaging**

K11.1   colour theory, e.g.: additive and subtractive systems such as RGB and CMYK; colour gamut's

K11.2   the relationship between image size, file size and resolution

K11.3   file formats for digital images - the differences between them and the reasons for using them

K11.4   the range of methods, equipment, material and software appropriate to the imaging requirements

K11.5   methods of controlling contrast, density and colour characteristics during scanning

K11.6   the relative merits of the methods, equipment, material and software

K11.7   the assessment of material for scanning - potential problems and solutions

K11.8   colour management: how to set up, maintain and use image profiles

K12 **how to deal with digital files**

K12.1   dealing with embedded information

K12.2   file management

K13 **the causes and treatment of common faults**

K13.1   in scanning

K14 **quality assurance and control**

K14.1   the main features of quality assurance and quality control systems

K14.2   techniques for controlling quality, including inspection, testing, sampling, use of input and output controls

K14.3   light standards for viewing and assessing colour print

K15 **cleaning, lubrication and maintenance**

K15.1   the choice and use of suitable cleaning agents and lubricants

K15.2   what parts of the machine you are allowed to clean, lubricate and maintain

K15.3   with colleagues

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Additional Information

Scope/range

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The material to be scanned
You must be able to scan the following material:

1   reflective material, e.g. photographic prints and printed material from books, magazines and newspapers.
2   transparencies and photographic negatives.
3   black-and-white and colour material, including line, halftone and continuous tone.
4   material with a wide range of tonal contrast.
5   a key requirement is the ability to handle safely the material to be scanned, particularly if this is the property of other people.

Scanning
Whichever device is used, it must be capable of allowing the operator to make adjustments covering the range of adjustments to the scanned image set out in this standard. These may be made by software settings on a computer controlling the scanner or through settings on the copier/printer itself. However, 'all-in-one' devices at the lower end of the market (e.g. fax-copy-scan-print inkjet devices) are unlikely to have sufficient range of operator-selectable settings for this unit.

You must be able to scan single and multiple originals using a drum, flat-bed or scanner forming part of a digital copier/printer.

You must be able to handle complex settings for difficult originals, e.g. originals with limited tonal range and with colour faults. You must be able to output to file or to printer.

Discussions with customers
Although you will not have to discuss all of your scanning with customers, you must be able to do so when the need arises, e.g. when you have questions about the scanning, when you have to deal with "difficult" material or when there are problems with the scanning. You must be able to tell customers about the capacities and limitations of scanning and suggest other approaches, e.g. photographic approaches, where necessary.

If you are scanning your own material, you yourself are the customer.

Assessment of scanned output

You must be able to make an accurate assessment of the scanned output. You must be able to detect any defects; you must also be able to recognise those due to faulty scanning and those due to other factors, e.g. difficult originals.

Legal issues

Legal issues are, by their nature, difficult to predict and are unlikely to occur in most cases. However, you must be aware of the legal knowledge specified for this unit so that you can spot any potential problems and take the action required in your workplace.

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