

### Overview

This standard is for machine printers with responsibility for setting up gravure printing units on web presses.

This standard requires a machine printer to be able to set up and maintain gravure printing units on a web-fed printing machine. The printer needs to have a full working knowledge of gravure printing units, including issues that arise from the transfer of substrate between units, dot gain and ink trapping, achieving and maintaining ink densities for different inks on different substrates, and colour control. Practical ability must be demonstrated through the production of printed work of a commercial standard from the gravure units, usually in the context of multiple units printing process colour.

As well as making ready unit(s) for particular jobs, the printer must also be able to undertake routine maintenance of the unit to ensure it prints to an acceptable quality. Often this will be checked with reference to known quality standards. Other tests may be performed to check ink roll-out is satisfactory and that ghosting, repeat or gear marks are not developing.

A printer must be able to check and assess the quality of print under correct viewing conditions against an approved proof and make whatever adjustments are necessary to the press to achieve and maintain the quality required. On most modern machines, integral colour control hardware and software is installed, allowing the printer to check continually that ink densities, dot measurements or spectral colour meet recognised standards and/or are consistent with an approved 'pass sheet'. As a minimum, the printer must be familiar with colour standards and how such standards are maintained. If equipment for this purpose is in use in company, then the printer must be capable of operating it and understanding it.

### Performance criteria

#### Make gravure printing units ready for production

- You must be able to:
- P1 check that you have all the details required for the job and authority to start the job
  - P2 check that the machine and your work area are safe and ready for production
  - P3 check that the general condition of the gravure cylinder is suitable for production and meets the job imposition requirements
  - P4 fit the cylinder correctly into the printing unit
  - P5 set, test and adjust impression rollers so that their hardness and pressure are sufficient to produce a clean print
  - P6 position the image correctly
  - P7 make adjustments to the machine settings as necessary to achieve the required job specification and quality standards with regard to colour
  - P8 make adjustments to the machine settings as necessary to achieve the required job specification and quality standards with regard to registration
  - P9 report promptly to your manager if circumstances beyond your control prevent you from producing a pass sheet to the required standard from the printing unit

#### Maintain the quality of output from gravure printing units

- You must be able to:
- P10 regularly check that the output from the gravure printing unit(s) and press matches the pass sheet and/or is within the tolerance of any standards established for gravure printing within your company
  - P11 make the correct running adjustments to the unit to achieve the standard set for the job
  - P12 identify and correct the cause of problems in the gravure printing unit which affect the quality of the image or reduce the rate of output
  - P13 report promptly to your manager if circumstances beyond your control prevent you from achieving the required quality from the gravure unit(s)

### Knowledge and understanding

You need to know and understand:

### Health and Safety

- K1 your legal duties for health and safety in the workplace as defined by the relevant health and safety legislation
- K2 your duties and responsibilities for health and safety as defined by any specific legislation covering your job role
- K3 workplace policies and procedures
- K4 working practices
- K5 hazards and risks in your own job/workplace, their assessment and the action to take to deal with them - including relevant regulations on the safe handling of equipment and materials.
- K6 manufacturer's health and safety requirements relevant to your job
- K7 what Personal Protective Equipment should be used in your job
- K8 how to stop a machine in the event of an emergency

### Communication

You need to know and understand:

- K9 how to communicate with colleagues, customers and suppliers

### Workplace policy and practice

You need to know and understand:

- K10 workplace objectives, priorities, standards and procedures
- K11 the range of work carried out in the workplace
- K12 the working practices existing in the workplace

### The identification and assessment of printing options

You need to know and understand:

- K13 the stages in the printing process from pre-press to printed product

### Time and Resources

You need to know and understand:

- K14 the different types of resource, including labour, materials, machinery
- K15 the relationship between resource usage and profitability
- K16 how to maximise productivity
- K17 the relationship between productivity and competitiveness

**The operation of equipment**

You need to know and understand:

- K18 the range of adjustments and settings on gravure printing units
- K19 the operating practices and procedures for gravure printing units
- K20 the use of colour control equipment, including densitometers and spectrophotometers

**Printing**

You need to know and understand:

- K21 the principles of gravure printing

**The causes and treatment of common faults**

You need to know and understand:

- K22 raw material faults
- K23 processing (printing) faults
- K24 machine faults

**Administrative procedures**

You need to know and understand:

- K25 recording and reporting
- K26 product labelling

**Environmental**

You need to know and understand:

- K27 the legal requirements for the classification, storage, carriage and disposal of waste
- K28 any specific environmental legislation that covers processes in your company
- K29 the existence of any national or international standards on environmental management

**Quality Assurance and Control**

You need to know and understand:

- K30 the main features of quality assurance and quality control systems
- K31 techniques for controlling quality, including inspection, testing, sampling, use of input and output controls

- K32 equipment for controlling quality in machine printing
- K33 light standards for viewing and assessing colour print

### **Problem Solving**

You need to know and understand:

- K34 types of problems that may need to be solved
- K35 sources of information
- K36 techniques for solving complex problems
- K37 techniques for assessing machine faults

### **Materials**

You need to know and understand:

- K38 the types and characteristics of paper, board and other commonly used substrates
- K39 the types and characteristics of inks, coatings and coatings
- K40 how to maintain the quality of materials during storage and handling

### **Proofing**

You need to know and understand:

- K41 the principal types of proof and their role in the printing process

## PROMP274 (SQA Unit Code – H9JN 04)

### Control gravure printing units



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