
Overview

This standard is for machine printers with responsibility for setting up lithographic printing units on web presses. The printing unit may be a blanket to cylinder or blanket to blanket type. It involves setting up the mechanical aspects of the unit, as well as setting up the unit in a 'make ready' sense, such as fitting plates and adjusting the impression pressures to suit the substrate.

This standard requires a machine printer to be able to set up and maintain lithographic printing units on a web-fed printing machine. The printer needs to have a full working knowledge of lithographic 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 lithographic 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 dot gain, to make sure the printing unit is printing 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.

The 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 machine minder must be capable of operating it and understanding it.

**Performance
criteria**

Make lithographic 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 plate is suitable for production and meets the job imposition requirements
 - P4 fit the plate(s) correctly to the plate cylinder(s), including any plate packing that may be required
 - P5 ink up the unit so that colour strength is achieved across the plate(s)
 - P6 make adjustments to the machine settings as necessary to achieve the required job specification and quality standards with regard to colour
 - P7 make adjustments to the machine settings as necessary to achieve the required job specification and quality standards with regard to registration
 - P8 report promptly to your manager if circumstances beyond your control prevent you from producing a pass sheet to the required standard.

Maintain the quality of output from lithographic printing units

- You must be able to:
- P9 regularly check that the output from the lithographic printing unit(s) and press matches the pass sheet and/or is within the tolerance of any standards established for lithographic printing within your company
 - P10 make the correct running adjustments to the unit to achieve the standard set for the job
 - P11 identify and correct the cause of problems in the lithographic printing unit which affect the quality of the image or reduce the rate of output
 - P12 report promptly to your manager if circumstances beyond your control prevent you from achieving the required quality from the lithographic 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 the workplace, their assessment and the action to take to deal with them
- K6 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.
- K7 manufacturer's health and safety requirements relevant to your job
- K8 what Personal Protective Equipment should be used in your job
- K9 how to stop a machine in the event of an emergency

Communication

You need to know and understand:

- K10 how to communicate with colleagues, customers and suppliers

Workplace policy and practice

You need to know and understand:

- K11 workplace objectives, priorities, standards and procedures
- K12 the range of work carried out in the workplace
- K13 the working practices existing in the workplace

The identification and assessment of printing options

You need to know and understand:

- K14 the stages in the printing process from pre-press to printed product

Time and Resources

You need to know and understand:

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

K18 the relationship between productivity and competitiveness

The operation of equipment

You need to know
and understand:

K19 the range of adjustments and settings on lithographic printing units

K20 the operating practices and procedures for lithographic printing units

K21 the use of colour control equipment, including densitometers and spectrophotometers

Printing

You need to know
and understand:

K22 the principles of lithographic printing

The causes and treatment of common faults

You need to know
and understand:

K23 raw material faults

K24 processing (printing) faults

K25 machine faults

Administrative procedures

You need to know
and understand:

K26 recording and reporting

K27 product labelling

Environmental

You need to know
and understand:

K28 the legal requirements for the classification, storage, carriage and disposal of waste

K29 any specific environmental legislation that covers processes in your company

K30 the existence of any national or international standards on environmental management

Quality Assurance and Control

You need to know
and understand:

K31 the main features of quality assurance and quality control systems

- K32 techniques for controlling quality, including inspection, testing, sampling, use of input and output controls
- K33 equipment for controlling quality in machine printing
- K34 light standards for viewing and assessing colour print

Problem Solving

You need to know and understand:

- K35 types of problems that may need to be solved
- K36 sources of information
- K37 techniques for solving complex problems
- K38 techniques for assessing machine faults

Materials

You need to know and understand:

- K39 the types and characteristics of paper, board and other commonly used substrates
- K40 the types and characteristics of inks, coatings and coatings
- K41 how to maintain the quality of materials during storage and handling

Proofing

You need to know and understand:

- K42 the principal types of proof and their role in the printing process

PROMP272 (SQA Unit Code – H9JL 04)
Control web offset lithographic printing units



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| Developed by | Proskills |
| Version number | 2 |
| Date approved | October 2013 |
| Indicative review date | April 2018 |
| Validity | Current |
| Status | Original |
| Originating organisation | Proskills |
| Original URN | PROMP272 |
| Relevant occupations | 5421 Originators compositors and print preps; 5422 Printers; 5424 Screen printers; 9133 Printing machine minders and assistants; 5423 Bookbinders and print finishers; 3421 Graphic designers |
| Suite | Machine Printing |
| Key words | machines; printing; lithographic; equipment; flexographic; operate; maintain; inks; coatings; |
