
Overview

This standard is for lithographic printers with responsibility for multi-unit lithographic presses. The standard involves the set-up of the machine for printed work that meets the quality required by the customer with the minimum of waste materials.

A multi-unit machine is one that prints two or more colours in a single pass through the machine. It includes the make-ready and the identification and correction of associated print faults, that occur during set-up, whether they are caused by machine or materials.

Multi-unit lithographic printing machines have many possible configurations and features. This standard requires a lithographer to be able to set up on multiple-unit presses. The printer must have a full working knowledge of multi-unit presses, including issues that arise from the transfer of sheets between units.

Practical ability must be demonstrated in setting up the press to produce printed work to a commercially acceptable standard. This must be done on different substrates and covering a sufficient range of printed work to show full competence to set up a multi-colour lithographic machine. This should include a variety of different kinds of images, in the context of multiple units printing process colour and/or combined spot colours.

This standard requires a lithographic printer to be able to set up and maintain lithographic printing units on a sheet-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, ink strength, trapping and drying, achieving and maintaining ink densities for inks on different substrates, and colour control.

The printer must be able to set-up four-colour process work. 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 more 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 company standards. The printer is required to be familiar with colour standards and how such standards are maintained. If equipment for this purpose is in use in the company, then the printer must be capable of operating and understanding it.

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.

Performance criteria

You must be able to:

Fit plates to plate cylinders

1. check you have all the details required for the job and approval to start the job
2. check you have enough materials of the right type for the job
3. report to your manager if materials provided are not correct or sufficient
4. identify any post-printing requirements to meet specifications
5. check machines and work area are safe and ready for production
6. centralise plate clamping system both laterally and circumferentially following standard operating procedures
7. fit plates to plate cylinders, including any plate packing to meet specifications
8. tighten plates to plate cylinders following standard operating procedures

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Set up substrate transport systems

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9. *set feeders and delivery for size of sheets following standard operating procedures*
10. *place substrate and sufficient make-ready sheets into feeders to meet specifications*
11. *set front lays and side lays, checking sheets will pull up fully and to the correct side when printing following standard operating procedures*
12. *test substrate transfer systems and confirm sheets run consecutively with no missed sheets or doubles following standard operating procedures*
13. *set impression pressure for the thickness of substrate to be printed**

Set inking and damping systems

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14. *add ink into duct(s) to meet specifications*
15. *check fount solutions are formulated for ph and conductivity*
16. *confirm fount solution is up to appropriate levels in reservoirs following standard operating procedures*
17. *pre-set ink ducts to image profiles following standard operating procedures*
18. *ink up ink rollers to meet specifications*
19. *pre-damp damping systems to meet specifications*

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Set press to match pass sheet standard

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20. run sheets until ink and water balance are achieved following standard operating

procedures

21. adjust machine settings to achieve specifications and quality standards
22. report to your manager if circumstances beyond your control prevent you from producing a pass sheet to the required standard
23. obtain "pass sheets" that meets company standards
24. identify and rectify faults that occur with machinery and consumables

Knowledge and understanding

You need to know and understand:

The law as it affects printing

1. defamation
2. copyright and ownership of images
3. obscenity
4. incitement
5. forgery
6. data protection
7. the printers imprint

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Ethical and employment issues relevant to printing

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8. *confidentiality*

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Health and safety

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

10. *workplace policies and procedures*

11. *working practices*

12. *hazards and risks in the workplace, their assessment and the action to take to deal with them*

13. *hazards and risks in your own job, their assessment and the action to take to deal with them*

14. *manufacturers' and suppliers' health and safety instructions / advice*

15. *how to stop a machine in the event of an emergency**

Security and storage

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16. *print with time-sensitive or restricted release dates*

17. *high value products or print with a high risk of theft*

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Communication

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18. *how to communicate with colleagues*

19. *how to communicate with suppliers*

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Workplace policy and practice

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20. workplace objectives, priorities, standards and procedures

21. the range of work carried out in the workplace

22. the working practices existing in the workplace

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The identification and assessment of printing options

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*23. the stages in the printing process from pre-press to printed product**

Time and resources

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24. the different types of resource, including labour, materials, machinery

25. the relationship between resource usage and profitability

26. how to maximise productivity

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The operation of equipment

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27. the operation of multi-unit lithographic printing machines

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Printing

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28. the principles of lithography

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The causes and treatment of common faults

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29. raw material faults

30. processing faults

31. machine faults

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Administrative procedures

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32. scheduling

33. recording and reporting

34. product labelling

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Environmental

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- 35. the legal requirements for the classification, storage, carriage and disposal of waste
- 36. any specific environmental legislation that covers processes in your company
- 37. control of pollution**

Quality assurance and control

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- 38. the main features of quality assurance and quality control systems*
- 39. techniques for controlling quality*
- 40. equipment for controlling quality in printing*
- 41. light standards for viewing and assessing colour print **

Problem solving

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- 42. types of problems that may need to be solved*
- 43. sources of information*
- 44. techniques for assessing machine faults*

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Materials

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- 45. the types and characteristics of paper, board and other commonly used substrates*
- 46. the types and characteristics of inks, toners and coatings*
- 47. how to maintain the quality of materials during storage and handling*

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Proofing

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

GQAMP281

Control the set-up of multi-unit lithographic printing machines



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