GQAMP286

Control the set-up of screen printing units on multi-station screen printing machines

Overview

This standard is for screen printers with responsibility for setting up screen printing stations on screen printing 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.

Screen printing machines are found in many configurations, including automatic and semi-automatic flatbed machines, automatic cylinder machines and 3-dimensional object printing machines. This standard is suitable for any of these, providing it has more than one printing station on it and is capable of printing two or more colours in one pass of the substrate. 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.

Flat-bed screen printing machines are particularly versatile and can print on a wide range of substrates from paper and board to metals, rigid plastics, wood, glass, textiles and ceramics. Where the substrate is impervious, the inks usually need to be 'cured'. This standard may be used by screen printers who print on any type of substrate.

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-station screen printing 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 screen printer to be able to set up and maintain screen printing stations. It requires the printer to be competent in making all such adjustments to achieve high quality printing. The printer needs to have a full working knowledge of issues that arise from the transfer of substrate between stations, ink strength, trapping and drying, achieving and maintaining ink densities for inks on different substrates, and colour control.

The printer is required to be familiar with colour standards and how such standards are maintained. If equipment such as densitometers and spectrophotometers is in use in the company, then the printer must be capable of operating and understanding it.

In addition to being able to produce commercially acceptable work, the operator must be competent to change screens, stencils, squeegees, inks and control any drying and transport equipment that forms part of the machine

As well as making ready station(s) for particular jobs, the printer must

also be able to undertake routine maintenance of the station 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:

Select and fit the screens

1. check you have all the details required and approval to start work
2. check you have enough materials of the right type to meet specifications
3. report to your manager, if materials provided is not correct or sufficient following standard operating procedures
4. check machines and your work area are safe and ready for production
5. check the condition of screens is suitable for production and meets any imposition specifications
6. fit screens into the printing stations following standard operating procedures
7. check images are positioned to meet specifications

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Set up substrate transport system

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8. select materials for production to meet specifications
9. set feeder and delivery for the size of items following standard operating procedures
10. place substrates and sufficient make-ready items into feeders following standard operating procedures
11. set the front lays and side lays to meet specifications
12. test substrate transfer systems to confirm sheets run consecutively with no missed items or doubles

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Set and adjust the inking levels

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13. set flood coaters to meet specifications
14. select squeegees to meet specifications
15. set squeegee angle to meet specifications

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Set press to match pass sheet standard

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16. position images to meet specifications
17. flood coat stencil following standard operating procedures
18. set, test and adjust machine settings to meet specifications and quality standards
19. report to your manager if circumstances beyond your control prevent you from producing a pass sheet to the required standard
20. obtain "pass sheets" that meets company standards
21. identify and rectify faults that occur with machines and consumables

Knowledge and understanding

You need to know and understand:

Law and regulations

1. your legal duties for health and safety in the workplace as defined by the relevant health and safety legislation
2. your duties and responsibilities for health and safety as defined by any specific legislation covering your job role
3. workplace policies and procedures
4. working practices
5. hazards and risks in the workplace, their assessment and the action to take to deal with them
6. 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.
7. manufacturer's health and safety requirements relevant to your job
8. Personal Protective Equipment used
9. how to stop machinery in the event of an emergency

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Communication

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10. how to communicate with colleagues, customers and suppliers

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Workplace policy and practice

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11. workplace objectives, priorities, standards and procedures
12. the range of work carried out in the workplace
13. the working practices existing in the workplace

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The identification and assessment of printing options

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

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Time and Resources

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15. the different types of resource, including labour, materials, machinery
16. the relationship between resource usage and profitability
17. how to maximise productivity
18. the relationship between productivity and competitiveness

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The operation of equipment

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19. range of adjustments and settings on screen printing stations
20. operating practices and procedures for screen printing stations
21. use of colour control equipment, including densitometers and spectrophotometers

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Printing

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*22. principles of screen printing **

The causes and treatment of common faults

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23. raw material faults
24. processing (printing) faults
25. machine faults

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Administrative procedures

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26. recording and reporting
27. product labelling

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Environmental

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28. legal requirements for the classification, storage, carriage and disposal of waste
29. environmental legislation that covers processes in your company
30. existence of any national or international standards on environmental management

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Quality Assurance and Control

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31. main features of quality assurance and quality control systems
32. techniques for controlling quality, including inspection, testing, sampling, use of input and output controls
33. equipment for controlling quality in machine printing
34. light standards for viewing and assessing colour print

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Problem Solving

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35. types of problems that may need to be solved
36. sources of information
37. techniques for solving complex problems
38. techniques for assessing machine faults

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Materials

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39. types and characteristics of paper, board and other commonly used substrates
40. types and characteristics of inks, coatings and coatings
41. how to maintain the quality of materials during storage and handling

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Proofing

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

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