

Overview

This standard is for machine printers with responsibility for automatic or semi-automatic multi-colour printing machinery designed to print onto a pre-made product, such as containers, CDs, clothing or ceramics. The range of activities include making ready, running and maintaining the machine and, if more than one person is normally involved in these tasks at the same time, responsibility extends to controlling the other person(s). The printing process employed by the machine could be lithographic, flexographic, gravure, pad or screen.

This standard requires a machine printer to be able to control multi-colour over-printing machinery. This type of printing applies to many industrial products, including containers made of metal, glass or plastics. Typically a base coating may first be applied to the product prior to a number of inks being printed and the printed image then being dried. All of those operations would be carried on a continuous line, with the products being fed into the machine (or even formed within the machine) and transferred to a packing or assembly line from the machine. There are a large number of different machine types in existence which are bespoke to the type of product being overprinted. Many are based on flexography or screen, but others such as pad printing, foiling or dry lithography can be found.

This standard requires that the machine is capable of printing more than one colour in a single pass of the product and for the product to be fed into the machine automatically or semi-automatically.

The printer needs to have a full knowledge of the printing process used by the machinery, including issues that arise from the transfer of the product between printing units/stations, ink trapping, achieving and maintaining ink densities for different inks on different substrates/surfaces, colour control and ink drying. Practical ability must be demonstrated through the production of printed work of a commercial standard from the machine. As well as making ready and running the machinery for particular jobs, the printer must also be able to undertake routine maintenance of the machine to ensure it prints to an acceptable quality. Often this will be checked with reference to colour density or other colour values to make sure the printing unit is printing to known quality standards.

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

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to the press to achieve and maintain the quality required. 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 the company, then the machine minder must be capable of operating it and understanding it.

Performance criteria

Make multi-colour over-printing machinery 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 you have the correct products and/or materials for over-printing
 - P3 check that the machine and your work area are safe and ready for production
 - P4 check that the general condition of the image carrier is suitable for production and meets any job imposition requirements
 - P5 fit the image carrier(s) correctly to the machinery
 - P6 ink up the printing units so that required colour strength is achieved
 - P7 make adjustments to the printing units settings as necessary to achieve the required job specification and quality standards with regard to colour
 - P8 make adjustments to the printing units 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.

Control output and quality from multi-colour over-printing machinery

- You must be able to:
- P10 ensure that you have authority to commence production
 - P11 run the over-printing machine at the optimum speed, achieving the required standard
 - P12 regularly check that the output matches the approved sample
 - P13 identify and correct the cause of problems which affect the quality of the image or reduce the rate of output
 - P14 report promptly to your manager if circumstances beyond your control prevent you from achieving the required quantity or quality of printed products
 - P15 run the required number of good products, keeping spoiled material to a minimum
 - P16 clearly identify or remove any sub-standard products from the finished work
 - P17 follow the correct procedures for the removal of waste
 - P18 accurately record the production and quality assurance details required
 - P19 identify wearable machine parts that may require periodic replacement, and make sure that such parts will be available when required
 - P20 identify maintenance that needs to be carried out on the machine and make sure that it is brought to the attention of the person in your company who will

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schedule it in the production plans

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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 over-printing units

K20 the operating practices and procedures for over-printing units

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

Printing

You need to know and understand:

K22 the principles of the printing process(es) used on the over-printing machinery

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

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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

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Developed by	Proskills
Version number	1
Date approved	October 2013
Indicative review date	April 2018
Validity	Current
Status	Original
Originating organisation	Proskills
Original URN	271
Relevant occupations	Originators compositors and print preps; Printers; Screen printers; Printing machine minders and assistants; Bookbinders and print finishers; Graphic designers
Suite	Machine Printing
Key words	machines; printing; lithographic; equipment; flexographic; operate; maintain; inks; coatings;