

National Occupational Standards

Sector: PRINTING AND DIGITAL MEDIA – Pre-Press Processes

Occupation: SENIOR MACHINE OPERATOR

MQF Level: 3

Units:

- PRESMO301: Improvement of individual and team performance at work.
- PRESMO302: Control maintenance of equipment.
- PRESMO303: Possess advanced knowledge of printing materials; press and post-press processes.
- PRESMO304: Control the operation of pre-press machines.

PRESMO301: IMPROVEMENT OF INDIVIDUAL AND TEAM PERFORMANCE

In order to compete successfully, printing companies need to be constantly vigilant on their quality as well as to keep up to date with technology and best practice. One of the ways in which organisations improve is by helping their people to acquire new skills and knowledge either individually or as part of a team.

Performance Criteria

The candidate must have the necessary knowledge and skills to:

1. Guide colleagues to improve personal and team performance.
2. Carry out safe working practices using appropriate equipment.
3. Review and evaluate regularly the success of personal and team performance.

Required Knowledge

Level 3 Pre-press senior machine operator must know and explain:

1. The principles of personal development, planning and training.
2. The main features of quality assurance and quality control of the company.
3. The different types of resources including materials and machinery and how these can be used to maximise productivity.
4. Customers' requirements towards service and quality assurance.

Required Skills

Level 3 Pre-press senior machine operator must be able to:

1. Evaluate and develop individual skills and expertise:
 - a. Seek constructive feedback from others on how personal performance at work could be improved;
 - b. Identify with the superior, areas for development to maintain and improve personal skills and expertise;
2. Improve customer service delivery:
 - a. Check that the given service meets customers' needs and expectations;
 - b. If applicable, identify how the service to customer could have been improved;
 - c. Share relevant information with others in team to improve the organisation's customer service delivery;
3. Improve quality, productivity and team working within the organisation:
 - a. Periodically identify possible improvements to the quality of the organisation's products,

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services or productivity by improvements to personal skills or expertise; team's systems or procedures of work; team's resources;

- b. Liaise with the management on identified improvements to quality, productivity and team working;

PRESMO302: MAINTAIN EQUIPMENT IN WORKING ORDER

The candidate must show that all of the statements in each element have been covered and must be the result of real work activities in actual production situations.

Performance Criteria

The candidate must have the necessary knowledge and skills to:

1. Communicate with work colleagues for self- improvement and guide colleagues to carry out safe working practices.
2. Clean and maintain equipment in working order.
3. Identify which components need to be replaced, whether they are machine parts or consumables, depending on the job's responsibilities.
4. Ensure that waste is disposed of in a safe manner.

Required Knowledge

Level 3 Pre-press operator must know and explain:

1. The job's reference and the limits of responsibility in maintenance and cleaning actions.
2. The health and safety aspects of and risks of handling cleaning materials, lubricants and equipment.
3. The importance of the team's awareness to health and safety matters including the proper use of protective equipment.
4. The maintenance and production schedule for the machine.
5. The importance to use cleaning methods and materials that are safe, avoid harming the environment and meet manufacturers' requirements.
6. Company's procedures for the safe disposal of waste.
7. The risks of handling machinery and replacing components.
8. The techniques to use in assessing machine faults and to decide how to solve the respective faults.
9. The types of faults which are likely to occur in the equipment.
10. Correct reporting procedure of faults and disruption to production.
11. The importance to take the minimum time necessary to rectify faults.

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Required Skills

Level 3 Pre-press operator must be able to:

1. Plan cleaning operations to balance maintenance and production requirements.
2. Obtain the correct materials and equipment needed for maintenance.
3. Communicate clearly with colleagues to ensure:
 - a. maintenance programme is done on time;
 - b. cleaning materials and equipment are used in a way to minimise waste and pollution;
 - c. cleaning agents and waste materials are disposed of correctly;
 - d. machines are free from waste and cleaning materials following maintenance or cleaning operations;
 - e. machines are safe to operate following maintenance operations.
4. Safely diagnose and correct machine faults that are within the job's responsibility.
5. Promptly report machine faults which fall outside the job's responsibility.
6. Report accurately the estimated down time needed to rectify those faults, which are stopping production.
7. Report accurately the details of machine faults and production down time.

PRESMO303: POSSESS ADVANCED KNOWLEDGE OF PRINTING MATERIALS,PRESS AND POST –PRESS PROCESSES.

The candidate must show that all of the statements in each element have been covered and must be the result of real work activities in actual production situations.

Performance Criteria

The candidate must have the necessary knowledge and skills to:

1. Understand the different type of modern communication technologies.
2. Distinguish between different types of print media and the differences in paper.
3. Identify different printing substrates and the processes involved in the printing industry.
4. Comply with the processing line from pre-press to post-press on the company

Required Knowledge

Level 3 pre-press senior machine operator must know and explain:

1. The technologies available to convey information.
2. The ability of the printing industry to use different media to convey data or information.
3. The different printing substrates available.
4. Paper specifications.
5. The production processes available within the company and the sequence of work from pre-press and to post-press.

Required Skills

Level 3 Pre-press senior machine operator must be able to:

1. Distinguish between the different forms of communication technologies (print, electronic and multi media).
2. Distinguish between the differences in paper substance, calliper, size and grain direction.
3. Comply with the processing line from pre-press to post-press in the company and identify the various processes used in the company.
4. Ensure that the behaviour of screen ruling is according to the substrate being printed in relation to dot gain and trapping problems.
5. Identify the production requirements of press and post-press processes to be able to ensure that outputted work is according to specifications to meet these production and job requirements

PRESMO304: CONTROL THE OPERATION OF PRE-PRESS MACHINES

The candidate must show that all of the statements in each element have been covered and must be the result of real work activities in actual production situations.

Performance Criteria

The candidate must have the necessary knowledge and skills to:

1. Control the handling, use and storage of printing components correctly.
2. Operate a pre-press machine safely effectively
3. Check and assess all elements of the job and rectify and mistakes.
4. Identify printing faults, report and take action accordingly.

Required Knowledge

Level 3 Pre-press senior machine operator must know and explain:

1. The correct location of the plates for the job.
2. The printing machines used in the company and the related plate sizes.
3. The types of plates in use in own company.
4. The function of image and non-image areas.
5. The risks associated with working on computers and plate setting machinery.
6. The safe operation of pre-press machinery and emergency shutdown procedures;
7. The hardware and software in the system; how the hardware devices are connected.
8. The principles of artwork design and requirements for the printing and post-press processes.
9. The software, artwork and pre-press terminology.
10. Different imposition methods.
11. The company's quality standards to ensure good plate processing.
12. Applicable technical and health & safety data sheets.
13. The company's reporting procedures and sources of advice.

Required Skills

Level 3 Pre-press senior machine operator is able to

1. Check the job specifications and identify the plates and materials to be used for the job.
2. Locate and retrieve the correct plates for the job according to company's procedure.
3. The action of exposure light, developing chemicals and protection solutions to the creation of image and non-image areas and to protect the plate after pre-press processing.
4. Handle the plates carefully to avoid damaging the carriers or to the surfaces.
5. Protect the plates for storage and use company's procedures to store the plates efficiently.
6. Deal with problems relating to machine faults or material supply and report accordingly.
7. Ensure that the equipment is safe and ready for production.

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8. Stop the machine in an emergency situation.
9. Make use of the appropriate computer software to send, receive or retrieve data files from customers.
10. Assess received artwork files to see if there are any major mistakes including missing or corrupt images, fonts, etc.
11. Send the approved output file to the destination device to create separations.
12. Check that all the elements of the job appear on the correct separations and rectify any mistakes.
13. Troubleshoot problems that occur with the system both in hardware and software and report to superiors if necessary.
14. Analyse the digital files and determine whether there are any inconsistencies such as differing colour spaces, missing fonts, low resolution images, lack of bleed, trapping, overprinting, wrong sizes, wrong outputting resolution, etc.
15. Use software to correct minor problems wherever possible without having to refer the digital file back to the originator;
16. Produce accurate 'contact proofs' from final artwork by means of approved software and hardware which is duly certified as being capable of producing colour calibrated 'contact proofs' and carefully inspect the proof and identify the defects.
17. Perform manual or computer aided imposition of the digital files to produce imposed file ready for output according to the job and production requirements.
18. Output the approved file via the image or plate-setter.
19. Examine output to check if it matches with job specifications or accepted proof for the job.
20. Control the safe use of equipment and chemicals in the pre-press section.
21. Identify the person(s) who are able to advise on the job requirements and report back according to company's procedures.
22. Identify the processing and mechanical faults which:
 - a. affect the quality of the image;
 - b. produce shortfall in output;
 - c. create risks to health and safety.
23. Promptly rectify or report faults and give constructive help to colleagues through:
 - a. providing information about the faults and its effects;
 - b. controlling the safety of the machine for fault correction to proceed.
24. Check that the machine is safe to operate once faults are corrected.