



Technical and Vocational Education and Training (TVET) Council



**Occupational Standards
of Competence**

**Graphics Communications
Press**

Level 2

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Qualification Overview

NVQB

in

Graphic Communications - Press

Level 2

Qualification Overview

Graphics Communications is the study of the processes used in the printing industry to exchange information in a visual form, such as words, drawings, photographs or a combination of these. Many different methods are used to transfer and process the images before printing them onto a substrate.

Press can be considered as the process involving the use of a specialized machine (printing press) to transfer an image from an image carrier to a substrate, usually paper. Most often, printing involves making duplicates or the printed product in large quantities.

Who is this qualification for?

The qualification is designed for individuals who work within a commercial production environment as operators on press machines and are involved in the setting up and running, maintenance and wash down of single and multicolour production machines. It should be taken by persons who are trained to deal with routine press printing assignments. Candidates at this level must have some personal autonomy and require minimum supervision. They are also required to collaborate with others to achieve work objectives.

Like all NVQs, this qualification is competence based. This means that it is linked to candidates' ability to competently perform a range of tasks connected with their work. Candidates must plan a programme of development and assessment with their assessor and compile a portfolio of evidence to prove that they are competent in their work role.

Jobs in the occupational area

Some of the job roles in the graphics communications industry include:

- Illustrator
- Production manager
- Estimator
- Art director
- Bindery worker
- Database manager
- Engineer
- Materials handler
- Marketing specialist

A04902 - APPROVED NATIONAL VOCATIONAL QUALIFICATION STRUCTURE

GRAPHIC COMMUNICATIONS PRESS – LEVEL 2

To achieve a full award, candidates must complete all ten mandatory units. Candidates can also take additional units, although these are not required to complete the qualification.

Mandatory Units (All must be completed.)	<u>CODES</u>
1. Plan, prepare and work	U79602
1.1 Plan to work	
1.2 Prepare to work	
1.3 Follow safe work practices	
2. Communicate and work with others	U78502
2.1 Share information on own job role	
2.2 Develop and maintain working relationships	
2.3 Contribute to workgroup activities	
2.4 Deal with issues, problems and conflicts	
3. Keep equipment clean and in working order	U78602
3.1 Keep printing equipment clean	
3.2 Keep printing equipment in working order	
4. Handle, transport and store materials	U78702
4.1 Identify and select materials	
4.2 Handle and transport materials	
4.3 Store materials	
5. Undertake pre-make ready for sheet-fed offset printing	U79702
5.1 Check documentation and confirm availability of job requirements	
5.2 Prepare substrates for sheet-fed printing	
5.3 Select and use chemicals	
5.4 Confirm plates meet requirements	
5.5 Select, mix and match inks and additives	
6. Prepare inks and coatings	U79802
6.1 Mix and match ink to meet the production specification	
6.2 Store inks and coatings	
6.3 Clean up	

- 7. Set up and run numbering, barcoding or inline data printing equipment U79902**
- 7.1 Set up numbering, barcoding or non-impact printing equipment
 - 7.2 Operate and monitor the quality of numbering, barcoding or nonimpact printing during production
 - 7.3 Clean up
- 8. Support press operator in sheet-fed offset printing U80002**
- 8.1 Follow equipment safety requirements
 - 8.2 Check documentation and confirm availability of job requirements
 - 8.3 Handle substrates for sheet-fed printing
 - 8.4 Identify and use chemicals
 - 8.5 Prepare and print sheet-fed offset tasks
 - 8.6 Carry out post-press tasks
- 9. Set and run over-printing machinery U80102**
- 9.1 Set up an over-printing machine for production
 - 9.2 Run over-printing machinery
 - 9.3 Clean up
- 10. Remove and dispose of waste from print operations U80202**
- 10.1 Prepare to deal with waste
 - 10.2 Assess and evaluate waste
 - 10.3 Dispose of waste
 - 10.4 Record and document disposal of waste
- Optional units**
- 11. Prepare and load substrates for reel-fed printing U80302**
- 11.1 Identify and set up reel stands
 - 11.2 Load and prepare substrates for reel-fed printing
 - 11.3 Clean up
- 12. Web up a reel-fed printing press U80402**
- 12.1 Position web break detectors
 - 12.2 Web up a reel-fed printing press
 - 12.3 Clean up

13. Support press operator on a reel-fed printing press

U80502

- 13.1 Follow equipment safety requirements
- 13.2 Check documentation and confirm availability of job requirements
- 13.3 Handle substrates for reel-fed printing
- 13.4 Identify and use additives and chemicals
- 13.5 Assist in make ready and printing tasks
- 13.6 Carry out post-press tasks

U79602**Plan, prepare and work**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to plan, prepare and work safely in the work environment. Basic maintenance and housekeeping of the work area within the scope of the candidate are also included.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|-------------------------------|---|
| 1. Plan to work | <ul style="list-style-type: none"> 1.1 Plan work in accordance with relevant legislation, codes of practice and organizational procedures. 1.2 Review plans with relevant personnel. 1.3 Carry out pre-work checks and work area assessments before starting to work. 1.4 Review safe work methods before undertaking work activity. 1.5 Correctly identify personal protective equipment for the job according to organizational requirements. |
| 2. Prepare to work | <ul style="list-style-type: none"> 2.1 Identify hazards in the work area. 2.2 Take appropriate actions to correct hazards identified within the scope of your responsibility. 2.3 Report hazards which cannot be corrected to the appropriate personnel. 2.4 Test personal protective equipment before use. |
| 3. Follow safe work practices | <ul style="list-style-type: none"> 3.1 Carefully and precisely follow work procedures and instructions for ensuring safety when conducting work. 3.2 Observe duty of care requirements at all times. |

- 3.3 Adhere to occupational safety and health plans as required.
- 3.4 Correctly use **personal protective equipment** as required when working, according to organizational requirements.
- 3.5 Adhere to **ergonomic principals** as stated.
- 3.6 Correctly use tools, equipment and materials at all times according to organizational and manufacturers' requirements.
- 3.7 Follow organizational procedures for dealing with **emergencies** within your scope of responsibility at all times.
- 3.8 Report incidents, injuries and hazards which occur while working to designated personnel.
- 3.9 Keep work area clean and orderly during the work process.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment:

- Clothing
- Footwear
- Face and eye protection
- Gloves
- Hard hats/helmets
- Hearing protection
- Respiratory protection
- Machine guards

2. Hazards:

- Biological
- Environmental
- Chemical
- Physical
- Psychological
- Ergonomical

3. Duty of care:

- Legal responsibility to do everything reasonably practicable to protect others from harm
- Own responsibility to comply with safe work practices, including activities that require licences, tickets or certificates of competency

4. Ergonomic Principals

- Manual handling
- Workstation design

5. Emergencies

- Evacuations
- Explosions, fires, bomb threats
- Natural disasters
- Accidents and other serious injury events
- Security emergencies

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to interpret relevant legislation, codes and organizational procedures when planning for work.
2. How to communicate work plans with relevant personnel.
3. How to identify hazards when making prework checks and work area assessments and what steps to take to control those that are within your area of responsibility.
4. What personal protective equipment is needed for your job and how to use and test them correctly.
5. What are common workplace hazards and the safety measures to deal with these hazards.
6. What is the duty of care, within the scope of your responsibility.
7. What are the different ergonomic techniques and how they should be used.
8. What are the organizational and manufacturer's requirements for storing, maintaining and using tools and equipment.
9. What are the organization's safety and emergency plans and procedures to be followed.
10. What is the importance of keeping your work area clean and how this impacts on the efficiency of your work.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates must prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Method of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Oral questioning
- Observation
- Written evidence (case study, projects, assignments)
- Witness testimony

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, products and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U78502**Communicate and work with others**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to communicate and work effectively with others in the printing environment. The candidate should be a skilled worker with limited autonomy and working with a team.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Share information on own job role | <ul style="list-style-type: none"> 1.1 State relevant information linked to your job role which needs to be shared with workgroup members. 1.2 Share information with colleagues using different methods of communication. 1.3 Explain the importance of sharing relevant information. |
| 2. Develop and maintain working relationships | <ul style="list-style-type: none"> 2.1 Develop and maintain good working relationships with workgroup members. 2.2 Identify responsibilities and duties in relation to workgroup members. 2.3 Undertake activities in a manner that promotes cooperation and good relationships. 2.4 Take into account time and resource constraints in fulfilling the work requirements of self and others. 2.5 Confirm that constructive feedback provided by others in the workgroup is encouraged, acknowledged and acted upon. |
| 3. Contribute to workgroup activities | <ul style="list-style-type: none"> 3.1 Provide support to team members to ensure workgroup goals are met. 3.2 Constructively contribute to workgroup goals and tasks according to organizational requirements. |

- 3.3 Share **information** relevant to work with **workgroup members** to ensure designated goals are met.
 - 3.4 Identify and plan **strategies and opportunities for improvement** of the workgroup in liaison with workgroup.
- 4. Deal with issues, problems and conflicts
 - 4.1 Respect differences in personal values and beliefs and their importance in the development of relationships.
 - 4.2 Identify and appropriately respond to linguistic and cultural differences in communication styles.
 - 4.3 Identify issues, problems and conflict encountered in the workplace.
 - 4.4 Obtain assistance from **workgroup members** when issues, problems and conflict arise.
 - 4.5 Suggest possible ways of dealing with issues, problems and conflict as appropriate, and refer to the appropriate person.

RANGE STATEMENT

All range statements must be assessed:

1. Information:

- Acknowledgement of satisfactory and unsatisfactory performance
- Assistance for colleagues
- Clarification of the organization's preferred methods of task completion
- Workplace hazards, risks and controls

2. Workgroup members:

- Management
- Colleagues (peers)
- External members
- Coach/mentor

3. Methods of communication:

- Written
- Electronic
- Verbal

4. Feedback:

- Performance appraisals
- Internal and external clients
- Personal/reflective behaviour strategies

5. Support to team members:

- Problem-solving
- Providing feedback
- Assisting with tasks
- Coach/mentor

6. Strategies and opportunities for improvement:

- Career planning/development, for example, through formal/informal learning programmes, internal/external training, personal study
- Coaching, mentoring and supervision, for example, skills recognition/initial assessment, performance appraisals, work experience/exchange opportunities, workplace skills assessment

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What information is linked to your job role that needs to be shared with colleagues.
2. Why sharing information with colleagues is important.
3. Why good working relationships are important.
4. What problems can be experienced when developing and maintaining good working relationships with colleagues and suggest solutions.
5. What is the relevant legislation from all levels of government that may affect aspects of business operations, such as anti-discrimination legislation, ethical principles, codes of practice, privacy laws and occupational safety and health (OSH).
6. What are your responsibilities and duties and those of the workgroup.
7. How to promote cooperation and good relationships.
8. What are the time and resource constraints to take into consideration when fulfilling work requirements.
9. How and when to encourage, acknowledge and act upon feedback.
10. How and when to provide support to team members to achieve goals.
11. How to contribute to workgroup goals.
12. What are personal values and beliefs and why they should be respected.
13. What are linguistic and cultural differences.
14. How to identify and respond to issues, problems and conflicts.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U78602

Keep equipment clean and in working order

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to keep printing equipment clean and in working order within the printing industry. It includes basic maintenance and problem-solving.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Keep printing equipment clean | <ul style="list-style-type: none"> 1.1 Obtain and use cleaning equipment and materials in accordance with manufacturers' and company guidelines. 1.2 Remove build-up of materials and dust in or around the machine. 1.3 Use personal protective equipment in accordance with company guidelines and legislation. 1.4 Dispose of used cleaning agents and waste materials in accordance with environmental regulations. 1.5 Check machine, after cleaning, to ensure it is safe to operate and that guards are fitted in accordance with manufacturers' and company guidelines. |
| 2. Keep printing equipment in working order | <ul style="list-style-type: none"> 2.1 Identify lubrication points and follow the manufacturers' recommended lubrication schedules and types of lubricants. 2.2 Lubricate machines in accordance with company schedules. 2.3 Examine machinery for worn or defective components. 2.4 Check and replace filters as required. |

- 2.5 Restore machines to safe operating condition after replacing components or performing lubrication.

RANGE STATEMENT

All range statements must be assessed:

1. Personal protective equipment:

- Safety hand and footwear
- Eye, face and ear protection
- Barrier cream and cleansing soaps
- Protective clothing, for example, overalls, uniforms, apron

2. Types of lubricants:

- Liquid
- Solid

3. Filters:

- Air
- Oil
- Dust

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How and from whom to obtain maintenance plans and schedules.
2. How to record removal and replacement of components and lubrication of machinery.
3. How to carry out the cleaning and/or replacement of filters.
4. What are the types of machine faults that need to be referred to a responsible person.
5. What are the list of consumables that are likely to require periodic replacement.
6. What are the list of components that have been replaced and the method and tools used.
7. When and how to isolate machinery to carry out the cleaning process.
8. What is the purpose of lubricants.
9. What are the different types of lubricants recommended by manufacturers.
10. What is the purpose of a lubricant schedule.
11. What are the reasons for and benefits of regular cleaning and maintenance of machinery.
12. What are the various types of filters and their uses.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U78702

Handle, transport and store materials

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to identify, transport and store materials within the print working environment.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|-----------------------------------|---|
| 1. Identify and select materials | <ul style="list-style-type: none"> 1.1 Locate materials according to organizational procedures. 1.2 Identify materials by their labels and identification markings. 1.3 Check materials and their markings against job sheet. 1.4 Select the type and quantity of materials required. |
| 2. Handle and transport materials | <ul style="list-style-type: none"> 2.1 Safely handle materials in accordance with company guidelines. 2.2 Safely transport materials using the appropriate transportation methods and equipment as specified in company guidelines. |
| 3. Store materials | <ul style="list-style-type: none"> 3.1 Position or store materials in accordance with organizational procedures. 3.2 Accurately complete records according to company guidelines. |

RANGE STATEMENT

All range statements must be assessed:

1. Company guidelines:

- Health and safety legislation
- Standard operating procedures
- Manufacturers' guidelines

2. Transportation methods:

- Land
- Air
- Sea

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to locate and identify materials.
2. What are the different methods of transporting materials.
3. How to handle, transport and store materials.
4. How materials can be damaged during handling and transportation.
5. What types of personal injury can occur through the incorrect handling and transportation of materials.
6. What factors to consider when positioning or storing materials.
7. What are the difficulties and/or hazards that can be encountered when positioning or storing materials.
8. What are the possible solutions to the difficulties and or/hazards which can be encountered in positioning or storing materials.
9. How to accurately keep records.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U79702

Undertake pre-make-ready for sheet-fed offset printing

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to undertake pre-make-ready sheet-fed offset printing in accordance with workplace practices.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | |
|---|-----|---|
| 1. Check documentation and confirm availability of job requirements | 1.1 | Check job documentation to confirm that specifications are complete for the process being undertaken. |
| | 1.2 | Report discrepancies in accordance with workplace practices. |
| | 1.3 | Check the required components for the job against job documentation and confirm their availability. |
| | 1.4 | Confirm that equipment is available as determined by job documentation. |
| 2. Prepare substrates for sheet-fed printing | 2.1 | Confirm that the substrate suitability and quality meet the job requirements. |
| | 2.2 | Calculate the substrate quantity and confirm that it is issued against the job documentation. |
| | 2.3 | Condition substrates in accordance with workplace practices to ensure smooth running on the press. |
| 3. Select and use chemicals | 3.1 | Identify and select the fountain additives used in the workplace. |
| | 3.2 | Measure and dilute the fountain additive concentrations. |
| | 3.3 | Check the fountain additive solution according to organizational procedures. |

- | | | |
|---|-----|--|
| | 3.4 | Resolve problems arising from the use of chemicals . |
| 4. Confirm plates meet requirements | 4.1 | Check against proof for image defects in accordance with workplace practices and confirm that they meet press requirements. |
| | 4.2 | Rectify or report defects in accordance with workplace practices. |
| 5. Select, mix and match inks and additives | 5.1 | Select inks to suit the substrate, press and job requirements. |
| | 5.2 | Mix inks using the colour mixing and matching systems in the workplace. |
| | 5.3 | Calculate ink quantities to meet the job requirements. |
| | 5.4 | Select and use ink additives, as required, to ensure the quality of the print meets job requirements. |

RANGE STATEMENT

All range statements must be assessed:

1. Fountain additives:

- Water
- Alcohol or alcohol substitutes

2. Chemicals:

- Water-based
- Fountain concentrate
- Alcohol or alcohol substitutes

3. Check:

- Calliper
- Size
- Register
- Correct punching for press

4. Inks:

- UV inks
- Conventional colours
- Metallic inks
- Metalized inks

5. Colour mixing and matching systems:

- Process colour
- Spot colour, for example, Pantone Matching System

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to check job documentation to ensure that all specifications are complete for the process being undertaken.
2. Why and how discrepancies are reported in accordance with workplace practices.
3. Why components required for the job are checked against the job documentation and their availability confirmed.
4. How and why to confirm the availability of equipment, as determined by the job documentation.
5. How to confirm that substrate suitability and quality meet job requirements.
6. How to calculate that substrate quantity, including overs and quantity issued, is confirmed against the job documentation.
7. Why substrates are conditioned in accordance with workplace practices to ensure smooth running on the press.
8. How to identify and select fountain additives used in the workplace.
9. How to measure and dilute fountain additive concentrations.
10. What are the organizational checks to be carried out.
11. What are the problems that may arise from the use of chemicals.
12. How to solve problems arising from the use of chemicals.
13. Why plates should be checked in accordance with workplace practices and confirmed that they meet press requirements.
14. Why plates are checked against the proof for image defects and how to rectify or report defects in accordance with workplace practices.
15. How to select inks to suit the substrate, press and job requirements.
16. How to mix inks using available colour mixing and matching systems in the workplace.
17. How to calculate ink quantities to meet job requirements.
18. How to select and use ink additives, if required, to ensure the quality of print meets job requirements.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Examination of end product

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used** in a realistic workplace situation.

U79802

Prepare inks and coatings

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to prepare printing inks and coatings for printing, either to achieve a specified colour or to alter the characteristics of the inks or coatings to suit the process conditions or substrate being printed.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|---|
| 1. Mix and match ink to meet the production specification | <ul style="list-style-type: none"> 1.1 Identify the required mix and inks from job instructions. 1.2 Obtain the quantity and required types of inks to make up the batch to meet the job specification. 1.3 Use industry standards to estimate and measure the required quantities to produce the required mix in the required batch size(s). 1.4 Produce the mix following industry standards. 1.5 Match the sample against the specification using approved test methods. 1.6 Record product details in line with company requirements. |
| 2. Store inks and coatings | <ul style="list-style-type: none"> 2.1 Store inks and coatings in the correct containers and conditions in accordance with manufacturers' guidelines. 2.2 Mark containers in accordance with occupational safety and health procedures. 2.3 Record stock control details as required by the company. |
| 3. Clean up | <ul style="list-style-type: none"> 3.1 Clear the work area and dispose of, reuse or recycle materials in accordance with legislation and standard operating procedures. |

- 3.2 Clean, check, maintain and store plant, tools and equipment in accordance with manufacturers' requirements and standard operating procedures.
- 3.3 Comply with the procedures for completing work and notify relevant persons that it has been completed.

RANGE STATEMENT

All range statements must be assessed:

1. Types of inks:

- Water-based
- Oil-based
- Toner-based
- Metallic-based
- Rubber-based

2. Test methods:

- Electronic (spectro photometer, densitometer)
- Manual (draw down, finger printing method, colour charts)

3. Coatings:

- Ultra violet
- Aqueous coatings
- Varnish

4. Reuse or recycle

- Solids
- Liquids

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the mix and inks required from the job instructions
2. What are the quantity and types of inks required to make up the batch to meet the job specification.
3. Which industry standards should be used to estimate and measure the quantities required to produce the required mix in the required batch size(s).
4. How to produce the mix following industry standards.
5. How to match a sample against the specifications using approved test methods.
6. How to record product details in line with company requirements and what to record.
7. How to store inks and coatings in containers and conditions in accordance with company procedures.
8. Why it is important to ensure containers are marked in accordance with company procedures.
9. How to record stock details as required by the company.
10. What are the codes of practice and legislation governing the disposal of printing waste and other materials.
11. How to clean, check, maintain and store plant, tools and equipment.
12. What are the procedures for completing work and how to notify personnel that work has been completed.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Examination of end product

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used** within the work environment.

U79902**Set up and run numbering, barcoding or inline data printing equipment**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to set up and monitor numbering, barcoding or inline data printing equipment. The numbering equipment may be conventional numbering 'blocks' or ink-jet, thermal or laser technology.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Set up numbering, barcoding or nonimpact printing equipment | 1.1 Obtain and check the job specification.
1.2 Determine the sequence, orientation and position of numbering or data on the sheet.
1.3 Calculate multiple sequencing for the start number for each position.
1.4 Set the numbering device or print head to produce a clean image without causing physical damage to the substrate being printed.
1.5 Check sequential numbering to ensure that it operates and counts in the right direction.
1.6 Check the batch coding data to ensure that it is set up accurately and that any barcode images can be read by a barcode scanning device.
1.7 Make the working environment safe for production.
1.8 Confirm that the output meets the job specifications and company quality standards prior to full production. |
| 2. Operate and monitor the quality of numbering, barcoding or nonimpact printing during production | 2.1 Monitor the numbering or variable data to ensure sequencing is maintained. |

- 2.2 Check the numbering, barcoding or other data to ensure that it can be read by a **reading device**.
 - 2.3 Run the printing machinery at the optimum speed.
 - 2.4 Maintain the supply of **materials and consumables** throughout the run.
 - 2.5 Check that the quality standards and job specifications are met.
3. Clean up
 - 3.1 Clear the work area and dispose of, **reuse or recycle materials** in accordance with legislation and standard operating procedures.
 - 3.2 Clean, check, maintain and store plant, tools and equipment in accordance with manufacturers' requirements and standard operating procedures.
 - 3.3 Comply with the procedures for completing work and notify relevant persons that it has been completed.

RANGE STATEMENT

All range statements must be assessed:

1. Numbering device:

- Hand-held
- Mechanical
- Offline
- Digital, for example, variable data, nonimpact

2. Reading devices:

- Hand-held devices
- Barcode scanners (2D, 3D)

3. Materials and consumables:

- Substrates (paper, board, plastic)
- Toners
- Inks
- Number heads (offline machines)

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to obtain and check job specifications.
2. How to determine the sequence, orientation and position of the numbering or data on the sheet.
3. How to calculate the starting number for each number position for multiple sequential numbering.
4. How to set the numbering device or print head to produce a clean image without causing physical damage to the substrate to be printed.
5. How to check that sequential numbering will operate and count in the right direction.
6. How to check that any batch coding data are set up accurately and any barcode images can be read by a barcode scanning device.
7. How to ensure that the working environment is safe for production.
8. How to ensure that the output meets the job specification and company quality standards prior to full production.
9. How to monitor the numbering and variable data to confirm that sequencing is maintained.
10. How to check that numbering, barcode and other data can be read and which reading devices can be used.
11. What is the optimum speed for running printing machinery.
12. How to maintain a constant supply of materials and consumables throughout the production run.
13. How to check that quality standards and job specifications are met.
14. What are the codes of practice and legislation governing the disposal of printing waste and other material.
15. How to clean, check, maintain and store plant, tools and equipment.
16. What are the procedures for completing work and how to notify personnel that work has been completed.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U80002

Support press operator in sheet-fed offset printing

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to support the press operator in the preparation and printing of sheet-fed offset tasks in accordance with instructions to meet job requirements.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|--|
| 1. Follow equipment safety requirements | 1.1 Follow press start-up and shut-down procedures in accordance with workplace practices. |
| | 1.2 Demonstrate an understanding of and adhere to emergency procedures for the press in accordance with workplace policies and procedures. |
| 2. Check documentation and confirm availability of job requirements | 2.1 Check job documentation to ensure specifications are complete for the process being undertaken. |
| | 2.2 Report discrepancies in accordance with workplace policies and procedures. |
| | 2.3 Check the required components for the job against job documentation and confirm with press operator. |
| | 2.4 Confirm that the required equipment advised by the press operator is available. |
| 3. Handle substrates for sheet-fed printing | 3.1 Identify the characteristics of substrates used on sheet-fed presses. |
| | 3.2 Handle substrates in accordance with press operator's instructions and health and safety requirements. |
| | 3.3 Confirm the substrate quantity issued against job documentation. |
| 4. Identify and use chemicals | 4.1 Identify the fountain additives used in the workplace. |

- 4.2 Measure and dilute the fountain concentrate in accordance with press operator's instructions.
 - 4.3 Check the fountain solution for pH and conductivity according to organizational procedures.
- 5. Prepare and print sheet-fed offset tasks
 - 5.1 Set the sheet control system to suit the substrate feeding requirements.
 - 5.2 Mount the plates squarely, centered and tensioned to meet press requirements.
 - 5.3 Add ink to the duct in the correct amount, ensuring the colour consistency of the job is achieved according to industry requirements.
 - 5.4 Use plate cleaners and desensitizers according to industry requirements.
 - 5.5 **Load and position** substrate into the press in accordance with job requirements and advise the press operator that the press is set and **loaded**.
 - 5.6 Report any identified **faults or errors** while loading substrate to the press operator in accordance with workplace practices.
 - 5.7 Unload the substrate safely in accordance with workplace practices and report any identified defects to the press operator.
- 6. Carry out post-press tasks
 - 6.1 Complete job documentation according to organizational requirements.
 - 6.2 Check the quantity printed against job documentation before wash-up is commenced or plate removed from cylinder and rectify or report any discrepancies in quantity.
 - 6.3 Carry out any **other post-press tasks** as required.

- 6.4 Correctly follow **waste control** procedures according to industry and workplace requirements.

RANGE STATEMENT

All range statements must be assessed:

1. Characteristics:

- Grammage
- Calliper
- Grain direction

2. Substrates:

- Paper
- Board
- Plastic

3. Handle:

- Transporting
- Stacking (stacking, shuffling, printing side, grain direction, avoidance of damage to substrate)

4. Fountain additives:

- Water
- Fountain concentrate
- Alcohol or alcohol substitutes

5. Load:

- Manually
- Electronically

6. Position:

- Grip and side lays
- Registration

7. Faults or errors

- Damaged corners and edges
- Wavy edged stock
- Tight edged stock
- Foreign matter
- Marking

8. Other post-press tasks

- Forwarding to next process
- Labelling
- Substrate handling
- Filing plates
- Quality assurance (QA) requirements

9. Waste control:

- Recyclable waste
- Non-recyclable waste

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What press start-up and shut-down procedures should be followed in accordance with workplace practices.
2. Why the emergency procedures for the press are required to be demonstrated in accordance with workplace practices.
3. How to check job documentation to ensure specifications are complete for the process being undertaken.
4. How and why to report discrepancies in accordance with workplace practices.
5. Why the components required for the job are checked against the job documentation and confirmed with the press operator.
6. How to confirm the availability of equipment as advised by the press operator
7. How to identify the characteristics of substrates used on the sheet-fed presses.
8. How to handle substrates in accordance with press operator's instructions.
9. How and why to confirm that substrate quantity is issued against job documentation.
10. How to identify fountain additives used in the workplace.
11. How fountain concentrate is measured and diluted in accordance with the press operator's instructions.
12. How and why to check the fountain solution for pH and conductivity and confirm it with the press operator.
13. How and why the sheet control system is set to suit the substrate feeding requirements.
14. How plates are mounted square, centred and tensioned to meet press requirements.
15. How ink is added to the duct in the correct amount, ensuring that the colour consistency of the job is achieved, and what are the industry or workplace requirements for doing so.
16. Which plate cleaners and desensitizers should be used.
17. How substrate is loaded into the press and positioned in accordance with job requirements and why the press operator needs to be advised that the press is set and loaded.

18. How to identify and report faults and errors found while loading substrate in accordance with workplace practices.
19. How to unload substrate safely in accordance with workplace practices and why any defects identified are reported to the press operator.
20. Why and how to complete job documentation.
21. Why and how the quantity printed is checked against job documentation before wash-up is commenced or plate removed from cylinder and how to rectify or report any discrepancies in quantity.
22. What are the other post-press tasks to be carried out.
23. What are the various waste control procedures to be followed.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Examination of end product

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U80102**Set up and run over-printing machinery**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to set up and operate printing machinery designed to print onto a premade product. Candidates will also need to possess the necessary skills for problem-solving.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|---|--|
| 1. Set up an over-printing machine for production | <ul style="list-style-type: none"> 1.1 Obtain and check job specification. 1.2 Identify and obtain required materials for the job. 1.3 Confirm that the working environment is safe for production. 1.4 Set the inserting equipment to meet the job specification. 1.5 Confirm that the output meets the job specifications and company quality standards prior to full production. |
| 2. Run over-printing machinery | <ul style="list-style-type: none"> 2.1 Run the printing machinery at the optimum speed. 2.2 Maintain the supply of materials and consumables throughout the run. 2.3 Check and ensure that the quality standards and job specifications are met. 2.4 Record production and quality assurance details in line with company requirements. |
| 3. Clean up | <ul style="list-style-type: none"> 3.1 Clear the work area and dispose of, reuse or recycle materials in accordance with legislation and standard operating procedures. 3.2 Clean, check, maintain and store plant, tools and equipment in accordance with manufacturers' requirements and standard operating procedures. |

- 3.3 Comply with procedures for completing work and notify relevant persons that work has been completed.

RANGE STATEMENT

All range statements must be assessed:

1. Consumables:

- Inks, for example, water-based, UV inkjet, conventional
- Substrates (finished product)

2. Reuse or recycle

- Solids
- Liquids

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to obtain and check job specifications.
2. How to identify and obtain materials required for the job.
3. How to ensure the working environment is safe for production.
4. How to set the inserting equipment to meet the job requirements.
5. How to ensure output meets the job specification and company quality standard prior to full production.
6. Why it is important to run the printing machinery at optimum speed.
7. Why it is important to keep up the supply of materials and consumables throughout the run.
8. What to check to ensure that quality standards and job specifications are met.
9. How to record production and quality assurance details in line with company requirements.
10. What are the codes of practice and legislation governing the disposal of printing waste and other material.
11. How to clean, check, maintain and store plant, tools and equipment.
12. What are the procedures for completing work and how to notify personnel that work has been completed.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Examination of end product

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **may be used** in a realistic workplace situation.

U80202**Remove and dispose of waste from print operations**

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to remove and dispose of waste from print operations.

Candidates will be required to assess and evaluate different types of waste and prepare them for removal, disposal or recycling. Special attention should be paid to handling hazardous waste materials.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | | |
|----|----------------------------|-----|---|
| 1. | Prepare to deal with waste | 1.1 | Obtain work order and special instructions for dealing with hazardous/non-hazardous waste from supervisor or relevant persons. |
| | | 1.2 | Select and correctly wear appropriate personal protective equipment (PPE) according to manufacturer's and company procedures. |
| | | 1.3 | Check storage containers before handling to ensure that they are securely sealed. |
| 2. | Assess and evaluate waste | 2.1 | Identify waste according to type and industry requirements. |
| | | 2.2 | Categorize and evaluate waste according to health and safety and standard operating procedures. |
| | | 2.3 | Sort reusable waste from recyclable waste in accordance with workplace procedures. |
| | | 2.4 | Check with supervisor or relevant persons before removing items where it is unclear whether they should be treated as hazardous/non-hazardous waste . |
| 3. | Dispose of waste | 3.1 | Collect waste from print area and transport to correct disposal unit by shortest, practical and safest route in accordance with work order and relevant policies and legislation . |

- 3.2 Promptly deal with spillages according to organizational and industry requirements.
 - 3.3 Transport **hazardous waste** using approved handling procedures.
 - 3.4 Move rigid containers using handles and sacks and handle receptacles as instructed to prevent damage and secure the safety of self and others.
 - 3.5 Label and store waste according to **relevant policies and legislation**.
 - 3.6 Check seals on storage receptacles after movement to ensure they are unbroken.
 - 3.7 Identify and promptly report any issues with removing and disposing of waste to the supervisor in accordance with organizational and industry procedures.
4. Record and document disposal of waste
- 4.1 Accurately complete relevant documentation according to organizational requirements.
 - 3.3 Disseminate documentation to relevant persons and store as required by organizational procedures.

RANGE STATEMENT

All range statements must be assessed:

1. Hazardous waste:

- Oils
- Chemicals and solutions
- Liquids (solvents, inks, coatings, heavy metals)

2. Personal protective equipment:

- Gloves
- Face/dust mask
- Safety glasses/goggles
- Overalls
- Respirators

3. Relevant policies and legislation:

- Plastic
- Glass
- Open

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to interpret instructions regarding the removal and disposal of waste.
2. What are the organizational policies and procedures for removing and disposing of waste.
3. What personal protective equipment should be worn when removing and disposing of waste.
4. How to check storage containers to ensure they are correctly sealed before removing waste.
5. How to identify and categorize different types of waste.
6. What is hazardous waste and how it can be identified.
7. What are the policies and procedures for handling hazardous waste.
8. Who to contact if unsure about whether waste is hazardous or non-hazardous.
9. How to transport waste using the shortest, practical and safest route.
10. How to label and store waste.
11. What are the procedures for reporting issues with removing and disposing of waste.
12. What documentation must be completed in the removing and disposing of waste.
13. Who documentation regarding the removing and disposing of waste should be sent to and how it should be stored.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Examination of end product

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or a using combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

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Simulation **may be used** in a realistic workplace situation.

U80302

Prepare and load substrates for reel-fed printing

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to load and prepare substrates for reel-fed printing.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | |
|--|--|
| 1. Identify and set up reel stands | 1.1 Identify various types of reel stands . |
| | 1.2 Set up reel stands to meet the job requirements. |
| | 1.3 Confirm that the substrate is free from faults or errors and meets the job requirements. |
| 2. Load and prepare substrates for reel-fed printing | 2.1 Load and position the substrate on reel stands ready for feeding into the press. |
| | 2.2 Prepare the substrate reel for splicing to suit job and press requirements. |
| 3. Clean up | 3.1 Clear the work area and dispose of, reuse or recycle materials in accordance with legislation and standard operating procedures. |
| | 3.2 Clean check, maintain and store plant, tools and equipment in accordance with manufacturers' requirements and standard operating procedures. |
| | 3.3 Comply with procedures for completing work and notify relevant persons that work has been completed. |

RANGE STATEMENT

All range statements must be assessed:

1. Reel stands:

- Single
- Multiple

2. Faults or errors:

- Damaged edges
- Dimensional distortion
- Foreign matter
- Marking

3. Reuse or recycle:

- Solids
- Liquids

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. How to identify different types of reel stands.
2. How to set up reel stands to meet job requirements.
3. Why and how to confirm the substrate is free from faults and meets the job requirements.
4. How to load and position the substrate on reel stands ready for feeding into the press.
5. How to prepare the substrate reel for splicing to suit the job and press requirements.
6. What are the codes of practice and legislation governing the disposal of printing waste and other material.
7. How to clean, check, maintain and store plant, tools and equipment.
8. How to complete work and notify personnel.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U80402

Web up a reel-fed printing press

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to web up a reel-fed printing press.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | |
|----|----------------------------------|---|
| 1. | Position web break detectors | 1.1 Describe the web break detecting systems on press being operated to the operator in terms of their functions. |
| | | 1.2 Position the web break detectors to suit the width of the web. |
| 2. | Web up a reel-fed printing press | 2.1 Web up the press to suit job requirements. |
| | | 2.2 Describe the web guides and sensors on press being operated to operator in terms of their functions. |
| | | 2.3 Set the web guides and sensors to ensure the web position and rectify any faults. |
| 3. | Clean up | 3.1 Clear the work area and dispose of, reuse or recycle materials in accordance with legislation and standard operating procedures. |
| | | 3.2 Clean, check, maintain and store plant, tools and equipment in accordance with manufacturers' requirements and standard operating procedures. |
| | | 3.3 Comply with the procedures for completing work and notify relevant persons that work has been completed. |

RANGE STATEMENT

All range statements must be assessed:

1. Web guides:

- Reel positioning
- Offset pivot guides
- Camber roller systems

2. Sensors:

- Air
- Photoelectric
- Sonic

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the web break detecting systems on the press being operated in terms of their functions.
2. How to position web break detectors to suit the width of the web.
3. How to web up the press to suit the job requirements.
4. What are the web guides and sensors on the press being operated in terms of their functions.
5. How to operate the web guides and sensors on the press.
6. How to set web guides and sensors to ensure web position and any faults are rectified.
7. What are the occupational safety and health procedures, codes of practice, standard operating procedures and legislative requirements guiding diagnostics and repair.
8. Who are the persons to consult for diagnostics and repair or for referrals.
9. What are the procedures for commissioning and decommissioning equipment for diagnostics and repair.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion
- Examination of end product

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

U80502

Support press operator on a reel-fed printing press

Unit Descriptor:

This unit describes the knowledge, skills and attitudes required to support the press officer to handle substrates for reel-fed printing, identify and use additives and chemicals in accordance with workplace practices.

ELEMENT**PERFORMANCE CRITERIA**

To be competent you must achieve the following:

- | | | | |
|----|--|-----|--|
| 1. | Follow equipment safety requirements | 1.1 | Follow press start-up and shut-down procedures in accordance with industry requirements and workplace policies. |
| | | 1.2 | Demonstrate emergency procedures for the press in accordance with workplace policies. |
| 2. | Check documentation and confirm availability of job requirements | 2.1 | Check job documentation to confirm that specifications for the process being undertaken are complete. |
| | | 2.2 | Report discrepancies in accordance with workplace policies and procedures. |
| | | 2.3 | Check the required components for the job against the job documentation and confirm with the press operator. |
| | | 2.4 | Confirm the availability of equipment as advised by the press operator. |
| 3. | Handle substrates for reel-fed printing | 3.1 | Describe the substrates used on reel-fed presses to the press operator in terms of their characteristics . |
| | | 3.2 | Handle substrates in accordance with the press operator's instructions. |
| | | 3.3 | Dispose of damaged, flawed and substandard reels according to workplace procedures. |
| | | 3.4 | Confirm the substrate quantity issued against job documentation. |

- | | | | |
|----|--|-----|--|
| 4. | Identify and use additives and chemicals | 4.1 | Identify the additives and chemicals used in the workplace. |
| | | 4.2 | Use additives and chemicals in accordance with the press operator's instructions to meet press and job requirements. |
| 5. | Assist in make-ready and printing tasks | 5.1 | Confirm with the press operator that the image carriers are correct for the job before they are secured in the press. |
| | | 5.2 | Position, load and secure the image carriers in the press according to the press operator's instructions. |
| | | 5.3 | Explain the inking system on the press being operated to the press operator in terms of its operation. |
| | | 5.4 | Add ink to the ducts and reservoirs in correct amounts to maintain colour consistency of the job in accordance with workplace practices. |
| 6. | Carry out post-press tasks | 6.1 | Check the quantity printed against job documentation before the wash-up is commenced or the image carrier removed from cylinder and rectify or report any discrepancies. |
| | | 6.2 | Complete job documentation according to organizational procedures. |
| | | 6.3 | Carry out other post-press tasks as required. |
| | | 6.4 | Correctly follow waste control procedures in accordance with workplace policies and procedures. |

RANGE STATEMENT

All range statements must be assessed:

1. Substrates:

- Paper
- Board
- Plastic

2. Characteristics:

- Grammage
- Calliper
- Grain direction
- PH
- Strength, coatings

3. Handled:

- Transportation
- Stacking (shuffling, printing side, grain direction, avoidance of damage to substrate)
- Safe handling

4. Additives and chemicals:

- Additives, for example, water, fountain additives, ink additives, water treatment agents
- Chemicals, for example, cleaners, desensitizers, deletion fluids, alcohol or alcohol substitutes

5. Other post-press tasks:

- Prepare for forwarding to next process
- Labelling
- Substrate handling
- Filing plates
- Quality assurance (QA) requirements

6. Waste control:

- Recyclable waste
- Non-recyclable waste
- Confidential

UNDERPINNING KNOWLEDGE AND SKILLS

You need to know and understand:

1. What are the press start-up and shut-down procedures to be followed in accordance with workplace practices.
2. Why the emergency procedures for the press are to be demonstrated in accordance with workplace practices.
3. How to check the job documentation to ensure specifications for the process being undertaken are complete.
4. Why discrepancies should be reported in accordance with workplace practices.
5. Why the components required for the job should be checked against the job documentation and confirmed with the press operator.
6. Why the availability of equipment, as advised by the press operator, should be confirmed.
7. Why substrates used on reel-fed presses are to be described to the press operator in terms of their characteristics.
8. How to handle substrates in accordance with press operator's instructions.
9. How and why damaged, flawed and substandard reels are repaired, if useable, or rejected in accordance with workplace practices.
10. How to confirm the substrate quantity issued against the job documentation.
11. How to identify the additives and chemicals used in the workplace.
12. Why additives and chemicals are used in accordance with press operator's instructions to meet press and job requirements.
13. Why image carriers should be confirmed with the press operator as being correct for the job before they are secured in the press.
14. How to position, load and secure image carriers in the press in accordance with press operator's instructions.
15. Why the inking system on the press being operated should be explained to the press operator in terms of its operation.
16. How ink should be added to the ducts and/or reservoirs in the correct amounts, ensuring colour consistency of the job in accordance with workplace practices.

17. How to check the quantity printed against job documentation before wash-up is commenced or image carrier removed from cylinder.
18. Why and how to rectify and report discrepancies.
19. How to complete job documentation.
20. What are the other post-press tasks to be carried out.
21. What are the waste control procedures and how they are to be followed.

EVIDENCE GUIDE

For assessment purposes:

(1) Critical Aspects of Evidence

Candidates have to prove that they can carry out **all** of the elements, meeting **all** the performance criteria, range and underpinning knowledge **on more than one occasion**. This evidence must come from a real work environment.

(2) Methods of Assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic.

Evidence may be collected in a variety of ways including:

- Observation
- Written/oral questioning
- Written evidence
- Witness testimony
- Professional discussion

Questioning techniques should not require language, literacy or numeracy skills beyond those required in this unit of competency.

(3) Context of Assessment

This unit may be assessed on the job, off the job or using a combination of both. Where assessment occurs off the job, that is, the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by a candidate working alone or as part of a team. The assessment environment should not disadvantage the candidate.

The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Simulation **should not be used**, except in exceptional circumstances where natural work evidence is unlikely to occur.

Assessment methods

The methods which can be used to determine competence in performance and underpinning knowledge.

Assessors

The Assessor's role is determine whether evidence presented by a candidate for assessment within the programme, meets the required standard of competence in the relevant unit or element. The Assessor needs to be competent to assess to national standards in the area under assessment.

Approved Centre

Organization/Centre approved by the TVET Council to offer full National Vocational Qualifications.

Case Studies

In situations where it is difficult for workplace assessment to take place, case studies can offer the candidate an opportunity to demonstrate potential competence.

A case study is a description of an actual or imaginary situation presented in some detail. The way the case study is presented will vary depending upon the qualification, but the most usual methods are written, taped or filmed.

The main advantage of a case study is the amount of evidence of underpinning knowledge they can generate and the specific nature of the evidence produced.

Competence

In the context of vocational qualifications, competence means: the ability to carry out prescribed activities to nationally pre-determined standards in an occupation. The definition embraces cognitive, practical and behavioural skills, underpinning knowledge and understanding and the ability to react appropriately in contingency situations.

Element

An element is a description of an activity which a person should be able to do. It is a description of an action, behaviour or outcome which a person should be able to demonstrate.

Explanation of NVQ Levels

NVQs cover five (5) levels of competence, from entry level staff at Level 1 through to senior management at Level 5.

Level 1 - Entry Level

Recognizes competence in a range of varied work activities performed in a variety of contexts. Most work activities are simple and routine. Collaboration with others through work groups or teams may often be a requirement. Substantial supervision is required especially during the early months evolving into more autonomy with time.

Level 2 - Skilled Occupations:

Recognizes competence in a broad range of diverse work activities performed in a variety of contexts. Some of these may be complex and non-routine and involve some responsibility and autonomy. Collaboration with others through work groups or teams and guidance of others may be required.

Level 3 - Technician and Supervisory Occupations:

Recognizes competence in a broad range of complex, technical or professional work activities performed in a wide variety of contexts, with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources are often a requirement. The individual is capable of self-directed application, exhibits problem solving, planning, designing and supervisory capabilities.

Level 4 - Technical Specialist and Middle Management Occupations:

Recognizes competence involving the application of a range of fundamental principles and complex techniques across a wide and unpredictable variety of contexts. Requires very substantial personal autonomy and often significant responsibility for the work of others, the allocation of resources, as well as personal accountability for analysis, diagnosis, design, planning, execution and evaluation.

Level 5 - Chartered, Professional and Senior Management Occupations:

Recognizes the ability to exercise personal professional responsibility for the design, development or improvement of a product, process, system or service. Recognizes technical and management competencies at the highest level and includes those who have occupied positions of the highest responsibility and made outstanding contribution to the promotion and practice of their occupation.

External Verifier

The External Verifier is trained and appointed by the TVET Council and is competent to approve and ensure an approved Centre's quality of provision.

Internal Verifier

The Internal Verifier acts in a supporting role for Assessors to ensure consistent quality of assessment and competence. They need to be competent to assess to national standards in the area under assessment.

Level

2

Glossary of Terms

NVQ

National Vocational Qualifications (NVQs) are work-based qualifications that assess an individual's competence in a work situation and certify that the individual can perform the work role to the standards expected in employment.

NVQs are based on national occupational standards of competence drawn up by standards-setting bodies known as Industry Lead Bodies. The standards describe the level and breadth of performance that is expected of persons working in the industry or sector which the NVQ covers.

NVQ Coordinator

Within each approved Centre offering NVQs, there is a centre contact who has overall responsibility for the operation and administration of the NVQ system.

Observation

Observation of the candidate carrying out his/her job in the workplace is the assessment method recommended in the vast majority of units and elements. Observation of staff carrying out their duties is something that most supervisors and managers do every day.

Performance criteria

Performance criteria indicate what is required for the successful achievement of an element. They are descriptions of what you would expect to see in competent performance.

Product of Work

This could be items produced during the normal course of work, which can be used for evidence purposes such as reports, menus, promotional literature, training plans, etc.

Questioning

Questioning is one of the most appropriate ways to collect evidence to assess a candidate's underpinning knowledge and understanding.

Questioning can also be used to assess a candidate in those areas of work listed in the range which cannot be assessed by observation. Guidance on when this assessment method can be used is given in the assessment guidance of each individual element.

Level

2

Glossary of Terms

Range statements

The range puts the element of competence into context. A range statement is a description of the range of situations to which an element and its performance criteria is intended to apply.

Range statements are prescriptive therefore each category must be assessed.

Role-plays

Role-plays are simulations where the candidate is asked to act out a situation in the way he/she considers “real” people would behave. By using role-play situations to assess a candidate you are able to collect evidence and make a judgment about how the candidate is most likely to perform. This may be necessary if the range specified includes a situation in which the candidate is unlikely to find himself/herself in the normal course of their work, or where the candidate needs to develop competence, before being judged competently, for example, in a disciplinary situation,

Simulations

Where possible, assessment should always be carried out by observing **natural performance** in the workplace. **Simulated performance**, however, can be used where specified to collect evidence about an aspect of the candidate’s work which occurs infrequently or is potentially hazardous; for example, dealing with fires.

By designing the simulated situation, briefing the candidate and observing his/her performance, you will be able to elicit evidence which will help you judge how a candidate is **most likely** to perform in real life.

Supplementary evidence

Supplementary evidence can be used to confirm and support performance evidence. Types of supplementary evidence include witness testimonies, reports, journals or diaries, records of activities, personal statements, simulation (see note in glossary).

Underpinning knowledge

Underpinning knowledge indicates what knowledge is essential for a person to possess in order to successfully achieve an element and prove total competence.

Level
2

Glossary of Terms

Units

A unit of competence describes one or more activities which form a significant part of an individual's work. Units are accredited separately but in combination can make up a vocational qualification. There are three categories of units:

Mandatory units - are core to a qualification and must to be completed.

Optional units - candidates must choose the required number of individual units, specified in the qualification structure, to achieve the qualification.

Additional units - are units which the candidate can undertake but are not a requirement to achieve a qualification

Work-based projects

Work-based projects are a useful way for you to collect evidence to support any decision you make about a candidate's performance. They are particularly appropriate in determining the level of a candidate's underpinning knowledge and understanding where it may be insufficient to rely only on questioning observation.

A project often involves the identification of a solution to a specific problem identified by you and/or the candidate (such as looking at ways to redress a recent drop in sales), or may be a structured programme of work built around a central situation or idea (such as the introduction of a new job rostering process).