



Australian Government

Department of Education, Employment and Workplace Relations

ICPSP233C Manually prepare direct emulsion stencil

Revision Number: 1

ICPSP233C Manually prepare direct emulsion stencil

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to prepare direct emulsion stencils using manual techniques.
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Application of the Unit

Application of the unit	This unit requires the individual to prepare direct emulsion stencils using manual techniques.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the work area and equipment	1.1. Work area is made clean and functional prior to the commencement of work 1.2. All equipment is inspected to ensure it is functional and where necessary, appropriate remedial action is taken prior to the commencement of work 1.3. Appropriate coating trough is selected ensuring it is free of nicks and burrs
2. Prepare the screen	2.1. Screen is selected according to job specifications 2.2. Chemicals are applied and removed according to OHS requirements and manufacturer's/supplier's specifications 2.3. Tension of screen mesh is checked for suitability according to job specifications
3. Select emulsion	3.1. Emulsion is selected according to requirements for ink type, print resolution, substrate, mesh type and machine type 3.2. Emulsion is checked for expiry date and appropriate action taken 3.3. Emulsion is prepared according to OHS requirements and manufacturer's/supplier's specifications 3.4. Emulsion is applied and dried according to manufacturer's/supplier's specifications
4. Process coated screen	4.1. Image films are appropriately positioned onto prepared screen and positioned in cleaned/prepared/appropriate exposure device 4.2. Light source is positioned according to manufacturer's/supplier's specifications 4.3. Exposure is calculated and stencil exposed according to manufacturer's/supplier's specifications 4.4. Exposed screen is removed from vacuum frame exposure device 4.5. Exposed screen is washed out after positive removal according to OHS requirements and manufacturer's/supplier's specifications 4.6. Processed stencil/screen is inspected for flaws and scum
5. Dry stencil	5.1. Processed stencil is dried according to manufacturer's/supplier's specifications 5.2. Backing sheet is carefully removed and stencil

ELEMENT	PERFORMANCE CRITERIA
	checked for full adhesion
6. Block out screen	6.1.Backing sheet is carefully removed and stencil checked for full adhesion 6.2.Stencil is inspected for flaws, scum and/orientation 6.3.Pinholes are spotted out with suitable filler and taped according to ink type and job specifications
7. Store screen	7.1.Prepared screen is labelled according to enterprise specifications 7.2.Prepared screen is stored in a clean, dry environment according to manufacturer's/supplier's specifications

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- OHS in relation to operating machinery such as safely switching off machinery before cleaning is started
- communication of ideas and information by labelling the completed screens
- collecting, analysing and organising information by selecting correct emulsion according to job specifications
- planning and organising activities by preparing the work area and equipment prior to coating the screens
- teamwork when maintaining the production process in association with others
- mathematical ideas and techniques by calculating required exposure time for the screen
- problem-solving skills by inspecting stencil for flaws and spotting out pinholes
- use of technology by processing the screen using photographic equipment

Required knowledge

- preparation of screen for coating
- significance of the mesh count
- effect that screen tension has on emulsion coating
- emulsion suitable for the job
- preparation of work area and equipment
- significance of good housekeeping
- effect that the coating trough edge have on emulsion coating
- selecting the right emulsions for the job
- choice of emulsion
- reasons for checking the expiry date of emulsions
- maximum temperature at which the emulsion can be dried
- coating and exposure techniques
- need to have good vacuum pressure in the vacuum frame
- why have you placed the light source in this position?
- formula use to calculate exposure time
- effects of overexposure and underexposure
- optimum exposure time
- effect on exposure that a white or coloured mesh have
- how do you determine if the screen is washed out properly?
- what characteristics determine a good or bad stencil?
- drying screen and blocking out
- drying the screen before blocking out

REQUIRED SKILLS AND KNOWLEDGE

- type of filler used for blocking out
- reasons for spotting pinholes and taping the screen
- storage and OHS
- OHS requirements for UV exposure light
- means by which this screen is able to be identified at a later date
- manuals, safety and other documentation that are relevant to this task and where they are kept and information that is included in these documents

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Evidence of the following is essential:

- correctly prepare direct emulsion stencils using manual techniques according to job specifications
- demonstrate an ability to find and use information relevant to the task from a variety of information sources
- prepare TWO different direct screens using manual coating and exposure techniques according to manufacturer's and job specifications, enterprise procedures and the listed Performance Criteria.

Context of and specific resources for assessment

Assessment must ensure:

- assessment may take place on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.

Method of assessment

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit:

- direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
<i>Coating techniques</i> may include:	manual coating techniques for various emulsions, mesh types and definition requirements.
<i>Type of stencil material</i> may include:	direct stencil materials commonly used relative to each industry sector.
<i>Enterprise procedures</i> may include:	tasks must be performed according to enterprise procedures.
<i>Degree of autonomy</i> may include:	working under supervision to defined procedures to ensure production requirements are met.
<i>Quality standards</i> may include:	should meet client requirements and enterprise and industry standards.

Unit Sector(s)

Unit sector	
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Competency field

Competency field	Screen Printing
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Co-requisite units

Co-requisite units		

Co-requisite units		