



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **LMTTD4013A Prepare stencils and screens for textile printing**

**Revision Number: 1**

## **LMTTD4013A Prepare stencils and screens for textile printing**

### **Modification History**

Not applicable.

### **Unit Descriptor**

**Unit descriptor** This unit covers the skills and knowledge required to apply techniques used to prepare screen print design samples for textiles.

## Application of the Unit

### Application of the unit

The unit applies to the use of stencil, or silk-screen printing techniques to produce designs and artwork for textiles to be used for garments, textile products, furnishing fabrics or accessories or public art commissions.

Screen printing involves the use of manual techniques, tools and equipment.

Work may be conducted in small to large scale enterprises and may involve individual and team-related activities.

The application of this unit is according to OH&S practices of the enterprise and workplace practices, which may include:

- requirements prescribed by legislation, awards agreements and conditions of employment
- standard operating procedures
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control, and recycling

This unit requires the application of communications skills associated with interpreting patterns and specifications, and planning and organising skills for the safe and effective use of textile printing technology and operations. This unit also requires an ability to check the quality of outcomes and identify and address problems relating to printing or production. Initiative and enterprise and problem solving will be used to combine printing processes, technique and medium to achieve desired design outcomes.

## Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

Not applicable.

## Employability Skills Information

**Employability skills** This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

Not applicable.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Interpret stencil requirements	<p>1.1 Design specifications are analysed and discussed with <i>appropriate personnel</i> to confirm stencil requirements.</p> <p>1.2 Workstation, <i>tools and equipment</i> are set up according to specifications for work.</p> <p>1.3 Desired effects of screen printing are identified and appropriate <i>conversion technique</i> is selected to achieve required <i>design outcome</i></p> <p>1.4 Layouts are accurately prepared and labeled</p> <p>1.5 <b>Media</b> is selected to prepare stencils</p> <p>1.6 Stencils are completed and checked against design</p>
2 Prepare screens	<p>2.1 Screen types and mesh are selected for appropriate substrates</p> <p>2.2 <i>Screens are prepared</i> for stencil process and checked against quality standards</p> <p>2.3 Stencil masters are exposed according to industry specifications.</p> <p>2.4 Screen images are developed, dried and finished.</p> <p>2.5 Screen preparation is applied according to <i>OH&amp;S practices</i></p>
3 Test screens and stencil quality	<p>3.1 Strike off is printed and checked against design specifications to ensure quality standards are met</p> <p>3.2 <i>Screen and stencil faults</i> are identified and causes determined</p> <p>3.3 Modifications to screens are applied as required using appropriate techniques, processes or materials</p> <p>3.4 Screens are completed and prepared for production processes</p> <p>3.5 Outcomes are examined and checked against specifications with appropriate personnel</p>

## Required Skills and Knowledge

This describes the essential skills and knowledge and their level, required for this unit.

Demonstrates skills to:

- use tools and equipment associated with screen printing
- read, interpret and follow information on work specifications, standard operating procedures and work instructions, and other reference material
- maintain accurate records
- communicate within the workplace
- sequence operations
- meet specifications
- clarify and check task-related information
- carry out work according to OH&S practices

Demonstrates knowledge of:

- characteristics of stencil and screen types
- specific design and printing practices
- printing processes and practices
- different types of screens and meshes
- different types of medium
- stencil and printing techniques
- OH&S practices, including hazard identification and control measures
- quality practices
- workplace practices
- recording and reporting practices

## Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Critical aspects of evidence	Demonstrates skills and knowledge to: <ul style="list-style-type: none"><li>• analyse design specifications and interpret production requirements</li><li>• identify and address faults</li><li>• determine requirements of design and conversion to print</li><li>• make minor adjustments to equipment</li><li>• use printing techniques to achieve design effects</li><li>• recognise and apply stencil application for image use, design and printing techniques</li><li>• evaluate own work and conduct quality checks</li></ul>
Consistency in performance	Consistently applies skills and knowledge when: <ul style="list-style-type: none"><li>• organising work</li><li>• completing tasks</li><li>• identifying improvements</li><li>• using workplace practices</li><li>• using OH&amp;S practices</li><li>• recording and reporting accidents and incidents</li><li>• assessing operational readiness of equipment used and work processes</li><li>• completing work systematically with attention to detail without damage to goods and equipment</li></ul>
Resource implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OH&S practices.
Context for assessment	Assessment may occur on the job or in an appropriately simulated environment.
Interdependent assessment	This unit may be assessed independently or in combination with other relevant units.

## 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. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs if the candidate, accessibility of the item, and local industry and regional contexts.

Legislative/regulatory requirements All work must comply with relevant Federal and State or Territory legislative or regulatory requirements.

Appropriate personnel may include

- trainers
- colleagues
- mentors
- designers
- members of the design team

Conversion technique may include

- basic stencils
- hand cut and hand drawn stencils
- photosensitive stencils
- autographic
- digitally generated stencils
- multi coloured separations.

Media may include

- ruby lithe
- designers opaque
- ink
- black wax crayon
- digital prints
- drafting film
- pen

Design outcome may include

- repeat patterns
- border designs
- placement prints
- engineered designs
- banners

Screen types include

- timber, steel, aluminium framed
- butt, mitre, nailed, glued, screwed, welded
- rectangle, rotary, hat, flat bed

Meshes include

- mesh types:
  - material
  - nylon
  - polyester
  - metal

	<ul style="list-style-type: none"> <li>• colour: <ul style="list-style-type: none"> <li>• white</li> <li>• yellow</li> <li>• red</li> </ul> </li> <li>• size</li> <li>• mono or multi-filament</li> </ul>
Screen preparation may include	<ul style="list-style-type: none"> <li>• checking for mesh tension</li> <li>• degreasing</li> <li>• haze removing</li> <li>• registration marks applied</li> <li>• coating</li> </ul>
Finished includes	<ul style="list-style-type: none"> <li>• touch up and tape as required</li> <li>• wash image clean and dry</li> <li>• check for pinholes</li> <li>• clean wash out of image</li> </ul>
Tools and equipment may include	<ul style="list-style-type: none"> <li>• rulers and tape measures</li> <li>• light boxes</li> <li>• graph paper</li> <li>• photocopier</li> <li>• overhead projector</li> <li>• photocopier</li> <li>• computer equipment</li> <li>• CAD software</li> <li>• tables</li> </ul>
OH&S practices	<p>OH&amp;S practices must include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit and may include:</p> <ul style="list-style-type: none"> <li>• manual handling techniques</li> <li>• standard operating procedures</li> <li>• personal protective equipment</li> <li>• safe materials handling</li> <li>• taking of rest breaks</li> <li>• ergonomic arrangement of workplaces</li> <li>• following marked walkways</li> <li>• safe storage of equipment</li> <li>• housekeeping</li> <li>• reporting accidents and incidents</li> <li>• other OH&amp;S practices relevant to the job and enterprise</li> </ul>
Screen and stencil and production faults include	<ul style="list-style-type: none"> <li>• uneven screen coating</li> <li>• incorrectly stretched screen mesh</li> <li>• poorly registered artwork / separations</li> </ul>



- inaccurate repeat measurements
- incorrect exposure time used
- wet coating trough causing pinholes
- warped screen frames
- insufficient print paste used
- off printing
- poorly developed image
- poor quality colour separations
- stencil opacity insufficient

## **Unit Sector(s)**

**Sector** Textile Design and Development