

<b>Title</b>	<b>Demonstrate industry knowledge relevant to dry offset printing</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	People credited with this unit standard are able to: define and use terms and vocabulary applicable to dry offset printing; demonstrate knowledge of product bar code printing; use reference material for print operations; describe use and application of halftones for dry offset printing; demonstrate knowledge of colour theory and use colour terms; demonstrate knowledge of plates used in dry offset printing; describe the factors affecting printing standards; demonstrate knowledge of overprint finishes and environmental issues relevant to the print industry.
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<b>Classification</b>	Printing > Dry Offset
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<b>Available grade</b>	Achieved
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## Guidance Information

1 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:

- Hazardous Substances and New Organisms Act 1996;
- Health and Safety at Work Act 2015;
- Privacy Act 2020;
- Resource Management Act 1991.

Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.

2 Definitions

*Halftones* refers to a printing technique that simulates continuous tone imagery through the use of dots.

*Workplace procedures* refer to organisation policies and procedures that are documented in memo, electronic, or manual format and available in the workplace. They may include but are not limited to – standard operating procedures, site specific procedures, site safety procedures, equipment operating procedures, quality assurance procedures, product quality specifications, manufacturer's requirements, references, approved codes of practice, housekeeping standards, environmental considerations, on-site briefings, supervisor's instructions, and procedures to comply with legislative and local body requirements relevant to the print sector.

### 3 Assessment information

Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, workplace procedures and legislative requirements.

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## Outcomes and performance criteria

### Outcome 1

Define and use terms and vocabulary applicable to dry offset printing.

#### Performance criteria

1.1 Define terms and vocabulary applicable to dry offset printing.

Range includes but is not limited to – calliper, cure, densitometer, durometer (shore hardness), flash point, gray scale, halftone, light fastness, moiré pattern, positive, register, relative humidity/temperature, retarder, static electricity.

1.2 Use terms and vocabulary applicable to dry offset printing processes in the workplace.

### Outcome 2

Demonstrate knowledge of product bar code printing.

#### Performance criteria

2.1 Describe product bar coding in terms of format and functions.

Range format – country of origin, manufacturer, product, check number; functions – storing information and identifying individual products, pricing, recording stock.

2.2 Outline requirements for reproduction of product bar codes.

Range positioning, readability, printing tolerances, size, colour combinations, positive/negative bar codes.

2.3 Check product bar code tolerances to ensure correct reading.

Range may include but is not limited to – grey gauges, scanners, verifiers.

2.4 Describe processes for reporting product bar coding faults.

**Outcome 3**

Use reference material for print operations.

Range may include but is not limited to – trade publications, instruction manuals, maintenance manuals, spare parts manuals, videos, DVDs, product specification information.

**Performance criteria**

- 3.1 Locate reference material applicable to the process and workplace.
- 3.2 Use reference material to ensure machine operation and product use meet workplace requirements.

**Outcome 4**

Describe the use and application of halftones for dry offset printing.

**Performance criteria**

- 4.1 Describe the use of halftone and line film in terms of reproducing an original copy.
- 4.2 Describe halftone screen ruling applications for different kinds of substrates and methods of printing.

**Outcome 5**

Demonstrate knowledge of colour theory and use colour terms.

**Performance criteria**

- 5.1 Explain colour theory in terms of additive colours (red, green and blue light).
- 5.2 Explain colour theory in terms of subtractive colours (cyan, magenta and yellow pigments).
- 5.3 Explain the relationship between additive and subtractive colours.
- 5.4 Use colour terms applicable to the production process used in the workplace.  
  
Range may include but is not limited to – primary colours, secondary colours, additive colours, subtractive colours, complementary colours, lightfast, hue, hue error, greyness, efficiency.
- 5.5 Explain correct viewing conditions in terms of their importance.  
  
Range fluorescence, metamerism, colour temperature, viewing booths.

**Outcome 6**

Demonstrate knowledge of plates used in dry offset printing.

Range photopolymer, silicon;  
evidence of a minimum of one above.

**Performance criteria**

- 6.1 Explain plate making procedures for the dry offset process used in the workplace.
- 6.2 Describe plates in terms of their properties.

**Outcome 7**

Describe the factors affecting printing standards.

**Performance criteria**

- 7.1 Describe the characteristics of an acceptable print.
- Range colour consistency and registration maintained, correct position, correct substrate, standard maintained to approved sample.
- 7.2 Describe factors which affect print quality.
- Range customer's requirements, speed of the press, width or thickness of the substrate, general condition of the press.
- 7.3 Describe factors which affect the printing speed for the job.
- Range quality requirements, ink being used, substrate being used, register requirements, press condition.

**Outcome 8**

Demonstrate knowledge of overprint finishes.

**Performance criteria**

- 8.1 Identify different overprint finishes and explain their uses.
- Range barrier purposes, lacquers.
- 8.2 Describe methods of application in terms of the different overprint finishes.
- Range roller coating, conventional inking systems.

**Outcome 9**

Demonstrate knowledge of environmental issues relevant to the print industry.

**Performance criteria**

- 9.1 Explain terms relating to environmental issues.
- Range may include but is not limited to – biodiversity, discharge, ecosystem, emit, emission, land degradation, odour, fossil fuels, greenhouse gases, climate change, global warming, carbon footprint, sustainability.
- 9.2 Outline environmental issues relevant to the print industry in terms of their impact on the workplace.
- Range may include but not limited to – pollutants and effects, energy reduction, waste management including recycling systems, sustainable and non-toxic products, forest certification programmes, environmental management programmes, circularity.
- 9.3 Describe a print industry company policy statement in terms of its environmental practices.

<b>Planned review date</b>	31 December 2027
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	30 March 2023	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council [qualifications@hangaarorau.nz](mailto:qualifications@hangaarorau.nz) if you wish to suggest changes to the content of this unit standard.