

Title	Demonstrate knowledge of the requirements for printing GS1 bar codes		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to demonstrate knowledge of: the structure of GS1 symbologies; the issues associated with printing bar codes; the use of thermal bar code printers; and bar code production on product.
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Classification	Printing > Print Industry Management
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Available grade	Achieved
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Guidance Information

Global Standards One (GS1) replaced the term EAN. GS1 is the international body that administers the GS1 system of identification in automatic data capture, previously known as the EAN.UCC system. For reference to GS1 publications and standards refer to <http://www.gs1nz.org/> or <http://www.gs1nz.org/standards/>.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the structure of GS1 symbologies.

Performance criteria

1.1 GS1 symbologies, including the individual bar code characters, are explained in terms of their structure.

Range may include but is not limited to – modules, human readable characters, light margins, bearer bars, start character, auxiliary characters, tiers, separator patterns.

1.2 Differences between Code 128 and GS1-128 are explained in terms of their structure.

1.3 Distinguishing features of DataBar are explained in terms of structure.

Outcome 2

Demonstrate knowledge of the issues associated with printing bar codes.

Performance criteria

- 2.1 Factors that influence decisions about bar code size are explained.
- Range reflective properties, product show-through, printability range, print gain, placement, scanning environment.
- 2.2 Assessment of bar width reduction to ensure perfectly dimensioned finished bar codes through the use of appropriate reference material is explained.
- 2.3 Use of printability gauges when producing bar codes is explained.
- 2.4 Colour combinations are examined to assess suitability for use in bar codes.
- 2.5 Packaging issues that may affect bar code scanning performance are explained.
- Range product show-through, final package assembly.

Outcome 3

Demonstrate knowledge of the use of thermal bar code printers.

Performance criteria

- 3.1 The process of setting up and quality testing thermal printers intended for use in bar code production is explained.
- Range manufacturers' recommendations, bar code print test and verification, light margin checks, bar height, legibility of human readable information, regular cleaning of print head and guide surfaces, on-line verification devices.
- 3.2 Reference material is used to correctly assess and describe the size at which printers of various resolutions are able to print GS1 bar codes.
- Range thermal printers, general office printers.

Outcome 4

Demonstrate knowledge of bar code production on product.

Performance criteria

- 4.1 Printing processes for the production of bar codes on products are listed.
- 4.2 Problems encountered whilst printing bar codes are explained.
- Range may include but is not limited to problems with – substrate, placement, print gain, colours, show-through, variations in reflective properties, transparent wrappers, overlays, varnishes.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 November 2004	31 December 2022
Review	2	20 March 2008	31 December 2022
Revision	3	12 December 2008	31 December 2022
Rollover and Revision	4	31 May 2018	31 December 2022
Review	5	23 July 2020	31 December 2022

Consent and Moderation Requirements (CMR) reference

0005

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.