

Title	Select and connect flexible cords in single-phase plug-in and fixed wired applications		
Level	3	Credits	2

Purpose	<p>This unit standard is for use in the training of electrical technicians and service persons. It covers the selection and connection of flexible cords to single-phase fittings and appliances, and includes connection of appliances to permanent connection units.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> - identify colour codes and terminal abbreviations for single-phase flexible cords and fittings; - select and identify flexible cords for given single-phase applications; - make up single-phase extension leads; - connect single-phase appliances to the supply using flexible cords, or replace existing flexible cords; and - make flexible cord terminations with crimp connectors.
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Classification	Electrical Engineering > Electrical Service Technicians
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Available grade	Achieved
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Guidance Information

- 1 This unit standard has been developed for learning and assessment off-job.
- 2 Competency under this unit standard does not entitle the candidate to legally perform prescribed electrical work without adequate supervision until the candidate has been registered and licensed under the Electricity Act 1992.
- 3 References
 Electricity (Safety) Regulations 2010;
 Electricity Act 1992;
 Health and Safety at Work Act 2015, and associated regulations;
New Zealand Electrical Codes of Practice available at
<https://www.worksafe.govt.nz/laws-and-regulations/standards/electricity-standards-and-codes-of-practice/>;
 and all subsequent amendments and replacements.

4 Definitions

Current regulations and standards – refer to the requirements of the above legislation and standards, applied to the context in which the term is used.

Electrical technicians and service persons – for the purposes of this unit standard means people who hold or who are working towards electrical registration as an Electrical Service Technician or Electrical Appliance Serviceperson (endorsed to disconnect and connect).

Industry practice – those practices which competent practitioners within the industry recognise as current industry best practice.

Outcomes and performance criteria

Outcome 1

Identify colour codes and terminal abbreviations for single-phase flexible cords and fittings.

Performance criteria

1.1 Colours for phase or active, neutral, and earth conductors in single-phase flexible cords are identified according to current regulations and standards.

1.2 Terminal abbreviations found on single-phase flexible cord accessories are interpreted according to current regulations and standards.

Range abbreviations – phase, active, line, neutral, earth.

Outcome 2

Select and identify flexible cords for given single-phase applications.

Range applications – one for higher temperatures, one for use in the presence of oil or petrol, two others;
given information – environment, length, maximum current or power of appliance;
tables of conductor ratings and applications of flexible cords may be used.

Performance criteria

2.1 Cord conductor size is determined from length and current carrying capacity, in accordance with current regulations and standards.

2.2 Type of cord and number of conductors is determined from environmental conditions and type of application in accordance with current regulations and standards.

2.3 Required cord is selected by inspection, given a range of different types and sizes.

Outcome 3

Make up single-phase extension leads.

Performance criteria

3.1 Flexible cord is selected to match the plug and cord connectors, length, and environment in accordance with current regulations and standards.

3.2 Flexible cord is terminated at plug and cord connector according to current regulations and standards, and industry practice.

Range termination considerations include, but are not limited to – matching conductors to terminations, colour code, strands are not weakened by being nicked or cut from conductors, no stray strands protruding, strands are twisted, and where necessary doubled over, terminal screws are tightened, earth conductor is installed so that it will suffer least or last under cord tension, fabric covered cords are sleeved or whipped, cord clamp arrangement is secured so that conductors are not strained, cord protector shroud is replaced, flexible cord insulation integrity is maintained.

3.3 Extension lead is tested for continuity, polarity, and insulation resistance, and results recorded, in accordance with current regulations and standards.

Outcome 4

Connect single-phase appliances to the supply using flexible cords, or replace existing flexible cords.

Range appliances – metal framed, double insulated;
connections – appliance to three-pin plug, appliance to permanent wired connection point, by means of an appliance cord.

Performance criteria

4.1 Appliance is confirmed as being isolated from the supply.

4.2 Permanent wired connection point is confirmed as being isolated from the supply, and tagged in accordance with industry practice.

4.3 Flexible cord is selected to match the appliance in accordance with current regulations and standards, and industry practice.

4.4 Flexible cord is terminated at both ends in accordance with current regulations and standards, and industry practice.

4.5 Visual checks and electrical testing of earthing, continuity, polarity, and insulation resistance confirm that it is safe to reconnect the supply, and test results are recorded, in accordance with current regulations and standards.

4.6 Appliance is connected to the supply and where necessary the supply is restored and tag is removed.

- 4.7 Normal operation of the appliance is confirmed in accordance with industry practice and manufacturer's requirements.

Outcome 5

Make flexible cord terminations with crimp connectors.

Range terminations using at least two different types of crimp connectors.

Performance criteria

- 5.1 Connectors are selected to match the terminations to which the cord is to be connected, according to industry practice.
- 5.2 Terminations are made using the type of crimping tool appropriate for the connectors, according to industry practice.

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	25 November 2000	31 December 2013
Revision	2	3 April 2001	31 December 2013
Revision	3	19 May 2004	31 December 2013
Review	4	20 June 2006	31 December 2024
Rollover and Revision	5	20 September 2012	31 December 2024
Revision	6	15 January 2014	31 December 2024
Rollover and Revision	7	25 March 2021	31 December 2024
Review	8	2 March 2023	31 December 2024

Consent and Moderation Requirements (CMR) reference

0003

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