Open Awards Qualification Unit

This unit forms part of a regulated qualification.

1 Unit Details

Unit Title:	Copper Datacoms Cable Installation and Testing
Unit Reference Number:	L/618/8308
Level:	3
Credit Value:	5
Minimum GLH:	30

2 Learning Outcomes and Criteria

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):	
1. Understand basic electrical theory with reference to data communications cabling	1.1	Explain the principles of electrical current flow, potential difference and electrical resistance
	1.2	Identify the units used for measuring and quantifying electrical current flow, potential difference and electrical resistance
	1.3	Explain why current will only flow when there is a complete circuit
	1.4	Use Ohm's law to solve electrical circuit problems
2. Work safely with copper cabling in an internal environment	2.1	Conduct risk assessments prior to installation of copper cables in internal environments
	2.2	Work safely when installing, terminating and testing copper cables in internal environments
3. Plan installation of a copper datacoms link	3.1	Explain the different cable topologies available for the installation of copper cables
	3.2	Compare the different cable types and cabling standards

	3.3	Select appropriate cable types and standards for given installations
	3.4	Identify the relevant classes, standards and categories of datacoms cabling
	3.5	Calculate maximum link distances according to current standards
4. Be able to install copper datacoms cabling, in accordance with current standards	4.1	Check cable and components before installation
	4.2	Undertake a site survey prior to commencing work
	4.3	Lay cables in line with instructions and procedures
5. Be able to terminate copper datacoms cabling	5.1	Explain the benefits and disadvantages of different termination tools and methods
	5.2	Select the most appropriate termination tools and methods for given hardware terminations
	5.3	Terminate hardware in accordance with manufacturer's recommendations
	5.4	Correctly mount termination hardware into communications panels/wall/floor boxes/cabinets and frames
	5.5	Terminate connectors from different vendors on to UTP and FTP cabling
6. Be able to Test FTP, UTP and multicore copper links	6.1	Explain how to use a multi-meter to measure voltage and resistance
	6.2	Explain how to use a range of commercially available cable testing equipment to test: a) a FTP and UTP copper cable permanent links b) a multi-core cable installation c) installations to relevant performance standards
	6.3	Carry out datacoms certification testing
	6.4	Analyse test results required for certification of installations
	6.5	Document relevant test results required for certification of installations

	6.6 Explain the terms: • split pair • transposed/crossed pairs • reversed pairs • mixed pairs
	6.7 Explain the correct methods of measuring: a) NEXT from both ends of the cable b) return loss (dB) c) cable length d) resistance (Ohms) e) cable attenuation (dB) f) wire maps g) FEXT and ELFEXT

Learning Outcome 3 - Indicative Content

3.4 Categories of cabling should include 5e, 6, 7 and link classes D and E

Learning Outcome 6 - Indicative Content

6.2 Categories of cabling should include 5e, 6, 7 and link classes D and E

Required Equipment List

In order to deliver this unit, centres must have the following equipment for each **six** (6) trainees on the course:
RJ45 connectors
Krone 10 pair blocks
3 x Krone boxes
6 x Cat 5E/Cat6 patch panels with patch cords
Cat 5E/Cat 6 UTP and FTP cable
6 x punchdown tools
6 x sets of hand tools
Mod-tap tester
1 x Level 3 certification tester
12U comms cabinet or similar