

The measurement of trench for communications cable or duct shall be measured once only irrespective of the number of cables or ducts in the trench. The depth of cable or duct trenches shall be the vertical measurement between the underside of the bedding, or if no bedding is specified the underside of the cable or duct, and the Earthworks Outline.

Itemisation

7 (05/01) Separate items shall be provided for trench for communications cable or duct in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Trench for communications cable.
	2 Trench for communications duct.
II	1 Different widths of trench.
III	1 Trench depth not exceeding 1.5 metres.
	2 Trench depth exceeding 1.5 metres but not exceeding 2.0 metres and so on in steps of 0.5 metres.
IV	1 In carriageways, footways and paved areas.
	2 In verges and central reserves.
	3 In side slopes of cuttings or side slopes of embankments.

Trench for Communications Cable or Duct (05/01)

8 (05/01) The items for trench for communications cable or duct shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item coverage

- (a) excavation of acceptable material (as Series 600 paragraphs 17 and 18);
- (b) excavation of unacceptable material (as Series 600 paragraph 19);
- (c) excavation in Hard Material (as Series 600 paragraph 23);
- (d) additional depth of excavation to maintain specified cover at obstructions;
- (e) additional excavation to accommodate extra lengths of cable;
- (f) locating, working around and supporting pipes, cables, services, apparatus and the like;
- (g) trimming, levelling and compacting;
- (h) cable bedding and covering;
- (i) duct bedding, haunching and surrounding;
- (j) formwork (as Series 1700 paragraph 15);
- (k) movement joints to beds, surrounds and the like;
- (l) backfilling and compaction;
- (m) troughing, lids, access points and bedding;
- (n) disposal of material (as Series 600 paragraph 39);
- (o) marking tape or cable covers;
- (p) reinstatement of surfaces;
- (q) site records.

- (c) intermediate supports and fixing devices where cables leave trench and prior to entry into equipment;
- (d) provision of buried loops;
- (e) sealing to cable ends;
- (f) cutting, tying together, sealing, coiling and strapping of unused cores;
- (g) unscheduled joints;
- (h) marker blocks, marker tape, identification tags, sleeves, labels and the like;
- (i) twisting and snaking;
- (j) service connections;
- (k) additional protection and support;
- (l) notification of lengths and provision of schedule of lengths and locations;
- (m) in the case of gantries - conduits, trunking and cable trays;
- (n) colour coding;
- (o) supports to vertical and horizontal communication cables;
- (p) cable management in chamber.

**Communications Cable
Supplied by the Overseeing
Organisation**

14 (05/01) The items for communications cable supplied by the Overseeing Organisation shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item coverage

- (a) loading, transporting from store, unloading, safe storage and positioning for installation or re-installation;
- (b) replacing items damaged during the foregoing operations;
- (c) modification and new materials;
- (d) communications cable (as this Series paragraph 13);
- (e) keeping and maintaining cable drum register;
- (f) arranging for and recording of empty cable drum collection;
- (g) recording and returning to store all surplus bulk purchased cable.

Communications Duct

15 (05/01) The items for communications duct shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item coverage

- (a) cutting, laying, jointing and bedding;
- (b) supports to vertical and horizontal communication ducts;
- (c) recording, staking and labelling;
- (d) fixing draw ropes, removable stoppers, marker blocks and posts;
- (e) schedules;
- (f) lubricants, packing, grouting and caulking;
- (g) surveys and recordings;
- (h) protective system (as Series 1900 paragraph 4);
- (i) plugs and grommets.

Communications Cable Joints and Terminations

- Units **16** (05/01) The unit of measurement shall be:
- (i) communications cable joints, communications cable terminations
 number.
- Measurement **17** (05/01) Communications cable joints and communications cable terminations shall be measured only where they are required specifically by the Contract. Unscheduled communications cable joints in running lengths shall not be measured.
- Itemisation **18** (05/01) Separate items shall be provided for communications cable joints and communications cable terminations in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Communications cable joint.
	2 Communications cable termination.
II	1 Different types.
III	1 Different sizes.

Communications Cable Joints and Communications Cable Terminations

- Item coverage **19** (05/01) The items for communications cable joints and communications cable terminations shall in accordance with the Preambles to Bill of Quantities General Directions include for:
- (a) preparing, stripping and cleaning ends;
 - (b) connectors, glands, clamps, sleeves, cleats, tags and terminal blocks;
 - (c) connecting conductors to terminals;
 - (d) removing “knock outs” and drilling backboard;
 - (e) insulating ends of unused conductors;
 - (f) bonding;
 - (g) jointing kits;
 - (h) numbering and lettering;
 - (i) complying with wiring regulations and earthing (other than earth electrodes);
 - (j) protection, curing and support of cable joints and keeping the cable joint free of moisture;
 - (k) markers;
 - (l) additional excavation in any material (as Series 600 paragraphs 17, 18, 19 and 23);
 - (m) links and jumper leads;
 - (n) building out;
 - (o) disposal of material (as Series 600 paragraph 39).

Communications Equipment

- Units **20** (05/01) The unit of measurement shall be:
(i) communications equipment number.
- Itemisation **21** (05/01) Separate items shall be provided for communications equipment in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Communications equipment.
II	1 Different types.
III	1 Different sizes.
IV	1 Different locations.
V	1 Supplied by Overseeing Organisation.

- Communications Equipment** **22** (05/01) The items for communications equipment shall in accordance with the Preambles to Bill of Quantities General Directions include for:

- Item coverage
- (a) excavation of acceptable material (as Series 600 paragraphs 17 and 18);
 - (b) excavation of unacceptable material (as Series 600 paragraph 19);
 - (c) excavation in Hard Material (as Series 600 paragraph 23);
 - (d) brickwork, blockwork and stonework (as Series 2400 paragraphs 4 and 8);
 - (e) backfilling and compaction;
 - (f) disposal of material (as Series 600 paragraph 39);
 - (g) building in or forming cable ducts in bases;
 - (h) formwork (as Series 1700 paragraph 15);
 - (i) reinforcement (as Series 1700 paragraph 26);
 - (j) concrete (as Series 1700 paragraphs 5 and 10);
 - (k) removing knock-outs, drilling or forming holes and pockets and casting in bars, sockets, base plates, plinths, anchorage assemblies, posts and the like including grouting;
 - (l) footways and paved areas (as Series 1100 paragraph 21);
 - (m) adhesives and epoxy or polyester mortar, bedding mortar or grout;
 - (n) backboards, fixings, protective caps, sealing, grommets, spacers, bushes, mounting plates and neoprene strips;
 - (o) complying with wiring regulations and earthing (other than earth electrodes);
 - (p) conduit including screwed and threaded connections, bends, tees and the like and draw wires;
 - (q) electrical equipment, batteries, colour coding, wiring and making connections, excluding electricity supplier's connections;

- (r) threading cable through ducts, sleeves, conduits and the like;
- (s) doors, locks and keys;
- (t) protective system (as Series 1900 paragraph 4);
- (u) notices, labelling, numbering and lettering;
- (v) filling, bedding and sealing;
- (w) alignment and sighting;
- (x) cleaners, solvents and dessicants;
- (y) preparation and supply of record drawings;
- (z) additional protection and support;
- (aa) service connections and commissioning.

**Communications Equipment
Supplied by the Overseeing
Organisation**

23 (05/01) The items for communications equipment supplied by the Overseeing Organisation shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item coverage

- (a) provision and maintenance of bulk purchased requirement profile;
- (b) examination at the store;
- (c) loading, transporting from store, unloading, safe storage and positioning for installation or re-installation;
- (d) replacing items damaged during the foregoing operations;
- (e) modifications and new materials;
- (f) maintaining record of bulk purchased equipment;
- (g) communications equipment (as this Series paragraph 22);
- (h) returning to store all unused equipment.

**Remove from Store and Re-install Communications Cabling and
Equipment**

Units

24 (05/01) The units of measurement shall be:

- (i) cable linear metre.
- (ii) cabinets, posts, brackets, signal indicators and the likenumber.
- (iii) shelves, racking, frames and the like number.
- (iv) electronic units and the like number.

Measurement

25 (05/01) Re-installed cables shall be measured in accordance with this Series paragraph 10.

Itemisation

26 (05/01) Separate items shall be provided for remove from store and re-install communications cabling and equipment in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Remove from store and re-install cable.
	2 Remove from store and re-install cabinets, posts, brackets, signal indicators and the like.
	3 Remove from store and re-install shelves, racking, frames and the like.
	4 Remove from store and re-install electronic units and the like.
II	1 Different types.
III	1 Different sizes.

Remove from Store and Re-install Communications Cabling and Equipment

Item coverage

27 (05/01) The items for remove from store and re-install communications cabling and equipment shall in accordance with the Preambles to Bill of Quantities General Directions include for:

- (a) loading, transporting from store, unloading and positioning for re-installation;
- (b) replacing items damaged during the foregoing operations;
- (c) modification and new materials;
- (d) communications cables (as this Series paragraph 13);
- (e) service ducts (as Series 500 paragraph 16);
- (f) communications cable joints and communications cable terminations (as this Series paragraph 19);
- (g) communications equipment (as this Series paragraph 22).

Loop Detector Installations

Units

28 (05/01) The unit of measurement shall be:

- (i) loop detector installations number.

Measurement

29 (05/01) The measurement of loop detector installations shall be the complete installation from the joint with the feeder cable including the chamber box or pit within which the joint is located.

The joint of the feeder cable to the loop cable shall be measured in accordance with paragraph 17.

Itemisation **30** (05/01) Separate items shall be provided for loop detector installations in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Loop detector installations.
II	1 Different types.
III	1 Different sizes.
IV	1 Different locations.

Loop Detector Installations **31** (05/01) The items for loop detector installations shall in accordance with the Preambles to Bill of Quantities General Directions include for:

- Item coverage
- (a) excavation of acceptable material (as Series 600 paragraphs 17 and 18);
 - (b) excavation of unacceptable material (as Series 600 paragraph 19);
 - (c) excavation in Hard Material (as Series 600 paragraph 23);
 - (d) disposal of material (as Series 600 paragraph 39);
 - (e) marking out, cutting or forming slots, drying, damming, backfilling, cleaning and sealing;
 - (f) chambers, boxes and pits (as Series 500 paragraph 37);
 - (g) ducts (as Series 500 paragraph 16);
 - (h) building in ends of ducts;
 - (i) forming drainage holes;
 - (j) supports and foundations to cables;
 - (k) communications cable (as this Series paragraph 13);
 - (l) in situ concrete (as Series 1700 paragraph 5);
 - (m) formwork (as Series 1700 paragraph 15);
 - (n) complying with wiring regulations and earthing (other than earth electrodes);
 - (o) reinstatement of surfaces;
 - (p) dowels and wedges;
 - (q) anchor plates.

Site Records

Units **32** (05/01) The unit of measurement shall be:
(i) site records item.

Itemisation **33** (05/01) Separate items shall be provided for site records in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
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I	1 Site records.
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Site Records

34 (05/01) The items for site records shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item coverage (a) preparing site records and submitting to the Overseeing Organisation;
(b) site measurements and surveying.

Stage 2 Commissioning of Cable

Units **35** (05/01) The unit of measurement shall be:
(i) Stage 2 commissioning of communications cable item.
(ii) Stage 2 commissioning of power cable item.

Measurement **36** (05/01) The measurement shall be the number of Stage 2 commissionings accepted by the Overseeing Organisation.

Itemisation **37** (05/01) Separate items shall be provided for Stage 2 commissioning of communications cable and Stage 2 commissioning of power cable in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
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I	1 Stage 2 commissioning.
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II	1 Communications cable.
	2 Power cable.

III	1 Each section.
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Stage 2 Commissioning of Cable

38 (05/01) The items for Stage 2 commissioning of communications cable and Stage 2 commissioning of power cable shall in accordance with the Preambles to Bill of Quantities General Directions include for:

Item coverage (a) setting up equipment;
(b) taking readings, measurement and observations of the performance of the cabling, recording and supplying 3 copies of the commissioning record to the Overseeing Organisation.

Modification to Existing Communications Equipment

- Units **39** (05/01) The unit of measurement shall be:
 (i) Modification to existing communications equipment item.
- Itemisation **40** (05/01) Separate items shall be provided for modifications to existing communication equipment in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Modification to existing communications equipment.
II	1 Different types.
III	1 Different sizes.

Modifications to Existing Communications Equipment

41 (05/01) The items for modification to existing communications equipment shall in accordance with the Preamble to Bill of Quantities General Directions include for:

- Item Coverage
- (a) new materials;
 - (b) communication equipment (as this Series paragraph 22);
 - (c) communications cables (as this Series paragraph 13);
 - (d) service ducts (as Series 500 paragraph 16);
 - (e) communications cable joints and communications cable terminations (as this Series paragraph 19).

Chambers

- Units **42** (05/01) The unit of measurement shall be:
 (i) chambers number.
- Measurement **43** (05/01) The measurement shall be of the complete chamber.
- 44** (05/01) Depths of chambers shall be the distance between the top surfaces of the cover and the uppermost surface of the base slab. Where no base slab is required the depth shall be taken to the bottom of the excavation.

Itemisation **45** (05/01) Separate items shall be provided for chambers in accordance with Chapter II paragraphs 3 and 4 and the following:

Group	Feature
I	1 Chambers.
II	1 Specified design groups. 2 Particular designs stated in the contract.
III	1 Depths not exceeding 1 metre. 2 Depths exceeding 1 metre but not exceeding 2 metres and so on in steps of 1 metre.
IV	1 Different types of covers or gratings.

Chambers **46** (05/01) The items for chambers shall in accordance with the Preambles to Bill of Quantities General Directions include for:

- Item coverage
- (a) chambers (as Series 500 paragraph 37);
 - (b) markers, labelling, numbering, lettering and referencing system.