

Specification (Measurement)

**Transport and Main Roads Specifications
MRS234 Communications Cables**

July 2018

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1 Introduction

This Specification applies to the requirements for the supply of materials and equipment, installation, testing, commissioning and maintenance handover documentation of the provision of telecommunications cable.

This Specification shall be read in conjunction with MRS01 *Specification (Measurement)* and other Specifications as appropriate.

This Specification forms part of the Transport and Main Roads Specifications Manual.

2 Measurement of works

2.1 Standard Work Items

In accordance with the provisions of Clause 2 of MRS01 *Introduction to Specifications*, the Standard Work Items covered by this Specification are listed in Table 2.1.

Table 2.1 – Standard Work Items

Standard Item No.	Description	Unit of measurement
Cabling		
64801	Supply of Telecommunications [<i>cable type</i>], [<i>number of cores</i>] cores, [<i>core insulation</i>], [<i>sheath insulation</i>], [<i>conductor material</i>]	m
64802	Installation of Telecommunications [<i>cable type</i>], [<i>number of cores</i>] cores, [<i>core insulation</i>], [<i>sheath insulation</i>], [<i>conductor material</i>]	m
64803	Supply and installation of Telecommunications [<i>cable type</i>], [<i>number of cores</i>] cores, [<i>core insulation</i>], [<i>sheath insulation</i>], [<i>conductor material</i>]	m
64804	Supply of Single-Mode Optical Fibre (SMOF) cable of [<i>type</i>] type and [<i>number of cores</i>] cores	m
64805	Installation of Single-Mode Optical Fibre (SMOF) of [<i>cable type</i>] type and [<i>number of cores</i>] cores	m
64806	Supply and installation of Single-Mode Optical Fibre (SMOF) cable of [<i>type</i>] type and [<i>number of cores</i>] cores	m
Patch leads		
64831	Supply of copper patch lead, [<i>length of cable</i>] metres, [<i>end connector Type 1</i>] type, [<i>end connector Type 2</i>] type	each
64832	Installation of copper patch lead, [<i>length of cable</i>] metres, [<i>end connector Type 1</i>] type, [<i>end connector Type 2</i>] type	each
64833	Supply and installation of copper patch lead, [<i>length of cable</i>] metres, [<i>end connector Type 1</i>] type, [<i>end connector Type 2</i>] type	each
64834	Supply of Single-Mode Optical Fibre (SMOF) patch lead, [<i>length of cable</i>] metres, [<i>end connector Type 1</i>] type, [<i>end connector Type 2</i>] type and [<i>Simplex Duplex</i>] cores	each
64835	Installation of Single-Mode Optical Fibre (SMOF) patch lead, [<i>length of cable</i>] metres, [<i>end connector Type 1</i>] type, [<i>end connector Type 2</i>] type and [<i>number of cores</i>] cores	each

Standard Item No.	Description	Unit of measurement
64836	Supply and installation of Single-Mode Optical Fibre (SMOF) patch lead, [<i>length of cable</i>] metres, [<i>end connector Type 1</i>] type, [<i>end connector Type 2</i>] type and [<i>Simplex</i> <i>Duplex</i>] cores	each
Fibre optic break out terminal		
64861	Supply of Fibre Optic Break Out Terminal (FOBOT), [<i>rack units</i>] units, [<i>type</i>] and [<i>number of cable pigtails</i> <i>sockets</i>] pigtails / sockets	each
64862	Installation of Fibre Optic Break Out Terminal (FOBOT), [<i>rack units</i>] units, [<i>type</i>] and [<i>number of cable pigtails</i> <i>sockets</i>] pigtails / sockets	each
64863	Supply and installation of Fibre Optic Break Out Terminal (FOBOT), [<i>rack units</i>] units, [<i>type</i>] and [<i>number of cable pigtails</i> <i>sockets</i>] pigtails / sockets	each
Fibre optic splicing closure		
64891	Supply of underground rated Fibre Optic Splicing Closure (FOSC) for the fusion splicing of [<i>number of cores</i>] fibre optic cable segments	each
64892	Installation of underground rated Fibre Optic Splicing Closure (FOSC) for the fusion splicing of [<i>number of cores</i>] fibre optic cable segments	each
64893	Supply and installation of underground rated Fibre Optic Splicing Closure (FOSC) for the fusion splicing of [<i>number of cores</i>] fibre optic cable segments	each
64894	Disconnection and removal of an existing [<i>rack units</i>] rack unit FOBOT with [<i>number of pigtails</i>] pigtails from a cabinet	each
Removal of existing cable, equipment and components		
64991	Removal of telecommunications cable, equipment or other ancillary components from for disposal	each

2.2 Work Operations

- Item 64801** Supply of Telecommunications [*cable type*], [*number of cores*] cores, [*core insulation*], [*sheath insulation*], [*conductor material*]
- Item 64802** Installation of Telecommunications [*cable type*], [*number of cores*] cores, [*core insulation*], [*sheath insulation*], [*conductor material*]
- Item 64803** Supply and installation of Telecommunications [*cable type*], [*number of cores*] cores, [*core insulation*], [*sheath insulation*], [*conductor material*]
- Item 64804** Supply of Single-Mode Optical Fibre (SMOF) cable of [*type*] type and [*number of cores*] cores
- Item 64805** Installation of Single-Mode Optical Fibre (SMOF) of [*cable type*] and [*number of cores*] cores
- Item 64806** Supply and installation of Single-Mode Optical Fibre (SMOF) cable of [*type*] type and [*number of cores*] cores
- Item 64831** Supply of copper patch lead, [*length of cable*] metres, [*end connector Type 1*] type, [*end connector Type 2*] type

- Item 64832** **Installation of copper patch lead, [*length of cable*] metres, [*end connector Type 1*] type, [*end connector Type 2*] type**
- Item 64833** **Supply and installation of copper patch lead, [*length of cable*] metres, [*end connector Type 1*] type, [*end connector Type 2*] type**
- Item 64834** **Supply of Single-Mode Optical Fibre (SMOF) patch lead, [*length of cable*] metres, [*end connector Type 1*] type, [*end connector Type 2*] type and [*Simplex | Duplex*] cores**
- Item 64835** **Installation of Single-Mode Optical Fibre (SMOF) patch lead, [*length of cable*] metres, [*end connector Type 1*] type, [*end connector Type 2*] type and [*number of cores*] cores**

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of cables through ducting, trays, patch cable management as appropriate
- c) replacement of draw ropes in ducting (where applicable)
- d) connection and termination of cables, and
- e) testing of cabling.

- Item 64836** **Supply and installation of Single-Mode Optical Fibre (SMOF) patch lead, [*length of cable*] metres, [*end connector Type 1*] type, [*end connector Type 2*] type and [*Simplex | Duplex*] cores**

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply all materials to site
- c) installation of cables through ducting, trays, patch cable management as appropriate
- d) replacement of draw ropes in ducting (where applicable)
- e) connection and termination of cables, and
- f) testing of cabling.

- Item 64861** **Supply of Fibre Optic Break Out Terminal (FOBOT), [*rack units*] units, [*type*] and [*number of cable pigtails | sockets*] pigtails / sockets**

- Item 64862** **Installation of Fibre Optic Break Out Terminal (FOBOT), [*rack units*] units, [*type*] and [*number of cable pigtails | sockets*] pigtails / sockets**

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) install FOBOT within cabinet
- c) terminate cables to FOBOT, and
- d) labelling and testing of cabling.

Item 64863 Supply and installation of Fibre Optic Break Out Terminal (FOBOT), [rack units] units, [type] and [number of cable pigtails | sockets] pigtails / sockets

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply all materials to site
- c) install FOBOT within cabinet
- d) terminate cables to FOBOT, and
- e) labelling and testing of cabling.

Item 64891 Supply of underground rated Fibre Optic Splicing Closure (FOSC) for the fusion splicing of [number of cores] fibre optic cable segments

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply all materials to site.

Item 64892 Installation of underground rated Fibre Optic Splicing Closure (FOSC) for the fusion splicing of [number of cores] fibre optic cable segments

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of cables through ducting
- c) replacement of draw ropes in ducting (where applicable)
- d) preparation and splicing of cables within FOSC, and
- e) testing of cabling.

Item 64893 Supply and installation of underground rated Fibre Optic Splicing Closure (FOSC) for the fusion splicing of [number of cores] fibre optic cable segments

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply all materials to site
- c) installation of cables through ducting
- d) replacement of draw ropes in ducting (where applicable)
- e) preparation and splicing of cables within FOSC, and
- f) testing of cabling.

Item 64894 Disconnection and removal of an existing [rack units] rack unit FOBOT with [number of pigtails] pigtails from a cabinet

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*

- b) disconnection of cables from FOBOT
- c) disconnection of FOBOT from cabinet, and
- d) transport and disposal of FOBOT.

Item 64991 Removal of telecommunications cable, equipment or other ancillary components from for disposal

Work Operations incorporated in this Item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) disconnection of telecommunications cable, equipment or other ancillary components
- c) removal of telecommunications cable, and
- d) transport and disposal of all removed cabling.

2.3 Method of measurement of provision of telecommunications cable

This Specification provides Standard Work Items for:

- a) supply only
- b) installation only, and
- c) supply and installation

of Provision of Telecommunications Cable.

Any combination of Standard Work Items relating to these methods of measurement may be used in the Schedule of Rates. However, where a Standard Work Item for supply and installation of a particular component or group of components is included in the Schedule of Rates, no supply only nor installation only Standard Work Item shall also apply to that component or group of components, as applicable.

2.4 Supply of materials

Any materials to be supplied by the Principal will be as stated in the Principal Supplied Material List, Form C6827. All other material shall be supplied by the Contractor.

The responsibility for transport to the site of materials supplied by the Principal shall be as stated in the Principal Supplied Material List, Form C6827. Transport to the Site of all other materials shall be the responsibility of the Contractor.

