openreach

ISIS Practice
For Openreach People

AEI/ACC/N028

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N028 – OFN cabling in the U/G Network

About this document ...

Author

The author of this document may be contacted at:

Quality Standards & Accreditation
Chief Engineer Network Engineering
Openreach (BOI)
Post Point PP1Earlsdon Telephone Exchange
Winifred Avenue
Coventry

CV5 6JS

Telephone:
Fax:
Email: accreditationqualitystandards@openreach.co.uk

Content approval

This is the Issue 6 of this document.
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Version History

Version No.	Date	Author	Comments
Issue 6	30-Mar-2023	Quality Standards & Accreditation	Document review. Links to external sources validated/updated where appropriate. Question 4 updated to reflect new policy
Issue 5	06-Apr-2022	Quality Standards & Accreditation	Document review. Links to external sources validated/updated where appropriate. Complete re write of questions to reflect ISIS changes
Issue 4	12-Apr-2021	Quality Standards & Accreditation Network Engineering	Document review. Changed to new document layout. Safety requirements added.
Issue 3	14-Apr-2020	Quality Standards & Accreditation Network Engineering	Document review. Changed to new document layout. Questionnaire, coaching marks and modular guidance adjusted.
Issue 2	18-Dec-2019	Accreditation Standards Network Engineering	Document review. Links to external sources validated/updated where appropriate. Author/Approver/Publisher details amended. Change of author & approver details. Section 1, outdated paragraphs removed.
Issue 1	28-Dec-2018	Accreditation Standards Network Engineering	New Module

Table of Content

1 *Introduction*

This ISIS is reviewed and updated annually. Between reviews any changes are communicated using Access Engineering Communications (AEC).

Links to ISIS documents, accreditation modules and all reference material can be found in the Technical Library or Bookstore for Openreach and in CANDID for Contract Partners.

Answers for all modules are available via the Author of this document (see above).

In order to comply with the requirements of this accreditation module the Assessor must follow the procedure below:

- Allow the time shown for the Delegate to complete.
- Explain that reference documentation can be used.
- The criteria for **all** sections **must** be fulfilled in order to meet the requirements for this module.

2 *Scope*

The module target audience are engineers working on the Openreach network including Contract Partners.

This module is an essential requirement for anyone providing cables and Connectorised Block Terminals (CBT) in underground duct, using Hand Rodding techniques. The overall content is covered in the following Description and Method sections, in more detail.

3 *Description*

This module consists of two parts, a questionnaire and a practical Assessment.

Prerequisite: Delegate must have completed and passed the following accreditation module - **AEI/ACC/K008** Hand rodding in the U/G network

Content: This assessment will test the Delegate's knowledge of and ability to install One Fibre Network (OFN) cables in the underground (U/G) network where hand rodding is the chosen option, using current working practices and quality standards. It also covers fitting a no drill Mobra or flat bar for a CBT.Support, restraint and labelling will also be checked, this is to ensure understanding of the Quality standards.

Duration: Questionnaire 45 minutes **Practical 4** hours

4 *Measurement*

Questionnaire: The Delegate must achieve **80%** or greater to be successful.

For Openreach people the questionnaire can be found on Learning Home as an online course using the code **ORCBL012**

Practical: Using the Module Guidance and ISIS documents for reference, the Assessor will check that the Delegate completes the tasks outlined in the Method section.

The Module Guidance outlines where coaching can be provided, highlighted by a Coaching Mark (**C**) next to each Assessment Pointer. No more than **30%** of the available Coaching Marks can be used.

Assessor Note: The exact score required to pass the questionnaire and the allowed number of Coaching Marks can be found in the Delegates Details section.

Post Assessment: You **must** enter the results onto the Skills Passport or Smart Awards for Contract Partners**.**

5 *Safety*

Caution: If the Delegate displays a disregard for, or lack of knowledge of safety, then STOP THE ASSESSMENT - re-Assessment required - refer to - safety module for guidance

Using their tools and equipment, the Delegate will demonstrate the correct safety practices required to successfully complete One Fibre Network U/G cabling activities. This may include:

- Relevant safety modules on National Operative Passport Scheme (NOPS) card (Partners Only).
- Openreach Construction Design Management (CDM) 2015 Regulations Policy followed.
- Relevant New Roads and Street Works Act (NRSWA) qualification.
- Personal Protective Equipment (PPE).
- Equipment checks.
- Understanding of the street gazetteer.
- Gas testing procedure.
- Footway cover lifting.
- Identification of carriageway covers.
- Lifter Manhole Cover 4 (Where applicable).
- Identification of associated keys.
- Method of cover removal/replacement (where applicable).
- Water test.
- Availability of sharps bin. (CINBIN)

6 *Method*

Questionnaire: Using reference documentation where required, the Delegate will complete the questionnaire. A maximum of **45** minutes is allowed for this exercise.

Practical: Using the Modular Guidance you will check the standards achieved at the stages shown.

The Delegate will be assessed on a simulated cabling task or in a live situation using the current quality and technical standards.

The Delegate will be required to install a Cable Optical Fibre (COF) 600 cable and a COF250 tail between a minimum of 3 U/G boxes, fit a Mobra / pivot arm within an allocated joint box and then mount a CBT. The Delegate will then demonstrate to the Assessor that they have a full understanding of the correct working practices and the required quality standards in support, restraint and labelling of all cables in the U/G network.

7 *Delegate's Details*

Module No	AEI/ACC/N028
Title	OFN Cabling in the U/G network
Date	
Delegate's name	
UIN/Licence No	
OUC	
Assessor's name	
Assessor's UIN	
Questionnaire	PASS / FAIL
Practical	PASS / FAIL

Questionnaire Scoring:

Total Possible Score	Score Achieved	Required Score to Pass
15		12

Practical Scoring:

Total Coaching Marks Available	Total Coached	Total Coaching Marks Allowed
4		1

8 *Questionnaire*

No		Mark(s)
1	What is the preferred underground (U/G) cable which should be used	

	for building out Fibre to The Premises (FTTP) from an Aggregation node? A. COF600 B. COF250 C. COF200	
2	Cable Optical Fibre (COF) 600 can be installed by hand pull or mechanical winch, please select the true statements below. A. COF600 needs to be installed in Sub-Duct for protection B. COF600 can be used both U/G and overhead (OH) C. To prevent fibre strain damage when installing, the use of a cabling swivel and 2000 Newton shear pin fuse is required D. COF600 comes with a factory installed yellow marker E. COF600 is suitable for installations on Hot Sites	
3	When installing fibre cables in the U/G network when must you apply yellow marker tape to the cable? A. Every Optical Cable must have yellow tape applied. B. Only COF600 needs yellow tape applied C. Only when there is no factory provided yellow stripe on the cable	
4	The new Standard Cable Label is now white, what are the quality standards when installing one? Select all that apply A. All fields on the label should be legibly completed in black pen B. Strap Cable Fixing and the straps cable fixing 1A at each end should be wrapped in Tape Plastic Adhesive 25mm C. Cables less than 25mm diameter a 3rd zip tie is optional	
5	We must take care when installing Optical Network Cables, what is the minimum bend radius of COF600? A. 84mm B. 100mm	

	C. 120mm	
6	What is the minimum cable bending radius of COF215? A. 84mm B. 100mm C. 120mm	
7	What is the minimum cable bending radius of COF250? A. 84mm B. 100mm C. 80mm	
8	Connectorised Block Terminals (CBT) feed cable can be both COF250 and COF215. True or False COF250 can only be installed using hand pulling techniques? A. True, the cable cannot withstand the strain when installed using a mechanical winch B. False, it can be installed using a mechanical winch but you must use a 1.5knN fuse	
9	If copper joints are moved to allow cabling work how should they be left on completion? A. Laid carefully on the joint box floor B. Restored to their original position and restrained C. Raise a task for a copper trained engineer to make the plant safe	
10	What is used to mount a Commscope CBT to a Mobra / pivot arm? A. Black plastic mounting brackets B. Back plate C. Nothing, screw the CBT directly onto the Mobra / pivot arm	

11	What is required to install a Mobra pivot arm in a modular box? A. No Drill Bracket B. No Drill Bracket and Corner brackets C. Flat bar	
12	If you need to install 2 CBT's in a U/G structure but there is limited space, what can you install on the pivot arm? A. The new 24 port CBT B. 3 way bracket C. A back to back bracket	
13	What can be used to support cables if no iron work is present in the U/G structure? A. Flat bar B. Strap onto existing cables C. Kit support 1A installed as an A frame	
14	Labelling our network is very important, is it true or false that we need to install a label every time a cable enters a U/G structure or a fibre enclosure? A. True B. False	
15	All fibre cables that enter a U/G structure under what diameter must be supported with flat bar or Kit Support 1A? A. 25mm B. 30mm C. 35mm	
	Total	

9 *Modular Guidance (Practical)*

The below table should be used as a guide for the Assessor to accurately assess the Delegates knowledge and ability during the practical Assessment.

Coaching Marks '**C**' are explained in the Measurement section and the total allowed can be found in Delegate Details.

If an Assessment Pointer is followed by an '**X**' then not only is **no coaching allowed,** but failure to meet the standard on the Assessment Pointer means that the standard has not been met for the accreditation a whole.

Task Assessment	Assessment Pointers	Coaching	Document Guidance
Prerequisites	Successfully completed.	X	
Questionnaire	Completed at required % or above.	X	
Trained /Skilled	Delegate has completed relevant training and craft competent to enable the installation of U/G cables using Hand Rodding Techniques.	X	
	Delegate has completed accreditation module **AEI/ACC/K008**	X	
Safety	All safety procedures followed, and safe working practices adopted.	X	
Risk Assessment	An on-site Risk Assessment should be carried out.	X	
Personal Protective Equipment (PPE)	Correct PPE held, in good condition and used where necessary	X	
Environment	All rubbish and waste removed from site when the works have been completed.	X	
Equipment Available	Delegate has the correct tools and they are in good condition to complete the task to the current work practices and quality standards.	X	
	Tools used correctly and safely.	X	
Joint Box Plant	Care taken not to cause any damage to existing plant in Joint Boxes	X	

CBT Installation	Correct CBT provided. As Planned	X	
	CBT mounted correctly and in correct position. (On a Mobra / pivot arm, Kit Support 1a if box is JB26 or smaller)	X	
	Correct amount of cable left on CBT tail for cabling / splicing	X	
	All CBT port caps present	C	
	CBT tail protected, secured and supported correctly in UG network	C	
Installation of U/G OFN cable	Cable Installed into underground ducts using hand rodding techniques (Draw rope used if cable larger Diameter than rods.)	X	
	All COBRA rod equipment is to be inspected and if there's damage - **do not use it.** Check the retained end of the COBRA rod is installed correctly and securely taped in its housing using insulating tape. Always check before using that the retained end is still in place and cannot work loose.	X	
	Draw rope secured to cable before pull	X	
	Grip used and attached to rods/rope correctly	X	
	Correct use of equipment to dispense the cable	X	
	Cable installed in short lengths.	C	
	Correct length of cable, left in joint box for splicing as per policy	X	
	Maximum pull length not exceeded	X	

	All cables correctly labelled	C	
	Cables restrained within boxes correctly	X	
	Minimum bend radius not compromised	X	

10 *References*

All the documents below are available through the sites and systems described in the Introduction section. If you require access to external sources within them, then please contact the Author (see above) of this accreditation module.

Assessors Note: All Openreach people should have access to the Policy & Build app via their work mobile phones. Please make sure that this app is accessed during the accreditation.

- EPT/ANS/A040 - One Fibre Network – Build Quality Manual for Engineers.
- SFY/HSH/A001 - Health & Safety Handbook (Openreach only)
- CPE/NNS/V060 - Guide to Health & Safety Minimum Standards.
- EPT/UGP/B009 - Removal & Replacement of Footway Jointing Chamber Covers.
- EPT/UGP/E052 – COF 600 UG Installation
- EPT/COF/D964 - Cable Optical Fibre (COF) 250 Self Rodding Fibre Cable
- EPT/ANS/A004 - Optical Cable Underground Installation & Recovery
- EPT/COF/D962 – Cable Optical Fibre 600
- NWK/LNK/C573 - TM Node Joint box Capacity
- EPT/ANS/A025 - Fibre Quality Standards

END OF DOCUMENT