openreach

ISIS Practice
For Openreach and Contract Partners

AEI/ACC/N034

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Ribbon Fibre

About this document ...

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Content approval

This is the Issue 7 of this document.
The information contained in this document was approved on 10-May-2023 by Scott Marshall, Accreditation Professional

Version History

Version No.	Date	Author	Comments
Issue 7	10-May-2023	Quality Standards & Accreditation	Version history updated as Q26 is updated and not Q27.
Issue 6	28-Apr-2023	Quality Standards & Accreditation	Document converted into new format. Questions reviewed. Updates to questions: 8, 10, 12, 17, 20, 23, 25 and 27
Issue 5	12-Jul-2022	Quality Standards & Accreditation	Document converted into new format. Questions reviewed.
Issue 4	10-May-2022	Quality Standards & Accreditation	Review date extended
Issue 4	10-May-2021	Quality standards & Accreditation Network Engineering	Document moved into new format. Module guidance updated. Safety requirements added. Bookstore links checked. Questions updated to include new cable stripper.
Issue 3	13-May-2020	Quality standards & Accreditation Network Engineering	New loop through mandrel added to Practical. Q17 added. Q24 modified. Modular Guidance updated to include Loop through mandrel installation
Issue 2	09-Apr-2020	Quality standards & Accreditation Network Engineering	Change of author. Q5,Q7 changed. Method changed, single cable now the feed. Modular Guidance updated in Tools and Equipment
Issue 1	12-Nov-2019	Quality standards & Accreditation 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:

- Technical Library, Bookstore or Policy & Build App for Openreach.
- 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 target audience for this accreditation is anyone working on the Openreach network including Contract Partners.

This module is essential for anyone carrying out Ribbon Fibre splicing. 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.

Content: It will check the Delegates understanding & ability to complete the provision of Ribbon Fibre splicing using current working practices and quality standards.

Duration: Questionnaire 60 mins **Practical:** Open

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 **ORCHK038**.

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 mandatory holding of safety and relevant access equipment, the Delegate will demonstrate to the Assessor, the correct safety practices required to successfully complete this accreditation module. This may include a check of:

- 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.ok thank you
- Roadworks guarding.
- Gas testing procedure.
- Footway cover lifting.
- Identification of carriageway covers.
- Lifter, Manhole Cover No4 (where applicable).

- Identification of associated keys.
- Method of cover removal/replacement (where applicable).
- Water test.
- Safe working practices when splicing.
- Safe disposal of fibre sharps.

6 *Method*

Questionnaire: Using reference documentation where required, the Delegate will complete the questionnaire. A maximum of **60** minutes is allowed for this exercise.

Practical: Using the correct tools, equipment and working practices, the Delegate will complete some Ribbon Fibre splicing which will include stripping and preparing the cable, introducing it into a TM (Termination Multifunction) Joint and splicing.

The practical assessment can be completed under live or simulated working conditions using one of the below methods:

- On site – During a new task.
- On site – During relevant sections of different tasks.
- Simulated in an approved Skill Centre or site.

The Assessor will then use the Module Guidance to verify their understanding and ability to carry out the task.

Practical Position 1:

1. Install a No Drill Bracket and Mobra.
2. Correctly install an Extra Large or Large TM joint within the UG (Underground) structure.
3. Prepare and strip a 432 Ribbon Fibre cable.
4. Introduce Ribbon cable into TM Joint in a loop through configuration.
5. Drop off ribbons 1 and 2 for splicing.
6. Store all remaining ribbons/bundles into the loop through mandrel.
7. Prepare a single 432 Ribbon Fibre cable and introduce it into a circular port.
8. Install ribbon trays into the correct positions within the TM Joint.

9. Splice ribbon 1 from the feed cable to ribbon 1 of the single 432 Ribbon fibre cable.
10. Prepare COF200 and ribbonise element 1.
11. Splice ribbon 2 of the feed cable to element 1 of the COF200.
12. Close TM Joint to the quality standards.
13. Support and restrain cables as required.

7 *Delegate Details*

Module No	AEI/ACC/N034
Title	Ribbon Fibre
Date	
Delegate's Name	
Delegate's UIN	
OUC	
Assessor's Name	
Assessor's UIN	
Questionnaire	PASS/FAIL
Practical	PASS/FAIL
Notes	

Questionnaire Scoring:

Total Possible Score	Score Achieved	Required Score to Pass
26		21

Practical Scoring:

Total Coaching Marks Available	Total Coached	Total Coaching Marks Allowed
9		3

8 *Questionnaire*

No.	Question	Mark(s)
1	Mass fusion splicing should only be carried out on cables produced after what year? A. 2000 B. 2010 C. 2019	
2	What type of alignment do mass fusion splicers use? A. Cladding alignment B. Core alignment C. Cleave angle alignment	
3	What benefit does the design of Ribbon Fibre cable give us? A. Higher fibre count in smaller diameter cables. B. Lower fibre count in higher diameter cables. C. Smaller bend radius	
4	What colour code is used in the Ribbon Fibre cables? A. BL, Or, Grn, Rd, Gry, Yel, Brn, Vio, Blk, W, Pk, Turq B. BL, Or, Grn, Brn, Gry, W, Rd, Blk, Yel, Vio, Pk, Turq C. BL, Or, Grn, Rd, Gry, Yel, Blk, Brn, Vio, W, Pk, Turq	
5	To avoid the need of converting from one colour code to another and to avoid confusion, when ribbon fibres are spliced to loose tube fibres the colours are spliced so that they match each other. i.e. red to red, brown to	

	brown etc A. True B. False	
6	Ribbon Fibre cable is a dry cable what does this mean? A. You cannot get the cable wet when splicing B. The cable has no grease inside it C. The fibres need to be dry before they are spliced	
7	What number fibre ribbon do the stripe ring markings shown below identify?  A. 1-3 B. 3-6 C. 5-3	
8	The ribbon splicer is a very sensitive piece of equipment, what must be done to make sure the machine performs correctly? A. The clamps and v grooves must be kept clean and clear of dust and dirt B. The battery must always be fully charged C. The splicer needs to be plugged into the mains for the best results	
9	Which splice protector should be used for Ribbon Fibre? A. Protector splice 5A B. Protector splice 6 C. Protector splice 7A	

10	What size sub duct is 432 Ribbon cable blown into? A. Sub Duct Mono Bore (SDMB)3 B. SDMB5 C. SDMB6	
11	What diameter is the 432 Ribbon cable? A. 15.6mm B. 12.5mm C. 11.6mm	
12	What circular port kit should be used for installing a 432 Ribbon cable into a TM Node? A. TM Circular Port Kit for a single COF200 COF201 or COF209 cable B. TM Extra Large & Large Node Oval Port kit for COF 200, 201 or COF209 C. TM Circular Port Kit for a single 20-23mm diameter cables	
13	What tool should be used to perform circumferential and longitudinal cuts on the cable sheath? A. Nippers diagonal B. Miller MB02-7000 tool C. Stripper cable sheath 8	
14	What fuse is required when hand pulling 864f directly in to duct? A. 800N B. 1500N C. 2000N	
15	How many binder units are there in COF800 864f?	

	A. 12 B. None C. 4 D. 6	
16	True or false - When removing the cable sheath from a mid-section of cable for loop through, the longitudinal cut is performed before the circumferential cuts. A. True B. False	
17	How is the COF800 secured for a loop through configuration into a Large / X Large Node? A. Only cable tie at the bottom of the bracket to the cable is required B. Secure the cable to the strength member retaining post with a metal tie or jubilee clip. C. Remove half a section of sheathing and trim to fit into the strength member retaining post. D. Use a TM Oval Port Kit COF 800	
18	When using the Miller MB02-7000 tool, what else will you need? A. Nothing B. Insert for correct cable type C. Sub-duct Mono-bore Cutter Circumferential 1A	
19	What is used to protect the elements from the cable butt? A. 10mm Kopex	

	B. Transport tube 5mm C. Element Support Tube 3a	
20	What method is used to store the looped through elements in the TM Node? A. Plastic bag B. Loop through mandrel C. Yellow tape	
21	When introducing a ribbon cable into a Cable Chamber Joint (CCJ), what should be used for gas blocking? A. Prysmian CCJ Port kit - Resin 10b B. Prysmian CCJ Port kit - Compound 16 C. TM circular port kit - No seal required	
22	Before cleaving, what should be used to clean the fibres? A. Alcohol wipe B. One click cleaner C. An unused Lint free tissue/wipe with approved cleaning fluid.	
23	Can High Capacity Single Element tray (HCSE) trays be used to accommodate Ribbon Fibre splices? A. Yes, but you can only leave 500mm of spare fibre B. No, they are not deep enough C. Yes, but you need to change the splice protector for a 1B	
24	How many ribbons can each tray accommodate? A. 1 B. 3	

	C. 12	
25	How can you quickly identify which Ribbon bundles have been installed in each tray? A. it is marked with a Gold pen B. Splice protector label C. Binder tape on tray	
26	What information should be on the Splice Protector label? A. Node ID B. Fibre numbers C. Installers UIN/EIN/PN	

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 as a whole.

Task Assessment	Assessment Pointers	Coaching	Document Guidance
Questionnaire	Completed at required % or above.	X	
Trained /Skilled	The Delegate is trained, experienced and craft competent in this skill.	X	
Safety	All safety procedures were followed,	X	

	and safe working practices were adopted.		
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	Weather conditions considered before commencing work.	X	*If required*
	All rubbish and waste removed from the 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	
	Correct cleaning process carried out on the 70R+.	X	
	Correct cleaning process carried out on the CT50.	X	
	Correct cleaning process carried out on the RS03.	X	
	Cleaver batteries have sufficient charge for blade monitoring systems to work.	C	
Extra Large/Large TM Joint	Mobra installed correctly.	X	
	Joint mounted correctly on Mobra/mounting kit with all nuts/bolts present and correctly tightened.	X	
	Correct tray types are installed and used correctly.	X	
	All Port Sealing Kits are fitted correctly	X	
	All cables were stripped, installed and sealed correctly	X	
	Joint closed and stored correctly on completion	X	
Fibre	Cables were stripped using the	X	

Management	correct tools and practices.		
	Elements routed to trays on the correct side.	C	
	Elements are prepared and stripped correctly at the specified position.	C	
	Ribbons are protected with an element support tube and labelled.	C	
	Fibres are routed and stored in trays correctly.	X	
	Fibres of non-Ribbon cables are ribbonised correctly.	X	
	Bend Radii is not compromised.	X	
	Fibres are spliced, protected and are stored correctly.	X	
	Splices labelled correctly.	C	
	Coloured binding fitted to trays to identify ribbon bundles.	C	
	Any single or spare fibres stored correctly.	X	
	All fibre splices completed.	X	
Cable/Joint Support, Restraint and Labelling	All cables are labelled correctly using Cable Marker Optical and the correct label.	C	
	UG cables are marked with yellow tape when no factory makings exist.	C	
	Cables/BFT/Sub Duct supported and restrained correctly.	X	
	Delegate understands the correct methods of support and restraint.	X	
	Node is labelled with a durable indelible marker, visible when the closure is fitted in the jointing chamber.	C	
General	All work is carried out as per Job pack / FNC's.	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.

- SFY/HSH/A001 - Health & Safety Handbook (Openreach only).
- CPE/NNS/V060 - Guide to Health & Safety Minimum Standards.
- SFY/HSH/C031 - Openreach Construction Design Management (CDM) 2015 Regulations Policy.
- EPT/COF/D533 - Ribbon Fibre Cable Installation Practices
- EPT/COF/D532 - Ribbon Mass Fusion Splicing
- NWK/LNK/C212 - Fibre – Spine Planning – Policy
- AEI/AEC/B331 - Fibre Cleaning Process

END OF DOCUMENT