Duct Access – Guidance to operators implementing duct access

This document is to be read in conjunction with the wholesale regulated Duct Access product documentation (Product Description, IPM and Technical & Operational Manual)"

Contributors

Open eir

Version

V 1.0

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March 2018	M. Heffernan	New document for guidance to other operators implementing duct access

1. Introduction

At the duct access ingress and egress locations (A and B) the Operator is permitted to break into the open eir chamber for the purpose of inter-connecting their co-located chambers with the open eir chambers via a duct; a 50mm duct is sufficient for applications requiring single or three way 14/10mm sub-duct. Once the interconnecting duct is in place open eir will push (for a reasonable distance) the 14/10mm sub-duct(s) as required from the Open eir chamber to the co-located Operator chamber. The operator blows fibre cable from their chamber between the ingress point and the egress point.

2. Responsibilities of the Operator

The Operator must ensure that:

- Their operational procedures comply with the "open eir Duct Access Technical & Operational Manual" This manual contains a set of technical and mandatory operational procedures to be followed by Operators when accessing or installing cable in specified open eir duct.
- the operatives engaged by the Operator are trained to safely complete the tasks involved, including the completion of the necessary safety checks such as checking for gas and foul air before commencing work.
- advance notice (as per the technical manual) is provided to open eir of Operator planned work ; others scheduled to work along the route need to be aware that the operator will be blowing fibre.
- an open eir PQO agrees the location of the access hole prior to the operative core drilling the access hole in the open eir chamber; the access hole is located towards the edges of a chamber wall and the edge of the access hole is a minimum of 50mm from an inside corner of the chamber and 50mm from the floor of the chamber; end wall access is preferable but in some locations side wall access may be acceptable; locating the Operator access hole in or towards the horizontal centre of a chamber side wall is to be avoided.

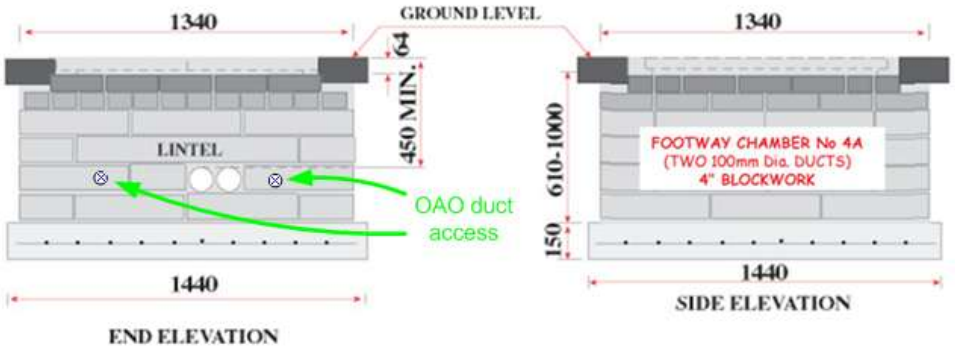

Figure 1 - Example of suitable Operator duct access points in a JB4A chamber

- The access hole does not compromise the structural integrity of the chamber.
- the access hole for the duct is core drilled and the hole size is no bigger than necessary to accept the duct (50mm I/D duct is sufficient for a three way sub-duct).
- any gap between the Operator duct and the chamber wall is sealed with a concrete mix

- a duct interconnecting an Operator chamber and an open eir chamber is sealed at both ends with an open eir approved duct seal, see Appendix 1 for details of approved duct seals.
- Sub-ducts are sealed with open eir approved FTTx push on connectors, See Appendix 1.

In the event of a mid-point blow

The Operator will not require access to open eir chambers along the route, however if the route length exceeds the capacity of the blowing machine then the Operator can request access to an intermediate open eir chamber to complete a mid-point blow under open eir supervision.

In the event that a mid-point cable blow is permitted at the location, the Operator must ensure that open eir approved FTTx push on connectors are used to seal the sub-duct once the mid-point blow is completed.

The operator is not permitted to deploy any equipment including cable slack boxes in an open eir chamber, if these are required by the operator then they must be deployed in Operator co-located chambers.

For information, Open eir use a piece of split Copex to protect a minimum size cable coil in the chamber, the coil is an unavoidable by-product of a mid-point blow. The photos below show split gas seals applied to both ends of the sub-duct and on the right a piece of split Copex used to protect the exposed fibre cable. An operator may at a permitted location adopt this practice at their own risk.

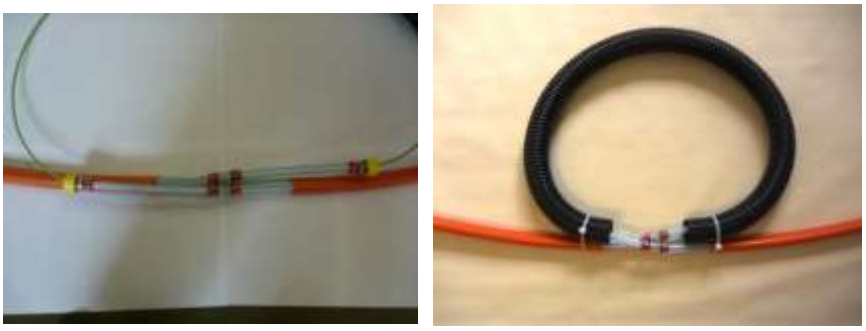

Figure 2 - Gas blocks applied to sub-duct on the left and with protective split Copex coil on the right

Appendix 1
Approved Products

A. Approved materials for sealing ducts

Note for an inner diameter of 50mm use TDUX-60 and for an inner diameter of 95mm use TDUX- 100.

Sizing/ordering information

Dimensions (in mm)

Product description	Application range: TDUX will seal vacant ducts and ducts occupied with 1 or 2 cables*			
	Duct inside diameter range		Corresponding outside diameter range for 1 cable or sum of 2 cables	
	min.	max.	in min. duct	in max. duct
TDUX-35	25	35	0-12	0-25
TDUX-45	32,5	45	0-14	0-32
TDUX-60	45	60	0-18	0-45
TDUX-75	55	75	0-28	0-56
TDUX-90	80	100	0-22	0-83
TDUX-100	75	110	0-45	0-90
TDUX-125	110	125	0-83	0-103

* To seal ducts occupied with more than 2 cables, TDUX-CL clips are available as separate items. Contact your local sales engineer for more specific information.

Installation tools

TDUX duct seals can be installed with a wide variety of inflation tools, having the capability to inflate TDUX to 3,0 ± 0,2 bar of pressure.

TDUX-IT-16

Inflation tool using CO2 gas cylinders. The tool is designed with an ON/OFF switch and has an automatic pressure monitoring system to guarantee the required inflation pressure of 3,0 ± 0,2 bar.

TDUX-IG-SR-AS

Inflation gun to be connected to a pressurised air bottle, pump or compressor, having an outlet pressure of 4 to 10 bar to feed the inflating gun.
The inflating gun is designed with a safety relief valve and audio signal device to facilitate the installation.

B. FTTx push-Fit Connectors

Approved Openeir Supplier:

Radius Plastics Ltd
Halfpenny Industrial Estate
Parkview St, Portadown Rd
BT66 8TP, Lurgan, Co. Armagh, UK

(Use BT668QF for Sat Nav)

t: +44 (0)28 4066 9999

e: info@radius-systems.com

End Stop

- For sealing the end of an open microtube

Tube OD (mm)	Pack Qty	Product Code
3	100	UV0255
4	100	UV0256
5	100	UV0257
6	100	UV0258
7	100	UV0259
8	100	UV0260
10	100	UV0261
12	100	UV0262
14	100	UV0150
16	100	UV0263

Straight Connector

- For joining microtubes of the same OD and ID

Tube OD (mm)	Tube ID (mm)	Pack Qty	Product Code
3	2.1	100	UV0205
4	2.5	100	UV0206
5	3.5	100	UV0207
5	2.1	100	UV0208
7	5.5	100	UV0211
7	3.5	100	UV0212
8	6	100	UV0213
8	3.5	100	UV0214
10	8	100	UV0216
12	10	100	UV0217
12	8	100	UV0218
14	12	100	UV0219
14	10	100	UV0220
16	12	100	UV0221

Reducer

- For joining microtubes of different outer diameters

Microduct A		Microduct B		Pack Qty	Product Code
Tube OD (mm)	Tube ID (mm)	Tube OD (mm)	Tube ID (mm)		
5	3.5	3	2.1	100	UV0153
5	3.5	4	2.5	100	UV0154
7	5.5	3	2.1	100	UV0156
7	5.5	5	3.5	100	UV0158
10	8	5	3.5	100	UV0160
10	8	7	5.5	100	UV0161
12	10	5	3.5	100	UV0163
12	10	7	5.5	100	UV0164
12	10	10	8	100	UV0166
14	10	10	8	100	UV0167
14	10	12	10	100	UV0168
16	12	12	10	100	UV0169

Gas Block Connector

- Provides a watertight and gastight seal
- The internal seal can be opened to blow cable through and closed after installation to provide a complete seal
- Tube to tube connection
- Caters for various cable diameters

Tube OD (mm)	Cable OD Range (mm)	Pack Qty	Product Code
4	Fibre Unit	100	UV0184
5	Fibre Unit	100	UV0185
5/4	Fibre Unit	100	UV0186
7	1/3.8 Cable	100	UV0188
7	2/5.5 Cable	100	UV0187
10	1-4 Cable	100	UV0191
10	3-6 Cable	100	UV0202
10	5-8 Cable	100	UV0190
12	3-6 Cable	100	UV0193
12	5-8 Cable	100	UV0194
12	7-10 Cable	100	UV0192
14	3-6 Cable	100	UV0197
14	5-8 Cable	100	UV0196
14	7-10 Cable	100	UV0200
14	9-12 Cable	100	UV0195
16	9-12 Cable	100	UV0198

Gas Block End Stop

- Provides a watertight and gastight seal for the end of a microtube
- Tube to cable seal
- Caters for various cable diameters

Tube OD (mm)	Cable OD Range (mm)	Pack Qty	Product Code
7	1-3.8	100	UV0370
7	2-5.5	100	UV0267
10	1-4	100	UV0371
10	3-6	100	UV0202
10	5-8	100	UV0268
12	3-6	100	UV0373
12	5-8	100	UV0374
12	7-10	100	UV0269
14	3-6	100	UV0375
14	7-10	100	UV0376
14	5-8	100	UV0270
14	9-12	100	UV0377
16	9-12	100	UV0271

C. Tubing Flexible 28mm I/D

Approved Openeir Supplier:

RWL Advanced Solutions Ltd
Unit 15 Park West Road
Park West Industrial Estate
Dublin 12