Specs and Techs: fibreDUCT™

Description:

Microduct and Multiduct are conduits used in Fiber Optic installations to route and protect the sensitive Fiber optic cable. In some installations only single ducts are used and in most other installations multi ducts are used.

Features and Benefits:

- MicroDucts are produced as Single Ducts, and factory bundled with polyethene over sheaths to suit Client requirements for MultiDuct.
- Multiple pathways for an optimised installation cost allow for flexibility and future growth.
- Standard tools or equipment are utilised, the same as for traditional conduit or innerduct installation.
- Multiple configurations available.

Applications:

- Suited to Direct Bury for some configurations and Direct Installation within a sleeve for other.
- It can be installed in an HDPE pipe and sub-duct.
- Certified for FTTx deployment.

Installation Types:

Subdivided Conduit	Directional Bore	Micro Trench
Plow	Tray	Trench

Configurations:

Single duct	2-way	3-way	4-way	7-way	8-way
10-way	12-way	19-way	24-way		

Construction	
Tubes:	The individual tubes are manufactured from high-density polyethylene and have co-extruded silicone layers with a low co-efficient of friction.
Sheathing:	The sheathing is High-Density Polyethylene with UV stabilization.
Drum Length:	Each drum is shipped with an estimated 1000m up to 2000m lengths, depending on configuration. Length may vary by 0.1%. Special configurations might vary from the above lengths.

MultiDuct Colours (TIA/EIA Standards)	**BLUE**	**ORANGE**	**GREEN**	**BROWN**	**SLATE**	**WHITE**	*Additional colours available as per customer specifications*
	RED	**BLACK**	**YELLOW**	**VIOLET**	**ROSE**	**AQUA**	

Mechanical Tests and Compliance Criteria		
Impact Resistance:	Test Method IEC 60794-1-2 Method E4	Compliance
Crush Resistance:	Test Method IEC 60794-1-2 Method E3	Compliance
Tensile Performance:	Test Method IEC 60794-1-2 Method E1	Compliance
Flexibility (Bend):	Test Method IEC 60794-1-2 Method E6	Compliance
Kink Resistance:	After 10 minutes no kinking shall occur.	Compliance
Friction Co-efficient:	The calculated friction co-efficient shall be less than 0.1	Compliance
Hydrostatic Pressure Test:	MicroDuct shall not burst.	Compliance
Chemical Resistance:	The duct shall withstand chemical treatment.	Compliance
Environmental Stress Cracking:	No cracks or ruptures shall be visible.	Compliance

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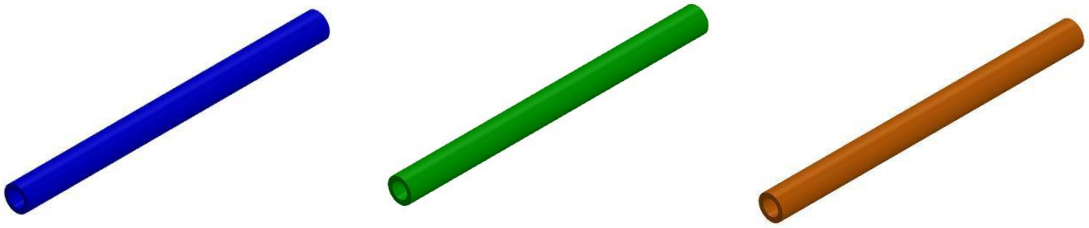
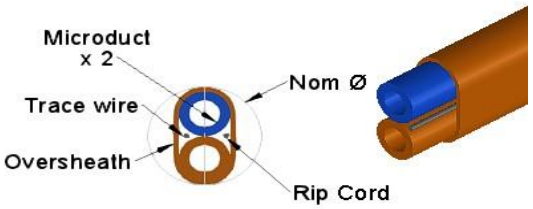
Specs and Techs: Single Duct



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	24.8	140	200
8/5	8	5	29.5	160	220
12/8	12	8	60	160	240
12/10	12	10	32.8	160	240
14/10	14	10	72.2	160	280
16/12	16	12	84.5	160	320
16/13	16	13	63.6	160	320
18/14	18	14	94.2	180	360
18/15	18	15	73	180	360

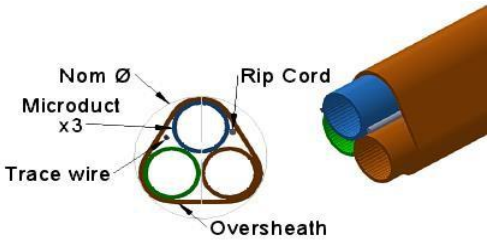
Specs and Techs: MultiDuct 2-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	87.3	100	200
8/5	8	5	1	101.5	110	220
12/8	12	8	1	182.2	260	520
12/10	12	10	1	127.8	260	520
14/10	14	10	1	217.3	300	600
16/12	16	12	1	251.6	340	680
16/13	16	13	1	209.2	340	680
18/14	18	14	1	286.2	340	680
18/15	18	15	1	259.4	340	680

* Unsupported Bend Radius guidelines should be followed during the installation process. The Supported Bend Radius are post-installation measurements.

Specs and Techs: MultiDuct 3-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	118.9	156	312
8/5	8	5	1	138.9	175	350
12/8	12	8	1	253.8	283.6	567.20
12/10	12.7	10	1	172.2	283.6	567.20
14/10	14	10	1	303.3	326.6	653.2
16/12	16	12	1	351.8	350	700
16/13	16	13	1	288.2	352	705
18/14	18	14	1	400.1	412.8	825.6
18/15	18	15	1	334.1	412.8	825.60

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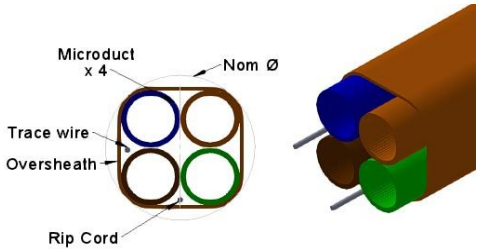
Specs and Techs: MultiDuct 4-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	150.2	165	330
8/5	8	5	1	175.9	190	280
12/8	12	8	1	325.3	315	630
12/10	26,5	10	1	216.5	315	630
14/10	14	10	1	389.4	358	716
16/12	16	12	1	451.9	416.3	832.60
16/13	16	13	1	367.1	416.3	832.60
18/14	18	14	1	514.4	455	910
18/15	18	15	1	426.4	455	910
22/16	22	16	1.25	564	71	1194

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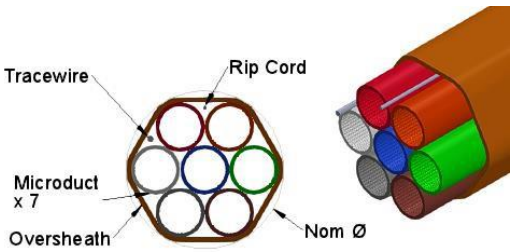
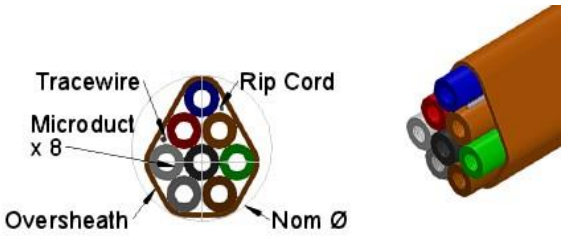
Specs and Techs: MultiDuct 7-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	238	216	432
8/5	8	5	1	279.7	244	488
12/8	12	8	1	528.3	385	770
12/10	38,5	10	1	337.9	385	770
14/10	14	10	1	634.2	445	890
16/12	16	12	1	737	460	920
16/13	16	13	1	588.6	460	920
18/14	18	14	1	840.8	560	1120
18/15	18	15	1	686.8	560	1120

* Unsupported Bend Radius guidelines should be followed during the installation process. The Supported Bend Radius are post-installation measurements.

Specs and Techs: MultiDuct 8-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	269.6	270	540
8/5	8	5	1	316.9	313	626
12/8	12	8	1	599.8	463.6	927.2
12/10	12.7	10	1	382.2	463.6	927.2
14/10	14	10	1	720.1	542.2	1084.4
16/12	16	12	1	837.4	611.1	1222.2
16/13	16	13	1	667.8	611.1	1222.2

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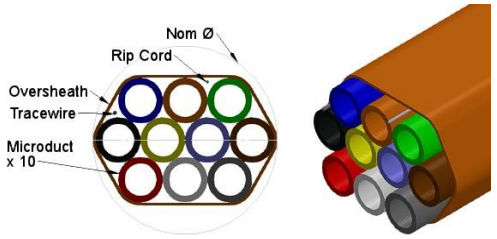
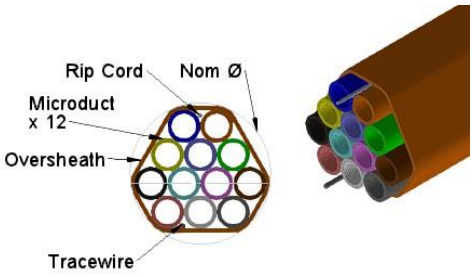
Specs and Techs: MultiDuct 10-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	336.6	244	488
8/5	8	5	1	383.6	244	488
12/8	12	8	1	731.4	500	1000
12/10	12.7	10	1	459.4	500	1000
14/10	14	10	1	879	580	1160

* Unsupported Bend Radius guidelines should be followed during the installation process. The Supported Bend Radius are post-installation measurements.

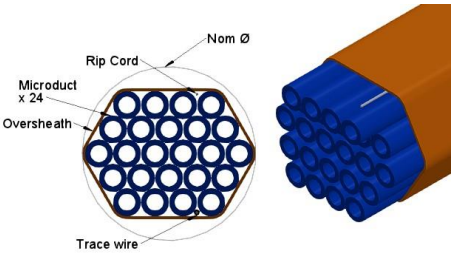
Specs and Techs: MultiDuct 12-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	382.3	272	544
8/5	8	5	1	450.3	349	698
12/8	12	8	1	720	510	1020
12/10	12.7	10	1	393.6	510	1020
14/10	14	10	1	1037.4	590.80	1181.60

* Unsupported Bend Radius guidelines should be followed during the installation process. The Supported Bend Radius are post-installation measurements.

Specs and Techs: MultiDuct 24-Way



MicroDuct OD/ID (mm)	Nom OD (mm)	MicroDuct Min ID (mm)	Over sheath (mm)	Weight (g/m)	Bend Radius Sup* (mm)	Bend Radius UnSup* (mm)
7/4	7	4	1	714.2	338	676
8/5	8	5	1	851	593	1186

* Unsupported Bend Radius guidelines should be followed during the installation process. The Supported Bend Radius are post-installation measurements.

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