

Micro-Path™

Microduct Piping System

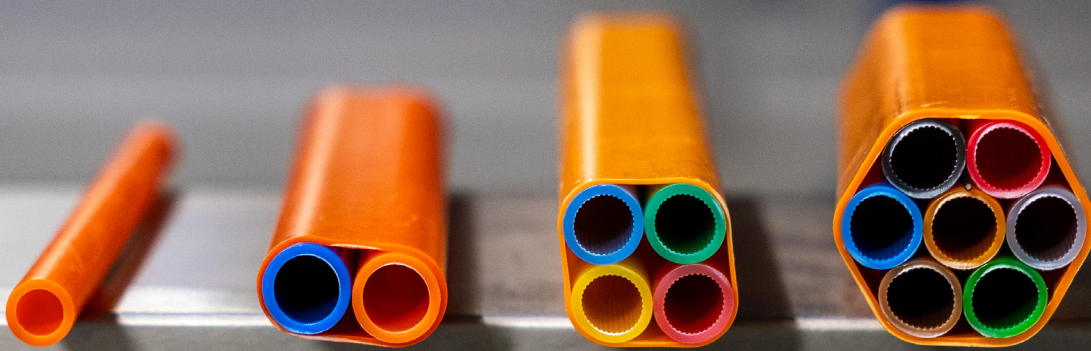


Table of Contents

- 3** What is Microduct?
- 4** Microduct Selection Guidelines
- 5** Installation Methods
- 6** Micro-Path™ | 27mm / 20mm(1.06 in / 0.78 in)
- 7** Micro-Path™ | 22mm / 16mm (0.866 in / 0.629 in)
- 8** Micro-Path™ | 18mm / 14mm (0.710 in / 0.540 in)
- 9** Micro-Path™ | 16mm / 13mm (0.629 in / 0.512 in)
- 10** Micro-Path™ | 16mm / 12mm (0.629 in / 0.472 in)
- 11** Micro-Path™ | 14mm / 10mm (0.551 in / 0.394 in)
- 12** Micro-Path™ | 12.7mm / 10mm (0.50 in / 0.39 in)
- 13** Micro-Path™ | 12mm / 8mm (0.472 in / 0.315 in)
- 14** Micro-Path™ | 10mm / 6mm (0.39 in / 0.23 in)
- 15** Micro-Path™ | 8mm / 6mm (0.31 in / 0.23 in)
- 16** Micro-Path™ | 7mm / 3.5 mm (0.276 in / 0.318 in), 7mm / 4 mm (0.276 in / 0.157 in)
- 17** Micro-Path™ | 3mm / 2 mm (0.12 in / 0.08 in), 5mm / 3mm (0.19 in / 0.13 in)



What is Microduct?

Micro-Path Applications

Recent improvements in fiber construction have made microducting and micro-cabling an economical option to traditional cabling products. They provide a robust solution for upgrading today's aging infrastructure. Micro-Path, Atkore's exclusive Microduct piping system, provides a full range of microducting and micro-cabling solutions.

Microduct is ideal for any application where traditional conduit installations occur. It is the best solution for upgrading or replacing existing communications infrastructure and is well suited for tight or constricted areas where there is no room for expansion or new installation of traditional cable. Applications include telecommunications providers, utility solutions, hospitals, utility and energy providers, transportation, entertainment, government facilities, corporate complexes, university campuses, military site applications and anywhere high-speed communications are needed.



Broadband Network: Fiber-to-the-home (FTTH), Fiber-to-the business (FTTB) and Fiber to the X (FTTX) or multiple destinations, providers using optical fiber to provide high speed service to end subscribers and long-haul, backhaul and premise fiber deployments.



Education: Adapts new communication technologies for campus environments and allow for interaction between outside organizations nationally and abroad for greater connectivity and collaboration. Promotes distance learning.



Hospitals: Secure the entire hospital network to stay current with advances in data-intensive medical technology and limits staff and patient disruptions.



Residential: Helps with fiber installations to the home so developers can provide high-speed internet service to their customers while allowing for future upgrades.



Government: Fiber installation, additions and changes can be made quickly and enable segmented and secure networks in the same microduct configuration.

Advantages of Microduct Over Traditional Cabling Outlays

Micro-Path™ Microduct Piping System pathways provide a permanent installation that satisfies your immediate communication requirements and leaves sufficient pathway for future expansions. Any moves, adds or changes in the network are quickly accommodated utilizing the pathway and accessories.

- Easy and quick installation in direct buried applications using minimally invasive micro-trenching equipment.
- Superior mechanical and environmental protection for lightweight microfiber optical cables, which can be easily installed using various air blowing techniques, or traditional cable pulling and/or pushing methods.
- Increased flexibility for telecom carriers due to the ease at which service laterals and drops can be reconfigured and installed as customer demand increases.
- Small diameter microduct products are offered in a wide variety of configurations, giving carriers the option to install into existing occupied conduits.
- Help to future proof carrier networks: optic cables are easily removed and replaced with high-density, higher-fiber count cables as demand increases.
- Riser-rated microduct products provide safe, flexible, lightweight, durable and easy to-install pathways to deploy bare fiber and microfiber cables inside a multi-dwelling unit (MDU) or commercial building.

Microduct Selection Guidelines

Select the proper size microduct by using the Microduct Selection Guidelines table.

Fiber Counts Installed	1-12F	24-72C	96-144C	216-288C
OD of Cable	1.0-2.0mm	3.2-5.8mm	6.8 - 8.0mm	8.4-9.2mm
Microduct Tube	3.5mm	8mm	10mm	12mm

Numerous Styles & Sizes Available:

Primary Duct Size		Number of Duct in Bundle
1.06 in / 0.78 in	27mm/20mm	1
0.866 in / 0.629 in	22mm/16mm	2-7 (+0.47 in central duct)
0.787 in / 0.63 in	20mm/16mm	2-12 (+0.47 inch central duct)
0.710 in / 0.540 in	18mm /14mm	1 - 7 (+0.47 inch central duct)
0.629 in / 0.512 in	16mm /13mm	1 - 7 (+0.47 inch central duct)
0.629 in / 0.472 in	16mm /12mm	1 - 12 (+0.47 inch central duct)
0.551 in / 0.394 in	14mm /10mm	2 - 7 (+0.47 inch central duct)
0.5 in / 0.394 in	12.7mm/10mm	2-7 (+0.47 in central duct)
0.472 in / 0.315 in	12mm /8mm	2 - 12 (+0.315 inch central duct)
0.39 in / 0.23 in	10mm /6mm	2 - 24 (+0.55 inch central duct)
0.276 in / 0.138 in, and 0.276 in / 0.157 in	7mm /3.5mm, and 7mm /4mm	2 - 24 (+0.55 inch central duct)
0.12 in / 0.08 in, 0.19 in / 0.13 in, and 0.31 in / 0.23 in	3mm /2mm, 5mm /3mm, and 8mm /6mm	1 - 24 (+ central duct)

HDPE Conduit Color Chart

Micro-Path is available in the following colors.

BLUE
ORANGE
GREEN
BROWN
GREY
WHITE
RED
BLACK
YELLOW
VIOLET
PINK
AQUA
BLACK WITH WHITE STRIPE

*Colors may vary slightly

Optional Tracer Wire

Micro-Path can be manufactured with 100% American-made Copperhead® copper-clad steel wire designed for open cut, directional drill, and pipe bursting, with a protective jacket. Reach out to our team for size availability.

Made in the U.S.A.

All Atkore microduct products are made in the U.S.A. Micro-Path complies with the following standards:



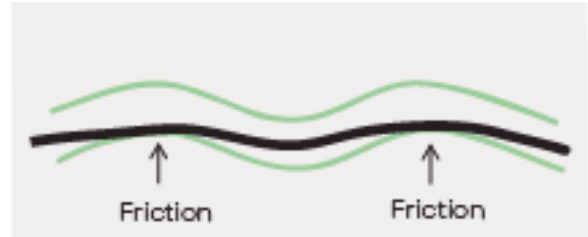
Installation Methods

Installation

Microduct products may be installed in direct burial applications via micro-trenching or in microduct pathways via air blowing techniques or traditional cable pulling/pushing. Microducts future-proof networks since additional fiber cables can be placed at a later time in response to demand and capacity increases. Often additional microducts are installed and left open or vacant, providing pathways for future expansion. Alternatively, higher-density, higher-fiber count micro-cables can easily be pulled through existing conduit to replace conventional cabling.

Rapid, safe and smooth installation with air blowing methods (ABC)

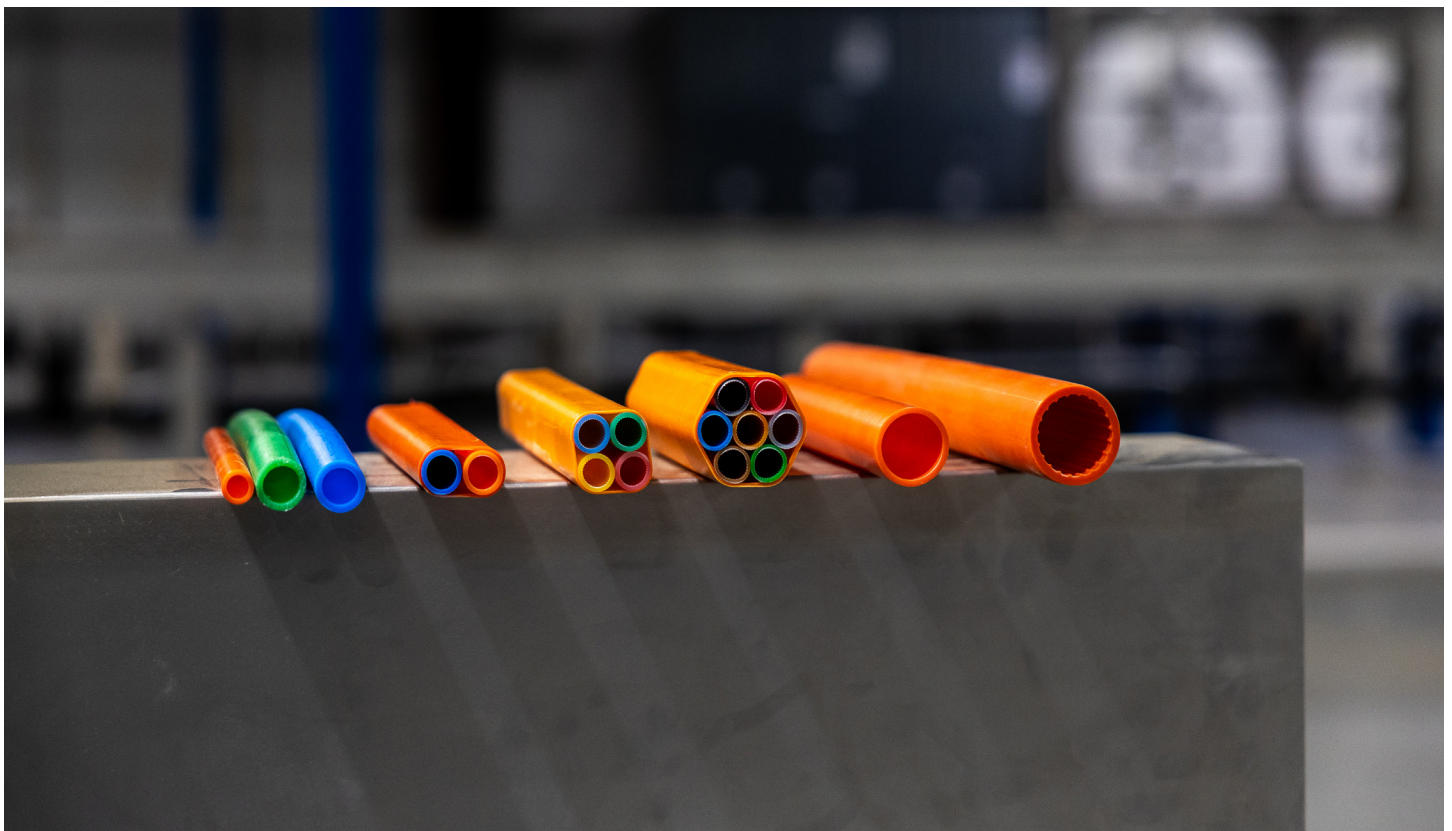
ABC installations are done by an air blowing technique that reduces the risk of damage to the fiber cable, accelerates installation time and increases the installation distance.



Pulling



Blowing



Product Characteristics

- High-Density Polyethylene
- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles: 1
- Installation types: Override, Plow, Trench, Directional, Micro Trenching
- Build America, Buy America Compliant



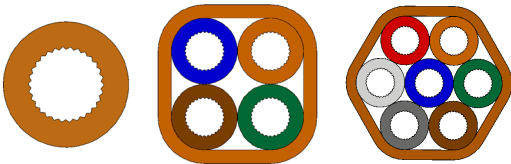
Product Details

Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
Single	1.07 inner / 0.78 outer	0.132	0.07	701	3.118	11 supported / 21 unsupported

* After applying pulling tensions, allow time for the pulled product to relax.
** This radius relates to the microduct capability only and does not indicate a good radius for blowing fiber.

Product Characteristics

- High-Density Polyethylene
- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles:
2-7 (+0.47 in central duct)
- Installation types: Override, Plow, Trench, Directional, Micro Trenching
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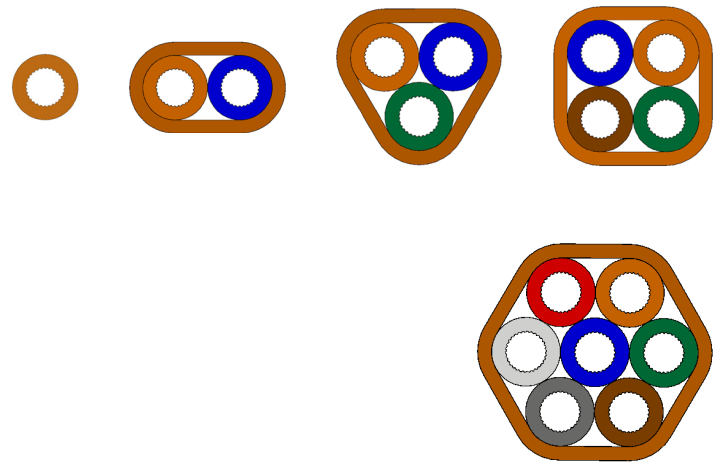
Product Details

Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
Single	0.866	0.116	--	615	2.735	9 supported / 18 unsupported
4-Way DBMF	2.21	0.613	0.07	2840	12.632	28 supported / 47 unsupported
7-Way DBMF	2.69	1.047	0.07	5588	24.856	38 supported / 63 unsupported

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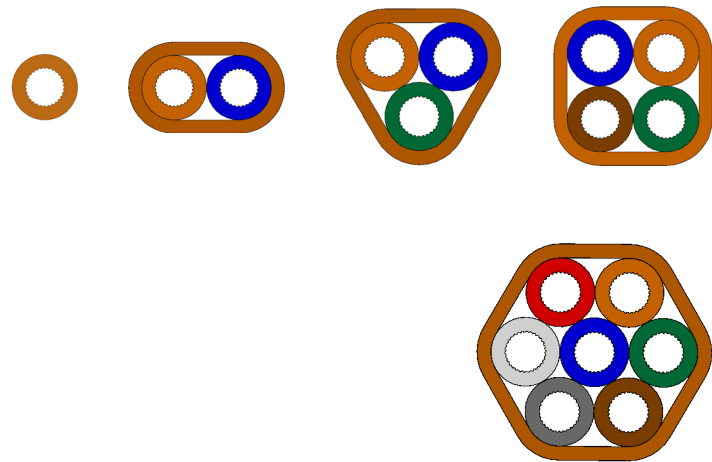
Product Details

Type	Diameter	Mass	Wall Thickness	Safe Working Pull Strength	Bend Radius	
					Supported	Unsupported
	in	lbs per mile	in	lbs	in	in
Single	0.710 outer / 0.540 inner	0.066	--	352	7	14
2-Way DBMF	1.560 outer / 0.540 inner	0.244	0.07	1316	16	31
3-Way DBMF	1.670 outer / 0.540 inner	0.330	0.07	1776	22	37
4-Way DBMF	1.860 outer / 0.540 inner	0.417	0.07	2243	19	37
7-Way DBMF	2.270 outer / 0.540 inner	0.656	0.07	3522	31	52

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- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles:
1 – 7 (+ 0.47 inch central duct)
- Installation types: Override, Plow, Trench,
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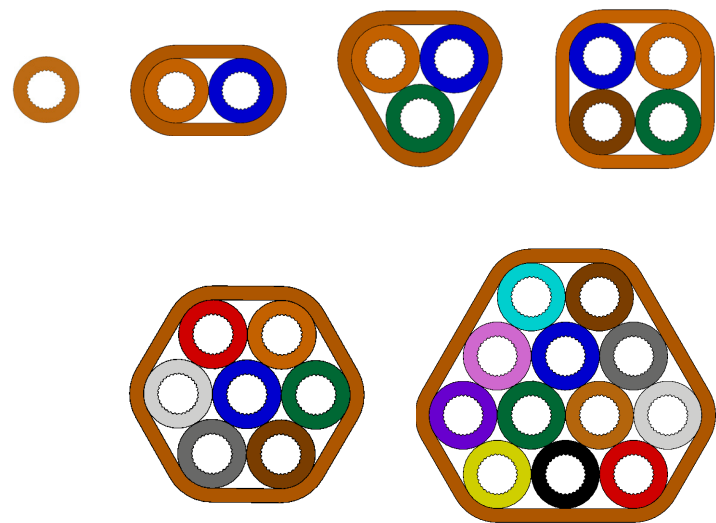
Product Details

Type	Diameter	Mass	Wall Thickness	Safe Working Pull Strength	Bend Radius	
					Supported	Unsupported
	in	lbs per mile	in	lbs	in	in
Single	0.629 outer / 0.512 inner	0.043	--	229	6	13
2-Way DBMF	1.350 outer / 0.512 inner	0.153	0.07	824	14	27
3-Way DBMF	1.490 outer / 0.512 inner	0.247	0.07	1331	20	33
4-Way DBMF	1.650 outer / 0.512 inner	0.308	0.07	1658	25	41
7-Way DBMF	2.030 outer / 0.512 inner	0.471	0.07	2530	20	41

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Product Characteristics

- High-Density Polyethylene
- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles:
2 - 12 (+ 0.47 inch central duct)
- Installation types: Override, Plow, Trench, Directional, Micro Trenching
- Build America, Buy America Compliant



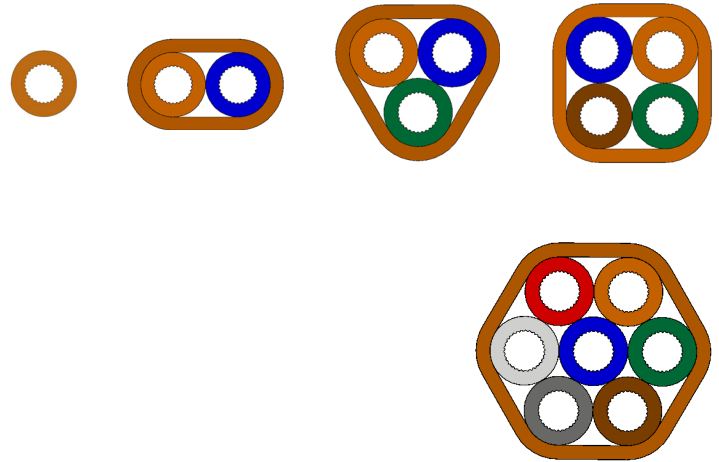
Product Details

Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
Single	0.629 outer / 0.472 inner	298	--	262	1.19	6.299 warm / 8.661 cold
2-Way DBMF	1.346 outer / 0.716 inner	915	0.07	523	2.37	7.086 warm / 9.448 cold
3-Way DBMF	1.976 outer / 0.716 inner	1288	0.07	772	3.57	7.086 warm / 9.448 cold
4-Way DBMF	1.634 across outer corners	1724	0.07	1047	4.75	22.441
7-Way DBMF	1.976 across outer corners	2647	0.07	1830	8.3	33.465
12-Way DBMF	2.642 outer	4314	0.07	3131	14.2	50.118

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- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles:
2-7 (+ 0.47 inch central duct)
- Installation types: Override, Plow, Trench,
Directional, Micro Trenching
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Product Details

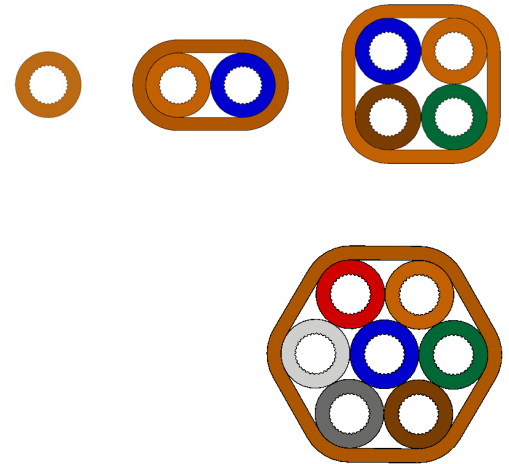
Type	Diameter	Mass	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**	Crush Load	
	in	lbs per mile	lbs	kN	in	lbs	kN
Single	0.551 (+/- 0.004) outer / 0.394 (0.386 min) inner	259.05	110.2	0.5	8.268	110.2	0.5
2-Way DBMF	1.181 outer / 0.630 inner	762.96	269.7	1.2	9.449	269.7	1.2
3-Way DBMF	1.732 outer / 0.630 inner	1114.08	382.2	1.7	9.449	382.2	1.7
4-Way DBMF	1.417 across outer corners	1429.89	449.6	2	19.685	449.6	2
7-Way DBMF	1.732 across outer corners	2238.72	786.8	3.5	29.528	786.8	3.5

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Product Characteristics

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- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles:
2-7 (+0.47 in central duct)
- Installation types: Override, Plow, Trench, Directional, Micro Trenching
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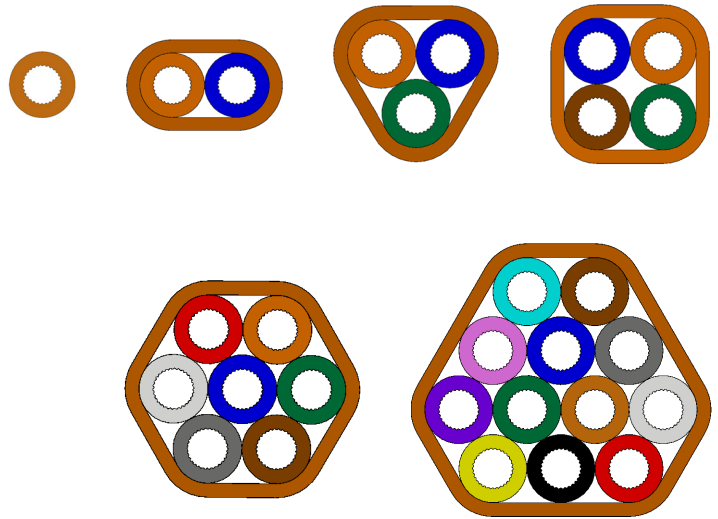
Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
Single	0.50	0.032	--	167	0.742	5 supported / 10 unsupported
2-Way DBMF	1.10	0.119	0.07	635	2.824	11 supported / 22 unsupported
4-Way DBMF	1.29	0.236	0.07	1260	5.604	13 supported / 27 unsupported
7-Way DBMF	1.58	0.360	0.07	1926	8.567	16 supported / 33 unsupported

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Product Characteristics

- High-Density Polyethylene
- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles:
2-12 (+0.315 in central duct)
- Installation types: Override, Plow, Trench,
Directional, Micro Trenching
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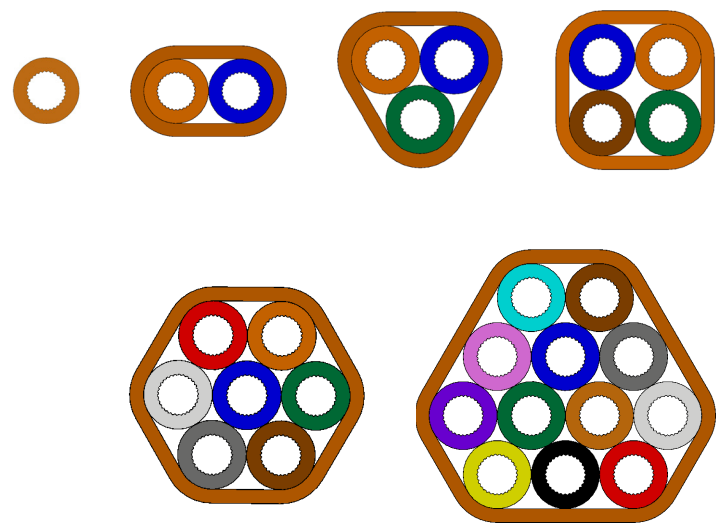
Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
Single 8mm	0.315 outer / 0.138 inner	134.64	--	55.1	0.25	3.149
Single 12mm	0.472 outer / 0.315 inner	212.85	--	8.2	0.4	4.724
2-Way DBMF	0.551 outer / 1.023 inner	652.74	0.07	198.4	0.9	8.661
3-Way DBMF	0.551 outer / 1.496 inner	947.43	0.07	308.7	1.4	8.661
4-Way DBMF	1.220 across outer corners	1252.68	0.07	396.8	1.8	17.323
7-Way DBMF	1.496 across outer corners	1883.97	0.07	617.3	2.8	25.591
12-Way DBMF	2.008 outer	3058.44	0.07	1058.2	4.8	27.559

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Product Characteristics

- High-Density Polyethylene
- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles: 2-12 (+ 0.55 inch central duct)
- Installation types: Override, Plow, Trench, Directional, Micro Trenching
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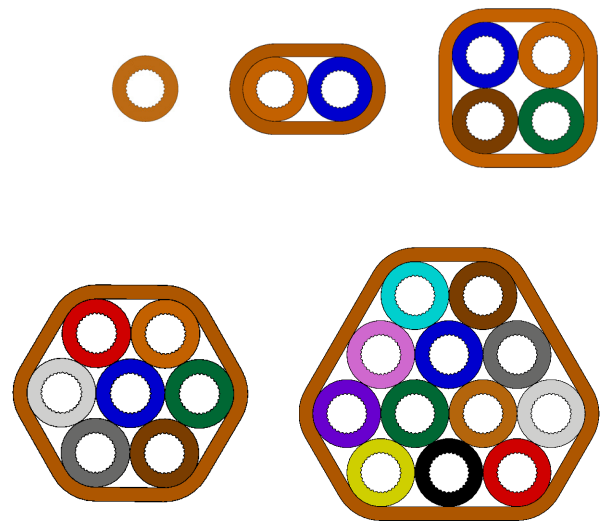
Product Details

Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
Single	0.39 outer / 0.24 inner	170.3	--	88.2	0.40	4.72
2-Way DBMF	0.48 x 0.87	542.8	0.07	308.6	1.40	8.66
3-Way DBMF	0.93	752.2	0.07	418.8	1.90	13.78
4-Way DBMF	1.03	982.8	0.07	551.1	2.50	13.38
7-Way DBMF	1.26	1543.4	0.07	881.8	4.00	21.65
12-Way DBMF	1.68	2504.8	0.07	1433	6.50	29.52

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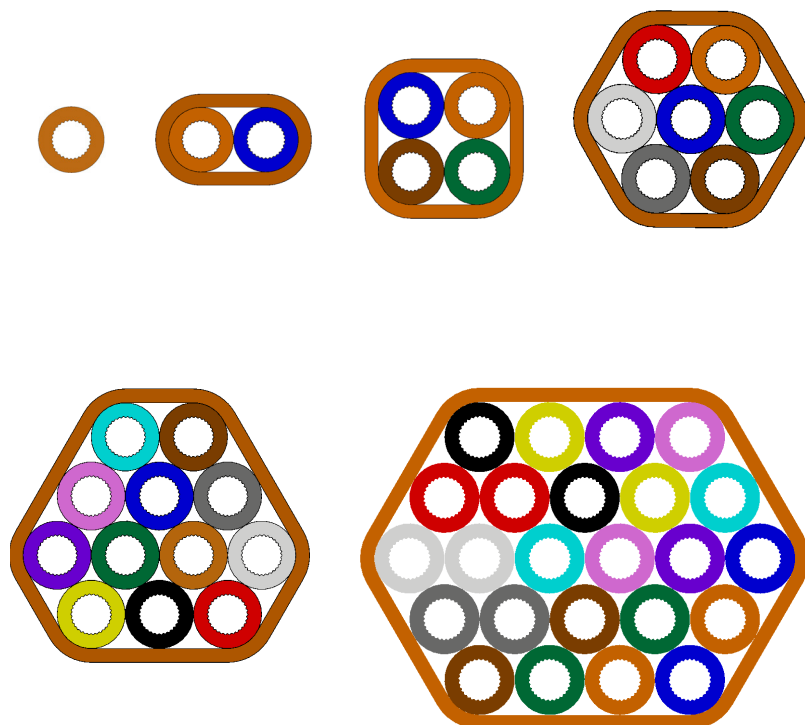
Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
0.31 in / 0.23 in 8mm / 6mm)						
Single	0.31 outer / 0.23 inner	--	--	30.8	0.14	3.15
1-Way DI	0.43	276.7	0.07	132	0.60	5.91
2-Way DI	0.43 x 0.75	454.1	0.07	220	1.00	5.91
4-Way DI	0.86	723.7	0.07	330	1.50	11.81
7-Way DI	1.06	1036.1	0.07	440	2.00	14.57
12-Way DI	1.42	1575.3	0.07	705	3.20	21.65

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Micro-Path™ | 7mm / 3.5 mm (0.276 in / 0.318 in) and 7mm / 4 mm (0.276 in / 0.157 in)

Product Characteristics

- High-Density Polyethylene
- UV protection up to 1 year
- Smooth or ribbed inner surface
- Multiple colors and striping offered
- Number of single micro-ducts in bundles: 2-24 (+ 0.55 inch central duct)
- Installation types: Override, Plow, Trench, Directional, Micro Trenching
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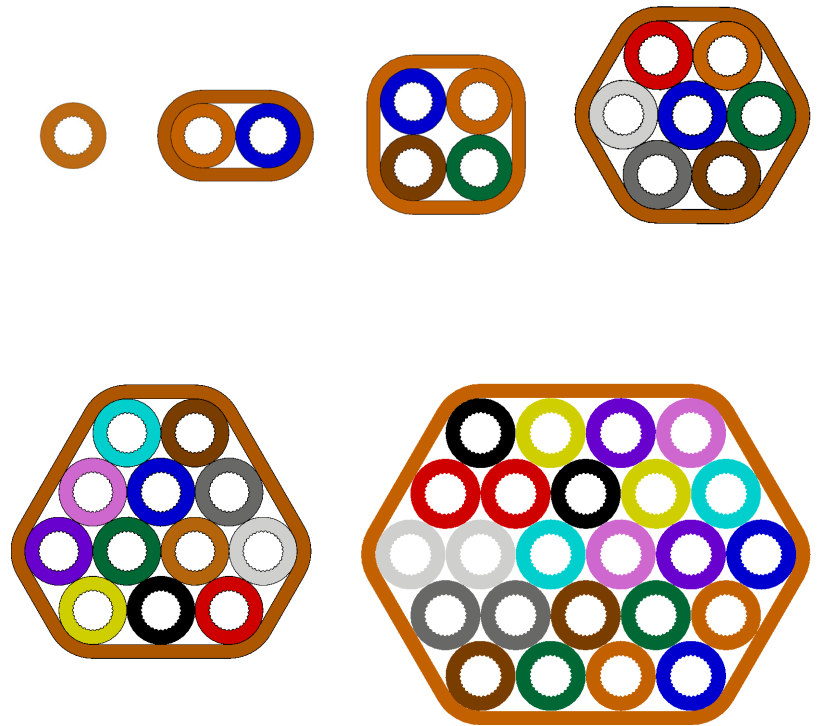
Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
Single +/- 0.004 / +/- 0.008	0.276 outer / 0.551 inner	99.3	--	86	0.39	3.9
Single +/- 0.004 / +/- 0.004	0.276 outer / 0.157 inner	88.7	--	77	0.35	2.7
Single +/- 0.008 / +/- 0.008	0.551 outer / 0.394 inner	255.5	--	225	1.02	8.9
0.276 in / 0.138 in (7mm / 3.5mm)						
2-Way DBMF	0.36 x 0.64	344.1	0.07	171.9	0.78	6.3
4-Way DBMF	0.75	603.2	0.07	343.9	1.56	12.9
7-Way DBMF	0.91	943.7	0.07	595.2	2.70	15.7
12-Way DBMF	1.21	1522.1	0.07	1036.1	4.70	20.8
24-Way DBMF	1.74	3051.2	0.07	2072.3	9.40	29.5
0.276 in / 0.157 in (7mm / 4mm)						
2-Way DBMF	0.36 x 0.64	322.8	0.07	154.3	0.70	6.3
4-Way DBMF	0.75	564.1	0.07	308.6	1.40	12.9
7-Way DBMF	0.91	876.3	0.07	540.1	2.45	15.7
12-Way DBMF	1.21	1401.4	0.07	925.9	4.20	20.8
24-Way DBMF	1.74	2813.5	0.07	1851.9	8.40	29.5

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Product Details

Type	Diameter	Mass	Wall Thickness	Max. Pull Tension - Installation*		Min. Bend Radius of Primary Duct**
	in	lbs per mile	in	lbs	kN	in
0.19 in / 0.13 in (5mm / 3mm)						
Single	0.19 outer / 0.13 inner	--	--	15.4	0.07	1.96
1-Way DI	0.31	173.8	0.07	88	0.40	4.72
2-Way DI	0.31 x 0.51	273.2	0.07	132	0.60	4.72
4-Way DI	0.59	418.6	0.07	154	0.70	7.87
7-Way DI	0.71	574.7	0.07	330	1.50	9.45
12-Way DI	0.91	851.5	0.07	352	1.60	12.21
19-Way DI	1.06	1167.3	0.07	551	2.50	14.17
24-Way DI	1.29	1550.4	0.07	881	4.00	19.68

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Notes

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Notes

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**BUILDING BETTER
TOGETHER**

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