

**MICROTECHNOLOGY**

# MICRODUCTS HDPE

- HDPE MicroDucts available from 5mm OD – 27mm OD
- Coextruded with SILICORE® ULF permanent lining to reduce friction on cable installs
- Utilize space in an occupied duct
- Revitalize existing networks with Over-Rides
- Substantially reduce construction costs & deployment time
- Install up to 432 count fiber MicroCables
- Check specifications below



**INSTALLATION TYPES**

Subdivided Conduit  
 Overrides  
 Plow Installations  
 Trench Installations  
 Directional Bore  
 MicroTrench  
 Tray Installations

**SIZE RANGE AVAILABLE (OD/ID MM)**

27/20	16/12	8.5/6
22/18	14/10	8/6
22/16	12.7/10	7/3.5
18/14	12.7/8	5/3.5
18/10	12/10	
16/13	10/8	

**STANDARD COLORS**



Custom Colors Available

<b>FEATURES</b>	<b>STANDARD</b>
	<b>SPECIFICATIONS/DETAILS</b> MicroDucts are smaller diameter conduit, manufactured from flexible HDPE (High Density Polyethylene)
	<b>FILL RATIO</b> Choose the correct MicroDuct size based on the Outer Diameter (OD) of desired MicroCable. Dura-Line recommends a fill ratio of 50% to 75% for optimal cable placement performance. Several factors impact jetting distance including the condition of route, bends, and equipment.
	<b>CONDUIT MARKINGS</b> Permanent marking along MicroDuct includes: material, relevant standards, production info, and sequential feet or meter markings. Custom options available.
	<b>CO-EXTRUDED</b> Lining SILICORE® ULF (Ultra-Low Friction) is co-extruded inside the HDPE wall creating a slick, permanent, interior lining. SILICORE® ULF exhibits no loss in performance over time or in extreme temperature conditions.
	<b>INTERNAL RIBS</b> Standard (except 3.5mm ID which are designed with a standard smooth interior)
	<b>OPTIONS</b>
	<b>PRE-INSTALLED STRING</b> Factory pre-installed Pull String available in MicroDucts to aid in cable placement.
	<b>PRE-INSTALLED FIBER</b> Fiber cable or cordage can be factory pre-installed in MicroDucts



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## PRODUCT RECOMMENDATIONS



**APPLICATION (DI/DB)** If a MicroDuct size has a thicker wall, it is recommended for direct bury (DB) applications either alone or in a FuturePath configuration, and will maintain optimal fill ratios for faster, easier installations. If the MicroDuct size has a thinner wall, it is optimized for placement inside an existing conduit, like an Over-Ride or populating an existing conduit. The direct install (DI) product is chosen where protection is provided by the existing conduit and space is more sensitive.

### MICRODUCTS TECHNICAL SPECIFICATIONS

MICRODUCT SIZE (MM)	APPLICATION (DB/DI)	NOM OD (MM/IN)	MIN ID (MM/IN)	WEIGHT (LB/FT)	BEND RADIUS SUP (IN)	BEND RADIUS UNSUP (IN)	SWPS (LBS)
5/3.5	DI	5/0.20	3.4/0.13	0.006	2	4	33
7/3.5	DB	7/0.28	3.7/0.15	0.018	3	6	97
8/6	DI	8/0.31	5.8/0.23	0.014	3	6	76
8.5/6	DI,DB	8.5/0.34	5.9/0.23	0.018	3	7	96
10/8	DI	10/0.39	8.1/0.32	0.018	4	8	93
12/10	DI	12/0.47	9.9/0.39	0.021	5	9	114
12.7/8	DB	12.7/0.50	7.9/0.31	0.050	5	10	268
12.7/10	DI,DB	12.7/0.50	9.8/0.39	0.032	5	10	167
14/10	DB	14/0.55	9.8/0.39	0.050	6	11	264
16/12	DB	15.9/0.63	11.6/0.46	0.058	6	13	305
16/13	DI	16/0.63	12.8/0.50	0.043	6	13	229
18/10	DB	18/0.71	10/0.39	0.110	7	14	581
18/14	DB	18/0.71	13.6/0.54	0.066	7	14	352
22/16	DB	22/0.87	15.4/0.61	0.116	9	18	615
22/18	DB, DI	22/0.87	18/0.71	0.083	9	17	425
27/20	DB	26.7/1.05	20.7/0.81	0.132	11	21	701

† Safe working pull strength is calculated at 80% of tensile or breaking strength

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

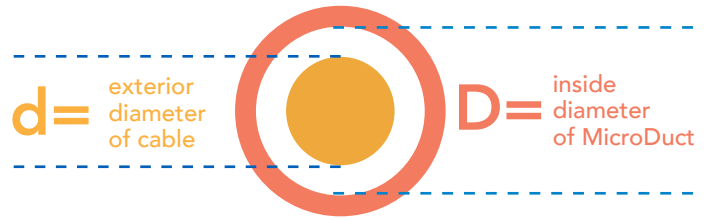


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## CALCUTE $(d/D)*100=\%$ CABLE FILL RATIO

TO CALCULATE THE FILL RATIO, divide the cable diameter (**d**) by the interior dimension (**D**) of the MicroDuct. To achieve maximum jetting performances, Dura-Line recommends a fill ratio between 50% and 75%. Several factors impact jetting performance, including the condition of route, bends, and equipment.



### RECOMMENDED FIBER FILL RATIOS

MICRODUCT SIZE* (MM)	FIBER COUNT†	FIBER CABLE OD RANGE (MM)
5/3.5	up to 12	1.8 – 2.6
8.5/6	up to 96	3.0 – 4.5
10/8	up to 96	4.0 – 6.0
12.7/10	up to 144	5.0 – 7.5
14/10	up to 144	5.0 – 7.5
16/12	up to 192	6.0 – 9.0
16/13	up to 288	6.5 – 9.8
18/10	up to 144	5.0 – 7.5
18/14	up to 288	7.0 – 10.5
22/16	up to 432	8.0 – 12.0
22/18	Up to 432	9.0 - 13.5
27/20	up to 432	10.0 – 15.0

\*Other sizes available, please contact Customer Service for details †Fiber count subject to change

### RECOMMENDED MICRODUCT FILL RATIOS

DUCT SIZE	16MM/13MM	12.7MM/10MM	12MM/10MM	10MM/8MM
1"	1	2	2	3
1 1/4"	2	3	4	5
1 1/2"	2	4	6	8
2"	5	7	8	10

Numbers can vary based on the path of the existing conduit, bend radii, elevation changes, distances, and installation method.



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