Power and Communications Market Products

HDPE Conduit Product Suite



Atkore™
United Poly Systems

Comm-Line™



Atkore's Comm-Line is one of the most commonly used conduit solutions for telecommunications and fiber-optic projects across the United States. Comm-Line is typically identified by a solid orange or terracotta color. However, Comm-Line is available in 12 colors, and added striping can result in up to 144 variations to meet any project requirement. Special coloring and print line information can be used to identify the product and differentiate it from other company's lines that might be sharing the same trench. Comm-Line is available for delivery on segmented reels; separate lines can be wound on a single reel for easy installation of multiple lines at the job site.

Sizes Available:

- IPS (Iron Pipe Size) in diameters from ¾ to 16 inches
- DIPS (Ductile Iron Pipe Size) in diameters 4 inches and up

Installation Methods:

- Plow
- Direct burial
- HDD (horizontal directional drilling)
- Within existing conduit

Colors:

- Available in 12 colors
- Added striping can result in up to 144 variations to meet any project requirement
- Special coloring or print line identification used to identify and differentiate the product

Delivery Methods:

- Segmented reels
- Separate lines can be wound on a single reel for easy installation of multiple lines at the job site

Print Line Information

Comm-Line is sequentially marked and identified along its outer length in contrasting color.

The print interval is every two feet and includes the following:

Manufacturer's Name: United Poly Systems PRODUCT SIZE/SDR

Production Code Date, Location, Period SPECIFICATION

Length of Conduit (in feet)

Options

- Straight longitudinal internal ribbing is available for 2 inch diameter conduit and below. Uniform straight internal ribbing spans the length of the pipe.
- Optional custom print lines are available and may include customer name, project name, application and lightning bolt.
- Pull tape is offered in several tensile strengths. Atkore - United Poly Systems standard pull tape is 1130 lb strength. Other options include strengths from 200 to 2500 lb.
- Several colors and stripes are offered to customize the product to the customer's needs. We offer custom colors upon request.

HDPE conduit material definition according to ASTM F2160

Property	Range or Minimum Requirement	Units	Cell Class	Test Method
Density	0.941 - 0.955	g/cc	3	ASTM D 792 or 1505
Melt Index	< 0.25 - 0.40	g/10 minutes	3 or 4	ASTM D 1238
Flexural Modulus	110,000 - 160,000	psi	4 or 5	ASTM D 790
Tensile Strength	3000 - 4000	psi	4 or 5	ASTM D 638
Environmental Stress Crack Resistance	F20 > 192	Hours (condition C)	3 or 4	ASTM D 1693
HDB	Not Defined		0, 1, 2, 3 or 4	ASTM D 2837

These are nominal values and used as guidelines only.
This is not a product specification and does not indicate minimum or maximum operating values.

NSF Certification

Atkore conduit products are available with independent NSF certification to the strict requirements of the relevant safety standard (UL651A). Additional Atkore locations are in the process of obtaining this certification.

NSF certification indicates that the manufacturing site has been audited by the testing agency and meets follow-up inspections for verification of continued conformance to the UL standard.



HDPE Conduit IP Sizes

IPS Size	Avg. OD	SDR PSI	7 335	7.3 320	9 250	11 200	13.5 160	15.5 139	17 130	19 110	21 100	26 80	32.5 65
½	0.84	Min Wall Avg ID Weight lb/ft	– – –	– – –	0.093 0.648 0.092	0.076 0.683 0.077	0.062 0.712 0.064	– – –	– – –	– – –	– – –	– – –	– – –
3/4	1.05	Min Wall Avg ID Weight lb/ft	0.150 0.732 0.180	– – –	0.117 0.802 0.150	0.095 0.849 0.120	0.078 0.885 0.100	– – –	– – –	– – –	– – –	– – –	– – –
1	1.315	Min Wall Avg ID Weight lb/ft	0.188 0.916 0.288	0.180 0.933 0.278	0.146 1.005 0.230	0.120 1.061 0.200	0.097 1.109 0.160	– – –	– – –	– – –	– – –	– – –	– – –
1 ¼	1.66	Min Wall Avg ID Weight lb/ft	0.237 1.157 0.459	0.227 1.178 0.442	0.184 1.292 0.370	0.151 1.358 0.310	0.123 1.414 0.250	0.107 1.446 0.224	0.107 1.465 0.206	– – –	– – –	– – –	– – –
1 ½	1.90	Min Wall Avg ID Weight lb/ft	0.271 1.325 0.600	0.260 1.348 0.580	0.211 1.478 0.480	0.173 1.554 0.400	0.141 1.618 0.330	0.123 1.654 0.295	0.112 1.676 0.270	– – –	– – –	– – –	– – –
2	2.375	Min Wall Avg ID Weight lb/ft	0.339 1.656 0.939	0.325 1.685 0.906	0.264 1.815 0.760	0.213 1.917 0.640	0.176 2.002 0.530	0.153 2.069 0.458	0.140 2.078 0.430	0.125 2.110 0.390	0.113 2.135 0.350	– – –	– – –
2 ½	2.875	Min Wall Avg ID Weight lb/ft	0.411 2.004 1.377	0.394 2.040 1.329	0.319 2.198 1.109	0.262 2.351 0.930	0.213 2.449 0.764	0.213 2.424 0.771	0.169 2.516 0.622	– – –	– – –	– – –	– – –
3	3.50	Min Wall Avg ID Weight lb/ft	0.500 2.44 2.040	0.479 2.484 1.968	0.389 2.675 1.660	0.318 2.826 1.390	0.259 2.951 1.150	0.226 3.048 0.997	0.206 3.063 0.932	0.184 3.110 0.840	0.167 3.146 0.770	0.135 3.214 0.63	0.1076 3.285 0.494
4	4.50	Min Wall Avg ID Weight lb/ft	0.643 3.137 3.372	0.616 3.193 3.253	0.500 3.440 2.740	0.409 3.633 2.290	0.333 3.794 1.900	0.290 3.920 1.645	0.265 3.938 1.514	0.237 3.998 1.390	0.214 4.046 1.260	0.173 4.133 1.03	0.138 4.207 0.83
5	5.563	Min Wall Avg ID Weight lb/ft	0.795 3.878 5.170	0.762 3.947 4.975	0.618 4.253 4.180	0.506 4.490 3.510	0.412 4.690 2.910	0.359 4.844 2.517	0.327 4.870 2.352	0.293 4.942 2.120	0.265 5.001 1.930	0.214 5.109 1.57	0.171 5.20 1.27
6	6.625	Min Wall Avg ID Weight lb/ft	0.946 4.619 7.330	0.908 4.701 7.059	0.736 5.065 5.930	0.602 5.349 4.970	0.491 5.584 4.130	0.427 5.771 3.566	0.390 5.798 3.340	0.349 5.885 3.010	0.315 5.957 2.730	0.255 6.084 2.23	0.204 6.193 1.781
7	7.125	Min Wall Avg ID Weight lb/ft	– – –	– – –	– – –	– – –	– – –	– – –	0.419 6.236 3.821	0.375 6.330 3.442	0.339 6.406 3.128	0.274 6.544 2.553	0.219 6.660 2.057
8	8.625	Min Wall Avg ID Weight lb/ft	1.232 6.013 12.385	1.182 6.120 11.963	0.958 6.593 9.988	0.784 6.963 8.359	0.639 7.271 6.939	0.556 7.445 6.100	0.507 7.549 5.597	0.454 7.663 5.044	0.411 7.754 4.591	0.332 7.922 3.744	0.265 8.062 3.012
10	10.75	Min Wall Avg ID Weight lb/ft	1.536 7.494 19.245	1.473 7.628 18.581	1.194 8.218 15.515	0.977 8.678 12.983	0.796 9.062 10.774	0.694 9.280 9.490	0.632 9.409 8.695	0.566 9.551 7.838	0.512 9.665 7.128	0.413 9.873 5.805	0.331 10.049 4.689
12	12.75	Min Wall Avg ID Weight lb/ft	1.821 8.889 27.062	1.747 9.047 26.138	1.417 9.747 21.837	1.159 10.293 18.267	0.944 10.748 15.155	0.823 11.006 13.348	0.750 11.160 12.238	0.671 11.327 11.021	0.607 11.463 10.023	0.490 11.710 8.169	0.392 11.918 6.587
14	14.00	Min Wall Avg ID Weight lb/ft	2.000 9.760 32.635	1.918 9.934 31.511	1.556 10.702 26.329	1.273 11.302 22.030	1.037 11.801 18.279	0.903 12.085 16.082	0.824 12.254 14.763	0.737 12.438 13.292	0.667 12.587 12.093	0.538 12.858 9.848	0.431 13.087 7.952
16	16.00	Min Wall Avg ID Weight lb/ft	2.286 11.154 42.629	2.192 11.353 41.157	1.778 12.231 34.384	1.455 12.916 28.777	1.185 13.487 23.872	1.032 13.812 21.005	0.941 14.005 19.269	0.842 14.215 17.355	0.762 14.385 15.789	0.615 14.695 12.866	0.492 14.956 10.37

This is not a product specification and does not indicate minimum or maximum operating values. These are nominal values and used as guidelines only.

HDPE Conduit SCH 40 and SCH 80 Sizes

SCH	SIZE OD	3/4 1.05	1 1.31	1 1/4 1.66	1 1/2 1.90	2 2.37	2 1/2 2.87	3 3.50	4 4.50	5 5.56	6 6.62
40	Min Wall Avg ID Weight lb/ft	0.113 0.804 0.215	0.133 1.030 0.145	0.140 1.360 0.291	0.145 1.590 0.349	0.154 2.047 0.469	0.203 2.445 0.744	0.216 3.042 0.973	0.237 3.998 1.387	0.258 5.016 1.882	0.280 6.031 2.443
80	Min Wall Avg ID Weight lb/ft	0.154 0.722 0.188	0.179 0.936 0.277	0.191 1.255 0.383	0.200 1.476 0.465	0.218 1.913 0.644	0.276 2.290 0.982	0.300 2.864 1.315	0.337 3.786 1.923	0.375 4.768 2.668	0.432 5.709 3.669

Note: 4"sch 40, 5" sch 40 & 6" sch 40 & sch 80 are NON COILABLE items due to thin walls

Minimum Bend Radius

Minimum Bend Radius for PE Pipe Installed in Open Cut Trench

Dimension Ration, DR	Minimum Cold Bend Radius
7, 7.3, 9	20 x Pipe OD
11, 13.5	25 x Pipe OD
17, 21	27 x Pipe OD
26	34 x Pipe OD
32.5	42 x Pipe OD
41	52 x Pipe OD
Fitting or flange present in bend	100 x Pipe OD

Safe Working Pull Strength

Safe Pull Tensile Stress at 73 degrees

Dimension Ration, DR	Typical Safe Pull Stress (psi) @ 73 °F		
	PE2xxx (PE2406)	PE3xxx (PE3408)	PE4xxx (PE4710)
0.5	1100	1400	1500
1	1050	1350	1400
12	850	1100	1150
24	800	1050	1100

The safe pull stress is the stress at 3% strain. For strains less than 3%, the pipe will essentially have complete strain recovery after pullback.

Part Number Builder

All Atkore Legacy brand part numbers have been replaced, and we now reference our individual HDPE products in literature, labeling and price sheets using the part number builder and a 4-6 digit system SKU number, which are used for RFQ's, order entry and invoicing.

Atkore part numbers are created using ten different values describing the attributes that make up each product and are used to easily identify each product's characteristics.

D 1250 5 A OR NN 2 N S TS

Part No. Sections	Product	Size	SDR (SIDR)	Segmented	Color	Strip	Pull Tape	Lube	Ribbing	Market
Sample Section Value	Conduit/Duct	1.25"	13.5	Single way reel	Orange	None	1130#	None	Smooth	Smooth
Sample Value Code	D	125	05	A	OR	NN	2	N	S	TS
Code Finder	Conduit/Duct = **D** UL Listed = **U**	¾" = **075** 1" = **100** 1.25" = **125** 1.5" = **150** 2" = **200** 2.5" = **250** 3" = **300** 4" = **400** 5" = **500** 6" = **600**	SDR 7 = **01** SDR 9 = **02** SDR 11 = **03** SDR 11.5 = **04** SDR 13.5 = **05** SDR 15.5 = **06** SDR 17 = **07** SDR 19 = **08** SDR 21 = **09** SDR 32.5 = **10** SDR 40 = **11** SDR 80 = **12** SDR 5 = **13** SDR 26 = **16**	Single way reel = **A** 2way reel = **B** 3way reel = **C** 4way reel = **D**	None = **NN** Black = **BK** Red = **RD** Orange = **OR** Tan = **TN** Slate = **ST** Gray = **GY** None = **NS** Green = **GN** Blue = **BL** Pink = **PK** White = **WH** Terra Cotta = **TC** Lime = **LM** Brown = **BN** Lilac = **LC**	None = **NN** Black = **BK** Red = **RD** Orange = **OR** Tan = **TN** Slate = **ST** Gray = **GY** None = **NS** Green = **GN** Blue = **BL** Pink = **PK** White = **WH** Terra Cotta = **TC** Lime = **LM** Brown = **BN** Lilac = **LC**	None = **N** 200# = **1** 1130# = **2** 1250# = **3** 1800# = **4** 2500# = **5** 2500# Detectable = **6** 1250# Detectable = **7** 1800# Detectable = **8** 4000# = **9**	None = **N** Lubricated = **Y**	Smooth = **S** Ribbed = **R**	Conduit (Telco/Power) = **TS** UL 651a Listed = **US**

Scan to build a part number and get a quote.

Micro-Path™

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, United Poly Systems' 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 this 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.

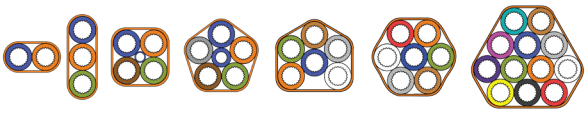
Microduct selection guidelines

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 and sizes available:

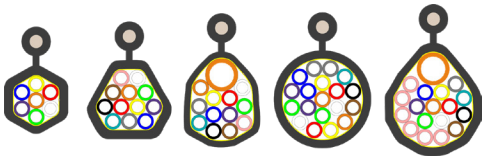
Primary Duct Size		Number of Duct in Bundle
0.629 in / 0.472 in	16mm / 12mm	1 - 12 (+0.47 inch central duct)
0.551 in / 0.394 in	14mm / 10mm	2 - 7 (+0.47 inch central duct)
0.472 in / 0.315 in	12mm / 8mm	2 - 12 (+0.315 inch central duct)
0.39 in / 0.23 in	10mm / 6mm	2 - 24 (+0.55 inch central duct)
0.276 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)
Aerial		
0.19 in / 0.13 in	5 mm / 3.5 mm	4, 7, 9, 10, 12, 17, 19 and 25 way
Low Fire Hazard		
0.19 in / 0.12 in	5 mm / 3 mm	2 - 24 (+ central duct)



Micro-Path™ 0.629 in / 0.472 in | 16mm / 12mm
(more configurations and sizes available)



Low Fire Hazard



Aerial

Scan to download Micro-Path specs.

Cable-in-Conduit



General Information

Conduit Markings

Permanent marking along conduit includes material, relevant standards, production info, and sequential feet or meter markings. Custom options available.

Specifications

All smoothwall conduit is manufactured to meet or exceed the following standards: ASTM F-2160, ASTM D-3350, and ASTM D-3485.

UV Protection

Standard One-Year UV Protection Color Package. Additional UV packages available by request.

Pre-Installed Cable

Pre-installed cable components for Service Drops, Fiberoptics, Coaxial Cable, 600 Volt Al, 600 Volt Cu, Medium Voltage. Single or multiple cable pre-install with other custom options available.

Features & Applications

Features

- Smooth, solid-wall, continuous length conduit
- No limitations on color availability; most frequently requested in orange, black, grey, and red with stripes
- Date of manufacture and sequential length markings
- High tensile and compression strength
- UV stabilization additive

Applications

- Power and Communications
- Product can be installed using HDD (horizontal directional drilling), plowing, planting, or open trench



Cable-in-Conduit

HDPE conduit material definition according to ASTM F2160

Property	Range or Minimum Requirement	Units	Cell Class	Test Method
Density	0.940 >	g/cc	3	ASTM D 792 or 1505
Melt Index	<0.4	g/10 minutes	3 or 4	ASTM D 1238
Flexural Modulus	80,000 >	psi	4 or 5	ASTM D 790
Tensile Strength	3000 >	psi	4 or 5	ASTM D 638
Environmental Stress Crack Resistance	F10>96	Hours (condition C)	8	ASTM D 1693

Nominal values that serve as guidelines.

HDPE Smoothwall

HDPE IPS Smoothwall

IPS Size	Average OD	SCH	DR 13.5	DR 11	Schedule 40	Schedule 80
1 ¼	1.66	Min Wall	0.123	0.151	0.14	0.191
		Avg ID	1.394	1.338	1.36	1.258
		Weight lb/ft	0.263	0.312	0.293	0.379
1 ½	1.90	Min Wall	0.141	0.173	0.145	0.2
		Avg ID	1.599	1.535	1.59	1.48
		Weight lb/ft	0.341	0.406	0.35	0.459
2	2.375	Min Wall	0.176	0.216	0.154	0.218
		Avg ID	2.003	1.923	2.047	1.919
		Weight lb/ft	0.527	0.628	0.469	0.633
2 ½	2.875	Min Wall	0.213	0.261	0.203	0.276
		Avg ID	2.429	2.332	2.449	2.303
		Weight lb/ft	0.765	0.914	0.734	0.958
3	3.50	Min Wall	0.259	0.318	0.216	0.3
		Avg ID	2.961	2.844	3.048	2.88
		Weight lb/ft	1.126	1.347	0.957	1.28
4	4.500	Min Wall	0.296	0.364	0.237	0.377
		Avg ID	3.407	3.273	3.526	3.246
		Weight lb/ft	1.887	2.275	2.588	3.208

Note: 4"sch 40, 5" sch 40 & 6" sch 40 & sch 80 are NON-COILABLE items due to thin walls

Couplers

E-LOC® Couplers



Features & Specifications

- Compression coupling solution
- Provides watertight/airtight connection in buried or restrained applications
- Ability to join dissimilar materials, including HDPE, PVC, fiberglass, or metal.
- Available to fit 1/2" through 8" conduit, including several special diameters.
- Watertight to 200 psi restrained on smooth wall, ribbed, and corrugated duct.

Nom Size	Part Number	Standard Duct Size	Coupling Body O.D. (in)	Length (in)	Pieces per count	Weight per count
1 1/4	EL-166	1.660" 1 1/4" IPS	2.400	5.25	50	28
2	EL-237	2.375" 2" IPS	3.170	6	25	25
3	EL-350	3.500" 3" IPS	4.500	6	18	38
4	EL-400	4.500" 4" IPS	4.500	6	12	34



Comfit Couplers

Features & Specifications

- Fast, easy assembly & disassembly due to push-fit method.
- Compact profile that reduces installation challenges in narrow trenches, manholes, and plowing machines.
- Resistant to corrosion and most chemicals.
- Suitable for blowing and pulling methods.
- Provides option for locked and air-sealed assembly.

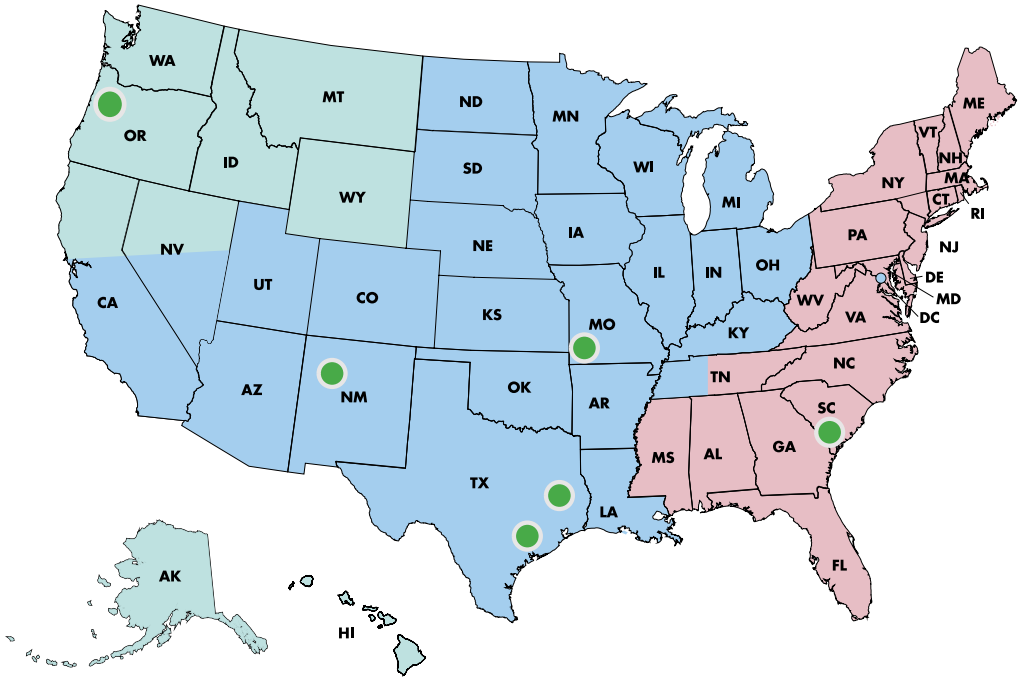
Part Number	Nominal O.D. (mm)	Nominal O.D. (in)	Duct O.D. (mm)	Duct O.D. (in)	Max Tension	Max Pressure	Units per box
8566109	26.6	3/4	26.6	1.050	580	230	144
8566112	42.2	1 1/4	42.2	1.660	1130	230	56

About Atkore HDPE

Atkore has expanded our HDPE pipe and conduit product portfolio while broadening our distribution range. We stand with you, ready to meet the growing demands resulting from the expansion of 5G wireless networks, Fiber to the Home (FTTH), and electrical grid hardening projects throughout the U.S. In 2022, Atkore acquired several industry-leading brands, including **Four-Star Industries, United Poly Systems, Cascade Poly Pipe + Conduit, and Elite Polymer Solutions.** In 2023, we opened our newest HDPE facility in Dallas, Texas. We now produce HDPE conduit at seven manufacturing facilities across the country. Our investments in new manufacturing capacity allow us to be a growth partner and to lead the expansion of the market segment.

Nationwide coverage for HDPE pipe manufacturing and shipping

Atkore manufactures HDPE pipe with convenient locations across the country. Our coast-to-coast coverage can reduce your freight costs and shorten lead times for critical orders.



Regional Sourcing Map

- Allendale, SC/Thomasville, GA
- Springfield, MO/Albuquerque, NW/Lovelady, TX/Dallas,TX
- Woodburn, OR

Learn more about Atkore HDPE Pipe and Conduit

Atkore™

BUILDING BETTER TOGETHER

Atkore
16100 South Lathrop Avenue
Harvey, IL 60426

Want to join a company that helps you build the mindset, skill set and tool set for success? Visit us at atkore.com/careers

akore.com/unitedpolysystems

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