



WL PLASTICS
An INEOS Business

WL134 Power & Communications Conduit



Conduit, Power & Telecom

The ideal piping solution

WL134 Power & Communications Conduit

Smoothwall conduit product overview

Product features

- Manufactured with the highest quality HDPE materials
 - Classified to ASTM D3350
 - Meet or exceed cell class PE435540C or E
 - No recycled or filler materials
- Ideal protective pathway for power and communication installations
 - Flexible, durable, and impact resistant
 - Non-corrosive and resistant to chemicals
 - Protects against rock and root impingement
 - Ductile at low temperatures
- Long continuous lengths on reels for ease of installation

Product options

- Diameters ranging from 3/4" to 12"
- Variety of wall dimensions (SDR, SDR, SCH40 & SCH80)
- Custom colors, stripes, lengths, and print-lines
- Pre-installed pull tape available
- Segmented reels available
- Manufactured in accordance with industry standards
 - ASTM F2160
 - NEMA TC-7
 - UL 651A Listed

Raw material overview

WL Plastics conduit pipe is manufactured from high density polyethylene compounds that meet or exceed ASTM D 3350 requirements and cell classification PE435540C or E.

Typical physical properties for WL Plastics HDPE conduit pipe compound

Physical property	Test method	Typical value
Cell classification	ASTM D3350	PE435540C or E
Melt index (190/2.16)	ASTM D1238	0.3 g/10 min
High load melt index (190/21.6)	ASTM D1238	6-26 g/10 min
Density natural resin (73°F/23°C)	ASTM 792/ D1505	0.941-0.949 g/cm ³
Tensile strength at yield (2 in/min; 73°F/23°C)	ASTM D638	3500-4000 psi
Tensile elongation (2 in/min; 73°F/23°C)	ASTM D638	>600%
Flexural modulus (73°F/23°C)	ASTM D790	>130,000 psi
SCR, Condition B (100% Igepal)	ASTM D1693	> 1000 h
Thermal stability	ASTM D3350	>428°F (> 220°C)
Low temperature brittleness	ASTM D746	<-103°F (<-75°C)
Thermal expansion coefficient	ASTM D1822	9 x 10 ⁻⁵ in/in/F
Tensile impact	ASTM D1822	277 ft-lb/in

Smoothwall conduit sizes

SDR product dimensions

Pipe size ^{A/D}	Avg OD, in	SDR ^D	7	9	11	13.5			
.75"	1.050	Min wall, in	0.150	0.117	0.095	0.078	*Products greater than 6" in diameter. Schedule 40 products greater than SDR 15.5 and SDR 17 products are available in stick lengths only. WL offers these products in stick lengths to ensure product quality and to limit pipe ovality.		
		Avg ID ^C , in	0.732	0.802	0.849	0.885			
		Weight, lb/ft	0.184	0.148	0.123	0.103			
1"	1.315	Min wall, in	0.188	0.146	0.120	0.097			
		Avg ID ^C , in	0.916	1.005	1.061	1.109			
		Weight, lb/ft	0.288	0.232	0.195	0.161			
1.25"	1.000	Min wall, in	0.237	0.184	0.151	0.123			
		Avg ID ^C , in	1.158	1.270	1.340	1.399			
		Weight, lb/ft	0.459	0.369	0.310	0.257			
1.5"	1.900	Min wall, in	0.271	0.211	0.173	0.141			
		Avg ID ^C , in	1.325	1.453	1.533	1.601			
		Weight, lb/ft	0.600	0.485	0.406	0.337	15.5*	17*	
2"	2.375	Min wall, in	0.339	0.264	0.216	0.176	0.153	0.140	
		Avg ID ^C , in	1.656	1.815	1.917	2.002	2.051	2.078	
		Weight, lb/ft	0.939	0.758	0.634	0.526	0.462	0.425	
2.5"	2.875	Min wall, in	0.411	0.319	0.261	0.213	0.185	0.169	
		Avg ID ^C , in	2.004	2.199	2.322	2.423	2.483	2.517	
		Weight, lb/ft	1.377	1.109	0.928	0.771	0.677	0.622	21*
3"	3.500	Min wall, in	0.500	0.389	0.318	0.259	0.226	0.206	0.167
		Avg ID ^C , in	2.440	2.675	2.826	2.951	3.021	3.063	3.146
		Weight, lb/ft	2.040	1.646	1.376	1.141	1.006	0.923	0.757
4"	4.500	Min wall, in	0.643	0.500	0.409	0.333	0.290	0.265	0.214
		Avg ID ^C , in	3.137	3.440	3.633	3.794	3.885	3.938	4.046
		Weight, lb/ft	3.372	2.720	2.275	1.887	1.660	1.526	1.247
5"	5.553	Min wall, in	0.795	0.618	0.506	0.412	0.359	0.327	0.265
		Avg ID ^C , in	3.878	4.253	4.490	4.690	4.802	4.870	5.001
		Weight, lb/ft	5.154	4.156	3.479	2.886	2.540	2.328	1.909
6*	6.625	Min wall, in	0.946	0.736	0.602	0.491	0.427	0.390	0.315
		Avg ID ^C , in	4.619	5.065	5.349	5.584	5.720	5.798	5.957
		Weight, lb/ft	7.305	5.894	4.930	4.095	3.599	3.307	2.703
8**	8.625	Min wall, in	1.232	0.958	0.784	0.639	0.556	0.507	0.411
		Avg ID ^C , in	6.013	6.594	6.963	7.270	7.446	7.550	7.754
		Weight, lb/ft	12.385	9.988	8.359	6.939	6.100	5.597	4.591
10**	10.750	Min wall, in	1.536	1.194	0.977	0.796	0.694	0.632	0.512
		Avg ID ^C , in	7.494	8.219	8.679	9.062	9.279	9.410	9.665
		Weight, lb/ft	19.245	15.515	12.983	10.774	9.490	8.695	7.128
12**	12.750	Min wall, in	1.821	1.417	1.159	0.944	0.823	0.750	0.607
		Avg ID ^C , in	8.889	9.746	10.293	10.749	11.005	11.160	11.463
		Weight, lb/ft	27.062	21.837	18.267	15.155	13.348	12.238	10.023

Smoothwall conduit sizes

Schedule product dimensions

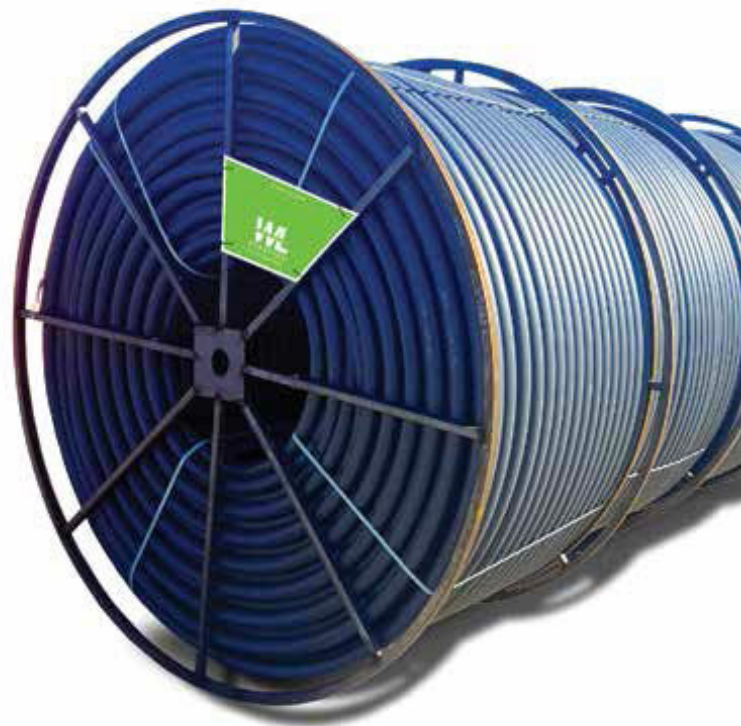
Pipe size ^{A/D}	Avg OD, in	Schedule ^B	40	80
.75"	1.05	Min wall, in	0.113	0.154
		Avg ID ^C , in	0.810	0.724
		Weight, lb/ft	0.144	0.188
1"	1.315	Min wall, in	0.133	0.179
		Avg ID ^C , in	1.033	0.936
		Weight, lb/ft	0.214	0.277
1.25"	1.66	Min wall, in	0.140	0.191
		Avg ID ^C , in	1.363	1.255
		Weight, lb/ft	0.289	0.382
1.5"	1.9	Min wall, in	0.145	0.200
		Avg ID ^C , in	1.593	1.476
		Weight, lb/ft	0.346	0.462
2"	2.375	Min wall, in	0.154	0.218
		Avg ID ^C , in	2.049	1.913
		Weight, lb/ft	0.465	0.639
3"	3.5	Min wall, in	0.216	0.300
		Avg ID ^C , in	3.042	2.864
		Weight, lb/ft	0.965	1.305
4"	4.5	Min wall, in	0.237	0.337
		Avg ID ^C , in	3.998	3.786
		Weight, lb/ft	1.374	1.908
6*	6.625	Min wall, in	0.280	0.432
		Avg ID ^C , in	6.031	5.709
		Weight, lb/ft	2.416	3.638

SIDR product dimensions

Pipe size ^{A/D}	Min. inside diameter, in	SIDR ^B	11.5
1"	1.049	Min wall, in	0.091
		Wall tolerance, in	0.020
		Avg. OD, in	1.246
		Weight, lb/ft	0.143
1.25"	1.380	Min wall, in	0.120
		Wall tolerance, in	0.020
		Avg. OD, in	1.635
		Weight, lb/ft	0.247
2"	2.067	Min wall, in	0.180
		Wall tolerance, in	0.022
		Avg. OD, in	2.447
		Weight, lb/ft	0.555
4"	4.026	Min wall, in	0.350
		Wall tolerance, in	0.042
		Avg. OD, in	4.768
		Weight, lb/ft	2.103
6*	6.056	Min wall, in	0.527
		Wall tolerance, in	0.063
		Avg. OD, in	7.183
		Weight, lb/ft	4.770

Contact WL Plastics plant customer service to confirm availability and for sizes and DRs not shown.

- Conduit pipe sizes/diameters per ASTM F2160
- SDR (Standard Dimension Ratio) Schedules SIDR (Standard Inside Dimension Ratio) per ASTM F2160.
- Calculated Avg ID = Avg OD - (2.12 x min wall). Pipe ID is approximate, and not a specification dimension. All dimensions in inches
- The information in this publication does not constitute a guarantee or warranty for piping installations and cannot be guaranteed because the conditions of use are beyond WL Plastics control. See WL125 Terms and Conditions of Sale. The user of this information assumes all risk associated with its use. Changes to this publication may occur from time to time without notice. Contact WL Plastics to determine if you have the most current edition.



UL listed conduit sizes

UL listed product dimensions

Pipe size	Avg OD, in		Schedule 40	Schedule 80	EPEC 9	EPEC 11	EPEC 13.5
1"	1.315	Min wall, in	0.133	0.179	0.146	0.120	
		Avg ID, in	1.033	0.936	1.005	1.062	
		Weight, lb/ft	0.214	0.277	0.232	0.195	
1.25"	1.66	Min wall, in	0.140	0.191	0.184	0.151	0.123
		Avg ID, in	1.363	1.255	1.269	1.340	1.399
		Weight, lb/ft	0.289	0.382	0.369	0.310	0.257
1.5"	1.9	Min wall, in	0.145	0.200	0.211	0.173	0.141
		Avg ID, in	1.593	1.476	1.452	1.534	1.601
		Weight, lb/ft	0.346	0.462	0.485	0.406	0.337
2"	2.375	Min wall, in	0.154	0.218	0.264	0.216	0.176
		Avg ID, in	2.049	1.913	1.815	1.917	2.002
		Weight, lb/ft	0.465	0.639	0.758	0.634	0.526
3"	3.5	Min wall, in	0.216	0.300	0.389	0.318	0.259
		Avg ID, in	3.042	2.864	2.675	2.826	2.950
		Weight, lb/ft	0.965	1.305	1.646	1.376	1.141
4"*	4.5	Min wall, in	0.237	0.337	0.500	0.409	0.333
		Avg ID, in	3.998	3.786	3.44	3.633	3.793
		Weight, lb/ft	1.374	1.908	2.72	2.275	1.887
6"*	6.625	Min wall, in	0.280	0.432	0.736	0.602	0.491
		Avg ID, in	6.031	5.709	5.065	5.348	5.585
		Weight, lb/ft	2.416	3.638	5.894	4.930	4.095

*Products greater than 6" in diameter, Schedule 40 products greater than 3" in diameter, and all SDR 15.5 and SDR 17 products are available in stick lengths only.

WL offers these products in stick lengths to ensure product quality and limit pipe ovality.

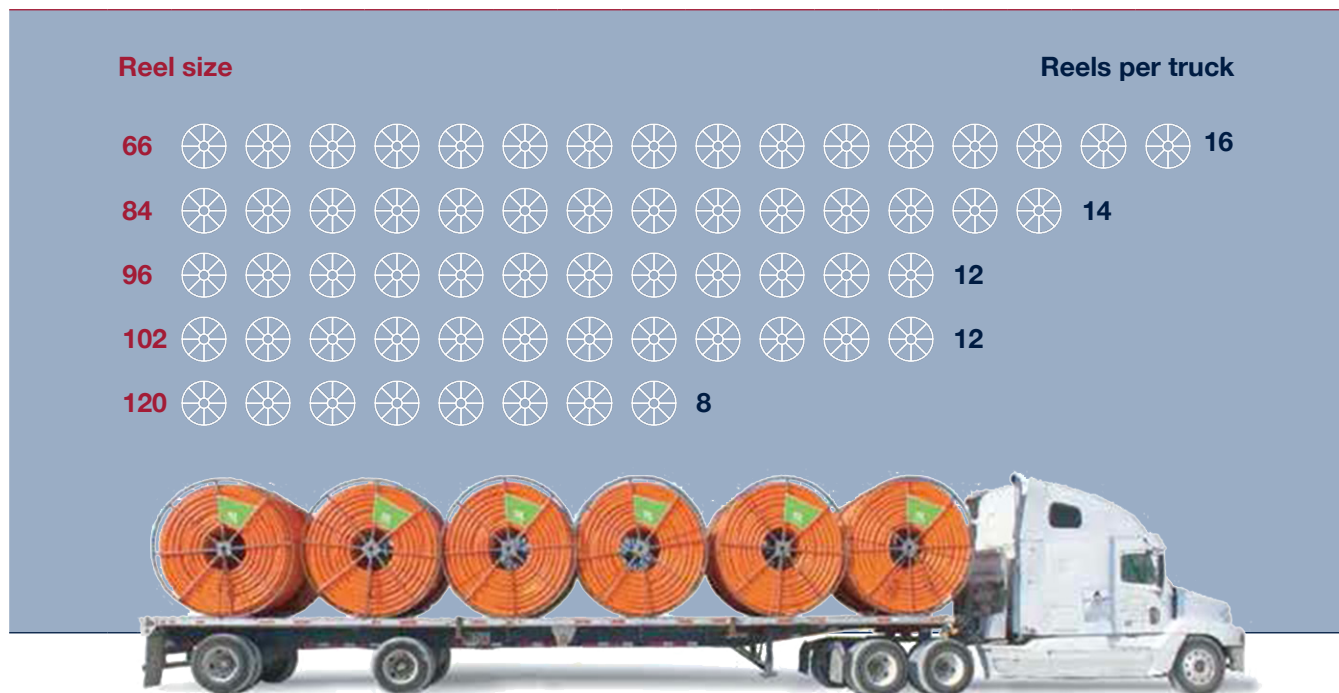


Reel and truck capacity

Standard lengths per reel (in feet)

Pipe diameter	66" reel	84" reel	96" reel				102" reel				120" reel
	Single	Single	Single	Double	Triple	Quad	Single	Double	Triple	Quad	Single
.75"	10,000	12,000	15,000	14,000							
1"	6,000	8,000	10,000	10,000	9,800	9,500	12,000	12,000	12,000	12,000	
1.25"	3,350	6,500	8,000	8,000	7,500	7,200	10,000	8,800	8,400	8,200	
1.5"	2,200	3,500	6,000	5,600	5,400	5,000	7,000	6,800	6,600	6,400	
2"	1,100	3,000	4,000	4,000	3,300	3,200	5,000	4,200	4,000		
2" SIDR 11.5		1,500	4,000				4,500				
2.5"		1,500	2,000				2,500				
3"							1,200				
4"							800				1,250
4" SIDR 11.5							700				1,100
5"											750
6"											450
6" SIDR 11.5											450

Standard truckload capacity



Engineering information

Bend radius guidelines

Pipe size	Bend radius	
	Supported	Unsupported
.75"	10	20
1"	13	26
1.25"	17	34
1.5"	19	38
2"	24	48
2.5"	29	58
3"	39	78
4"	50	100
5"	61	122
6"	73	146
8"	155	233
10"	194	290
12"	230	344

Contact WL Plastics Engineering for technical information not shown.

When installing conduit, large radius sweeping bends are recommended

Bend radius	Supported bend radius	Unsupported bend radius
.5"-2.5"	10 x outside diameter	20 x outside diameter
3"-6"	11 x outside diameter	22 x outside diameter
83"-12"	18 x outside diameter	27 x outside diameter

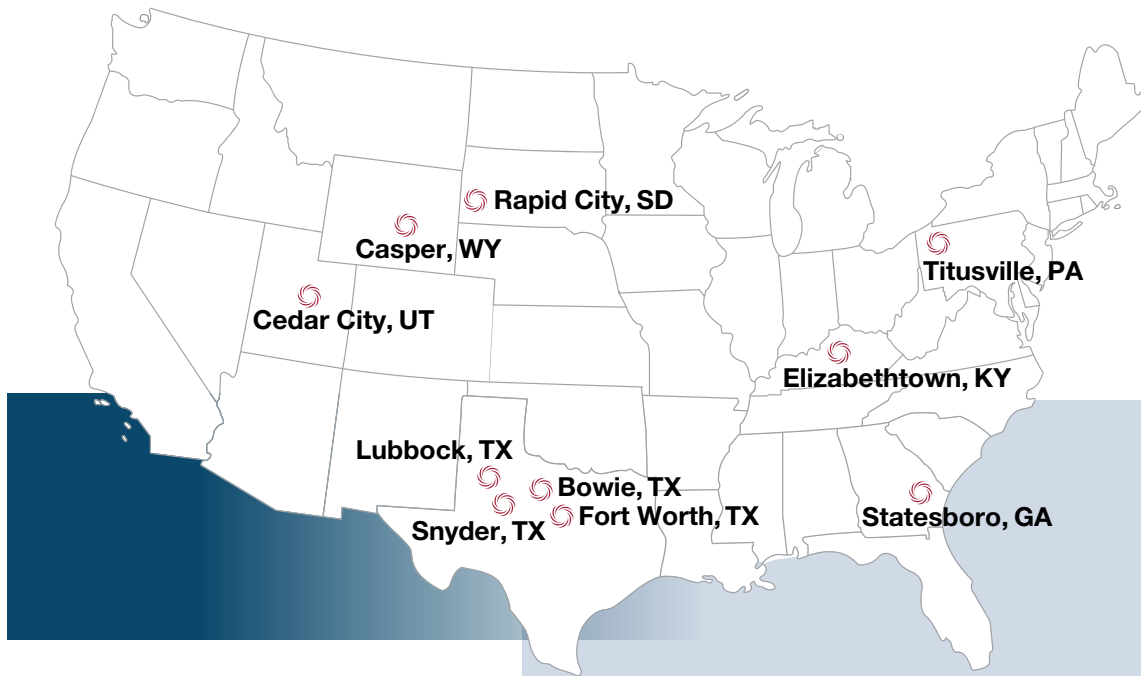
Safe working loads calculated based on up to a 12-hour pull, minimum resin tensile of 3,000 psi, average OD, minimum wall thickness and using a 20% factor

Safe pullback force

Pullback load (lbf)								
Pipe Diameter	Average OD	SDR 9	SDR 11	SDR 13.5	SDR 15.5	SDR 17	Schedule 40	Schedule 80
.75"	1.050	780	653				758	988
1"	1.315	1,224	1,024	850			1,273	1,457
1.25"	1.660	1,950	1,631	1,354			1,524	2,010
1.5"	1.900	2,554	2,137	1,774			1,823	2,435
2"	2.375	3,990	3,340	2,771	2,439	2,237	2,450	3,368
2.5"	2.875	5,847	4,893	4,061	3,573	3,278	3,885	5,138
3"	3.500	8,666	7,252	6,018	5,296	4,858	5,081	6,876
4"	4.500	14,326	11,987	9,948	8,754	8,030	7,237	10,049
5"	5.563	21,893	18,320	15,204	13,379	12,272	9,804	13,935
6"	6.625	31,050	25,982	21,563	18,974	17,405	12,725	19,163
8"	8.625	52,627	44,037	36,547	32,159	29,500	19,150	
10"	10.750	81,754	68,410	56,773	49,958	45,827	27,151	
12"	12.750	115,003	96,232	79,863	70,276	64,466	35,898	



WL PLASTICS
An INEOS Business



Manufacturing locations

Bowie, TX
Casper, WY
Cedar City, UT
Elizabethtown, KY
Lubbock, TX (HDPE)
Lubbock, TX (MDPE)
Rapid City, SD
Snyder, TX
Statesboro, GA
Titusville, PA (HDPE/MDPE)

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Contact

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