

electrical conduit

for over 55 years

The Liqueflex Line

The Liqueflex line includes nearly 40 types of flexible electrical conduit for contractors, OEMs, industrial maintenance and repair (MRO), government, utility and export users. Most conduits are available as standard products, and Electri-Flex has the manufacturing capability to develop specialized products as they are needed by customers.

An innovator in the liquidtight conduit industry, Electri-Flex is also a leader in packaging improvements and manufacturing patents. The majority of production tools and methods used are unique in that they are developed and built by Electri-Flex in its own tool shop in Roselle, Illinois.

Quality Assurance

Quality control for Liqueflex is performed by all levels of employment. To assure a high degree of quality assurance, Electri-Flex utilizes a vertically integrated manufacturing and production system, with each step performed in-house by a team of experts.

Our Quality Assurance Program offers testing procedures from the time raw materials are received at the facility to when the finished conduit is packaged and readied for shipping. Each foot of conduit produced passes through a series of gauges to determine diameters. Actual physical appearance is also checked.

A Quality Control Inspector randomly collects samples of each product at various stages of production. Testing covers such characteristics as tension strength, crush, flexibility and flammability. Further testing is also conducted during unannounced visits by UL and CSA inspectors.

Distribution and Representative Partners

Electri-Flex's representatives and distributors are the leaders in the markets they serve. The partners who have made Electri-Flex an industry leader share these qualities:

- **Representatives**—High degree of integrity and impeccable business reputation, knowledge of the product and the customer, carry compatible lines to make customer and distributor calls more productive, and day-to-day involvement by the principal of the company. For a representative in your area, please visit www.electriflex.com
- **Distributors**—Industrially oriented, sound relations with customers, solid reputation in the community and quality sales people.

We choose only top-performing distributors who have the ability to grow with us in the electrical industry.

Members of:

- NAED
- NEMRA
- NEMA

Marketing Support

Making the best product doesn't create success without exceptional sales, service and marketing programs that meet the needs of representatives and distributors. Our sales support services include:

- Rep warehouse locations across the United States
- On-site 64,000-square-foot distribution center
- Shipments of stocked items within one to three days from consigned stock locations
- Responsive sales and customer service departments
- Effective advertising support program that produces qualified leads
- Referrals on inquiries within a distributor's territory
- Special "off-sheet" price quotations
- Distributor Policy brochure
- Training seminars
- Liberal catalog and sample policy

A Close-knit Family Business

Electri-Flex was founded and is still owned by the Kinander family. The cultural focus is on high-quality products and services, with a strong sense of loyalty to Electri-Flex and its partners. We are dedicated to keeping this spirit of quality and loyalty alive within each employee.

Electri-Flex's employees, representatives, distributors and customer partners continue to create the success Electri-Flex has enjoyed for more than 55 years.

Conduit Application Guide

	Conduit Type	Page	Flexibility				Metal Used	Plastic Used	High Mech. Strength	Listed for Direct Burial	Halogen-Free	Low Fire Hazard	Accepts Standard Liquidtight Fittings	Self-Extinguish	EMI / RFI Shielding	Approval
			Continued Flexing	Small Bend Radius	Flexible	Pliable (Static)										
Jacketed Metallic	TYPE LA	7			•	Steel	PVC	•	•			•	•		UL SF	
	TYPE LT	8		•	•	Steel	PVC					•			JIC	
	TYPE LTFG	9		•	•	Steel	PVC					•			NSF/FDA	
	TYPE EF	10		•	•	Steel	PVC					•			JIC	
	TYPE LOR	10		•	•	Steel	PVC					•			JIC	
	TYPE CBLA	11			•	Steel	PVC	•	•			•	•		UL SF	
	TYPE CSA	12			•	Steel	PVC	•				•	•		SF	
	TYPE ATLA	13			•	Steel	PVC	•	•			•	•		UL SF	
	TYPE AT	14			•	Steel	PVC					•				
	TYPE ATX	14			•	Steel	TPR			•		•				
	TYPE VJC	15		•	•	•	Steel	PVC				•				
	TYPE ALT	15			•	Aluminum	PVC					•				
	TYPE ZHLA	16			•	Steel	PU	•	•	•	•	•	•		UL	
	TYPE CEA	17			•	Steel	PU			•	•	•	•			
TYPE ACEA	18			•	Aluminum	PU			•	•	•	•				
EMI / RFI	TYPE SLA	22			•	Steel	PVC	•	•	Available	Available	•	•	•	UL	
	TYPE EMS	23			•	Bronze	PVC			Available	Available	•	•	•		
	TYPE EMCS	23			•	Bronze	PVC			Available	Available	•	•	•		
Unjacketed Metallic	TYPE BR	25			•	Steel		•							UL SF 3/8	
	TYPE ABR	26			•	Aluminum									UL SF 3/8	
	TYPE ABRH	27			•	Aluminum		•							SF	
	TYPE FSC	27			•	Steel		•								
	TYPE USL	28		•	•	Steel									RA	
	TYPE UG	28			•	•	Steel									
	TYPE SL	29		•	•	•	Steel									
TYPE PF	30			•	Steel									UL		
Nonmetallic	CORRLOK®	32	•	•	•	•	Nylon	•		•	•		•		RA	
	TYPE LNM-P	33	•		•		PVC					FNMC-A	•		UL SF	
	TYPE NM	34			•		PVC	•	•			•	•		UL SF	
	TYPE NMHT	34			•		PVC	•	•			•	•		UL	
	TYPE NM2	35		•	•		PVC					•	•		RA	

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Conduit Application Guide

			Temperature Range											General Chemical Resistance			
			°C	-60°	-40°	-20°	0°	50°	60°	75°	80°	90°	105°	150°			
			°F	-76°	-40°	-4°	32°	122°	140°	167°	176°	194°	221°	302°	Oils	Acids	
	Conduit Type	Page															
Jacketed Metallic	TYPE LA	7													•	•	
	TYPE LT	8													•	•	
	TYPE LTFG	9													•	•	
	TYPE EF	10													•	•	
	TYPE LOR	10													•	•	
	TYPE CBLA	11													•	•	
	TYPE CSA	12													•	•	
	TYPE ATLA	13													•	•	
	TYPE AT	14													•	•	
	TYPE ATX	14													•		
	TYPE VJC	15													•	•	
	TYPE ALT	15													•	•	
	TYPE ZHLA	16													•		
	TYPE CEA	17													•		
	TYPE ACEA	18													•		
	EMI / RFI	TYPE SLA	22													•	•
		TYPE EMS	23													•	•
		TYPE EMCS	23													•	•
Unjacketed Metallic	TYPE BR	25															
	TYPE ABR	26															
	TYPE ABRH	27															
	TYPE FSC	27															
	TYPE USL	28															
	TYPE UG	28															
	TYPE SL	29															
	TYPE PF	30															
Nonmetallic	CORRLOK®	32													•		
	TYPE LNM-P	33													•	•	
	TYPE NM	34													•	•	
	TYPE NMHT	34													•	•	
	TYPE NM2	35													•	•	

Jacketed Metallic

Electri-Flex offers the broadest variety of liquidtight flexible metal conduits, ranging from UL listed and CSA certified products to specialized conduits designed for extreme temperatures, non-halogen, low smoke, RFI shielding and food grade applications.

These conduits offer the advantages of a flexible sealed raceway coupled with the strength of a metal core. For more information on our Jacketed Metallic Conduits, see below for an overview or continue through this section.

Conduit Type	Page
 TYPE LA	7
 TYPE LT	8
 TYPE LTFG	9 NEW
 TYPE EF	10
 TYPE LOR	10
 TYPE CBLA	11
 TYPE CSA	12
 TYPE ATLA	13
 TYPE AT	14
 TYPE ATX	14
 TYPE VJC	15
 TYPE ALT	15
 TYPE ZHLA	16
 TYPE CEA	17
 TYPE ACEA	18

Distinctive Characteristics Include:

- UL listed, CSA certified
- Halogen-free
- Flame-resistant
- High impact and crush strength
- Resistant to many chemicals
- Sunlight-resistant
- Withstands extreme temperature ranges

Applications/Vertical Markets:

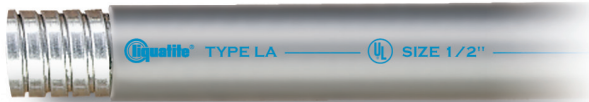
- Passenger Rail Vehicle Wiring
- Industrial Control Equipment
- Machine Tools
- Textile Machinery
- Molding/Extrusion Equipment
- Fiber Optics
- Medical Equipment
- Food and Pharmaceutical Equipment
- Healthcare
- Data Centers
- Waste Water Treatment
- Utility



We can blend to any color preference for quick identification of circuits.

See page 19 for details.

TYPE LA



A flexible steel conduit that is both listed by Underwriters Laboratories Inc. and certified by Canadian Standards Association. It offers outstanding protection against wet, oily conditions and is permitted for use in exposed or concealed locations.

CONSTRUCTION:

The flexible inner core is made from a spiral-wound strip of heavy-gauge, corrosion-resistant, hot-dipped galvanized steel. The 3/8 through 1-1/4 inch trade sizes are squarelock formed and include an integral bonding strip of copper that is enclosed within the convolutions throughout their entire length. The 1-1/2 through 4-inch trade sizes are designed with a fully interlocked strip.

The liquidtight jacketing material is of a high-quality, rugged, flame-retardant flexible PVC compound that resists oils, mild acids and exposure to sunlight. Refer to the Chemical Resistance Guide on our website for further information.

APPLICATION:

This conduit is intended for installation in accordance with Article 350 of the NEC® (ANSI/NFPA-70) and in section 14.5.4 of the ANSI/NFPA-79 Standard for Industrial Machinery:

- Listed and marked for direct burial and in poured concrete.
- For containment of 600 volt and lower potential circuits.
- Sunlight-resistant.
- Suitable as a grounding conductor when used for circuits rated up to 20A for the 3/8 and 1/2 inch grade sizes

and 60A for the 3/4 through 1-1/4 inch trade sizes in lengths six feet or less per NEC Article 250.118(6).

- Installations in hazardous (classified) locations:
 - Class I Div. 2: **Article 501.10(B)(2) & 501.30(B)**
 - Class II Div. 1: **Article 502.10(A)(2) & 502.30(B)** Div 2: **502.10(B)(2)**
 - Class III Div. 1: **Article 503.10(A)(2) & 503.30(B)** Div. 2: **503.10(A)(2)**
- Installed under raised floors in data processing areas. Articles 645.5(E)(2).
- Electric signs and outline lighting over 1,000 volts. Articles 600.7 600.32(A)(1).
- Permitted for service entrance wiring to six feet. Article 230.43.
- Used as feeders and services at marinas and boatyards. Article 553.7(B).
- Wiring on building. Article 225.10.
- Conductor enclosures adjacent to motors over 600V. Article 430.223.
- Underground service, feeder, branch circuit and recreational vehicle site feeder circuit conductors. Article 551.80.
- Elevators and hoistways. Article 620.21.
- Pools and fountains. Article 680.

- Bodies of water. Article 682.
- Fire pumps. Article 695.

Listed File #E29278. Conforms to Underwriters Laboratories Standard ANSI/UL-360 for Liquidtight Flexible Steel conduit.

RoHS and WEEE Compliant.

Certified File #LL18858. Conforms to CSA 22.2 No.56 for use per the Canadian Electrical Code C22.1 Section 12-1300.

STANDARD COLORS:

Machine Tool Gray and Black. Other colors available upon request. Blue is commonly used for computer room installations. See Type CBLA.

WORKING TEMPERATURES:

-30°C to 80°C Dry/60°C Wet/70°C Oil

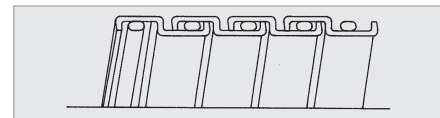
METAL USED: Steel

PLASTIC USED: PVC

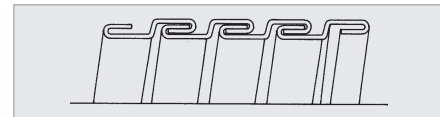
See the Chemical Resistance Guide on our website.



Squarelock with Filler SIZES: 3/8" — 1-1/4"



Interlock SIZES: 1-1/2" — 4"



Trade Size (In.)	Type	Inside Bend Radius (In.)	Weight (Lbs.)/100 Ft.	Carton Footage		Reel Footage			
				Length	Part # Gray/Black	Length	Part # Gray/Black	Length	Part # Gray/Black
3/8	LA-10	2.0	29	100	20101/20801	500	20103/20803	1000	20104/20804
1/2	LA-11	3.0	32	100	21101/21801	500	21103/21803	1000	21104/21804
3/4	LA-12	4.2	53	100	22101/22801	500	22104/22804	1000	22110/22810
1	LA-13	5.5	82	100	23102/23802	400	23104/23804	-	-/-
1-1/4	LA-14	7.0	102	50	24102/24802	200	24104/24804	-	-/-
1-1/2	LA-15	4.5	124	50	25102/25802	150	25104/25804	-	-/-
2	LA-16	6.0	145	50	26102/26802	100	26104/26804	-	-/-
2-1/2	LA/LT-17	8.0	192	25	27102/27802	275	27105/27805	-	-/-
3	LA/LT-18	10.0	252	25	28102/28802	175	28105/28805	-	-/-
3-1/2	LA/LT-350	11.0	308	25	28502/-	175	28505/-	-	-/-
4	LA/LT-19	12.0	350	25	29102/29502	100	29105/29505	-	-/-

See page 37 for dimensions.

Standard Dimensions

LT—LOR—LTFG—EF—LA—CSA—ALT—AT—ATLA—ATX
 ACEA—CEA—ZHLA—SLA—EMS—EMCS—NM—NM2

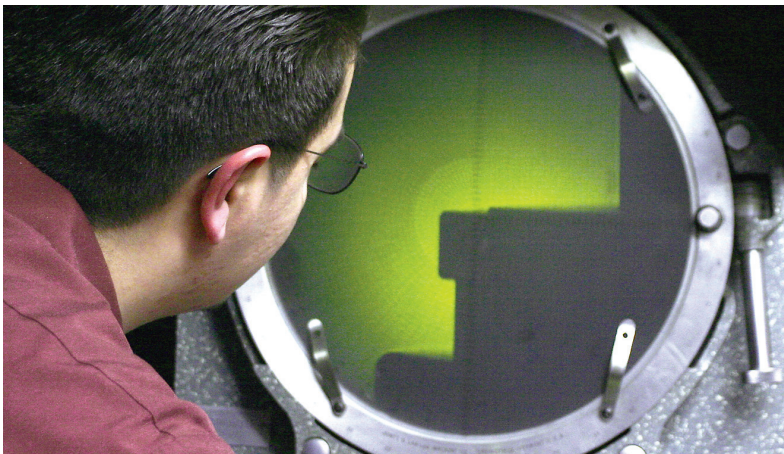
STANDARD DIMENSIONS FOR LIQUIDTIGHT FLEXIBLE CONDUIT

Trade Size (in.)	Type	Diameter (in.)		Diameter (mm)	
		Inside Min/Max	Outside Min/Max	Inside Min/Max	Outside Min/Max
1/4	140	0.245/0.265	0.450/0.470	6.2/6.7	11.4/11.9
5/16	516	0.385/0.405	0.570/0.590	9.8/10.3	14.5/15.0
3/8	10	0.484/0.504	0.690/0.710	12.3/12.8	17.5/18.0
1/2	11	0.622/0.642	0.820/0.840	15.8/16.3	20.8/21.3
3/4	12	0.820/0.840	1.030/1.050	20.8/21.3	26.2/26.7
1	13	1.041/1.066	1.290/1.315	26.4/27.1	32.8/33.4
1-1/4	14	1.380/1.410	1.630/1.660	35.1/35.8	41.4/42.2
1-1/2	15	1.575/1.600	1.865/1.900	40.0/40.6	47.4/48.3
2	16	2.020/2.045	2.340/2.375	51.3/51.9	59.4/60.3
2-1/2	17	2.480/2.505	2.840/2.875	63.0/63.6	72.1/73.0
3	18	3.070/3.100	3.460/3.500	78.0/78.7	87.9/88.8
3-1/2	350	3.500/3.540	3.960/4.000	88.9/89.9	100.6/101.6
4	19	4.000/4.040	4.460/4.500	101.6/102.6	113.3/114.3
5	500	4.975/5.035	5.505/5.565	126.4/127.9	139.8/141.4
6	600	6.015/6.075	6.565/6.625	152.8/154.3	166.8/168.3

This reference chart is applicable to the standard conduit types listed above. Please refer to individual product pages of this catalog for size ranges and dimensions for products not listed here.

COMMON CONVERSIONS

Length	Weight	Temperature
1 Foot = 0.305 Meters	1 Pound = 454 Grams	°C = Degrees Centigrade
1 Meter = 3.281 Feet	1 Pound = 0.454 Kilograms	°F = Degrees Fahrenheit
1 Inch = 25.4 Millimeters	1 Kilogram = 2.205 Pounds	°C = (°F - 32) ÷ 1.8
1 Millimeter = 0.039 Inches	1 Gram = 0.035 Ounces	°F = (°C x 1.8) + 32
1 Inch = 2.54 Centimeters	1 Ounce = 28.349 Grams	-
1 Centimeter = 0.394 Inches	-	-



NEMA Guidelines Publication

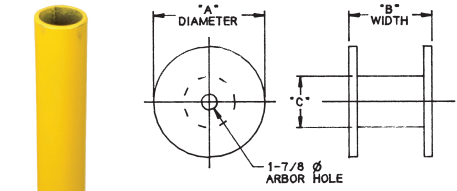
NEMA (National Electrical Manufacturers Association) has developed and published an APPLICATION AND INSTALLATION GUIDELINES FOR FLEXIBLE AND LIQUIDTIGHT FLEXIBLE METAL AND NONMETALLIC CONDUITS. This publication, NEMA RV 3-2010, is available at this link: www.nema.org/stds/rv3.cfm#download

Reel Dimensions

Trade Size (in.)	Type	58"			42"			30"			32" Special			24"		
		LT LA EF	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF			
3/8	10	6000	-	-	-	1000	1000	1000	2000	1000	-	-	-	1000	500	500
1/2	11	4500	-	-	1000	1000	1000	1000	1000	500	-	-	-	-	-	500
3/4	12	2500	1000	-	-	500	500	500	500	500	-	-	-	-	-	-
1	13	1500	-	-	-	400	-	400	400	400	-	400	-	-	-	-
1-1/4	14	1000	-	400	-	200	-	200	-	200	-	200	-	-	-	-
1-1/2	15	750	-	300	-	-	-	-	-	-	150	150	150	-	-	-
2	16	500	-	150	-	-	-	-	-	-	100	150	100	-	-	-
2-1/2	17	275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	18	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-1/2	350	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	19	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPROXIMATE REEL DIMENSIONS

"A" (in.)	"B" (in.)	"C" (in.)	Weight (lbs.)	Qty./Skid
24	19.5	12	17	4
30	19.5	12	21	4
32 (Special)	19.5	14	23	4
42	20	24	70	1
58 (Jumbo)	36	28	208	1



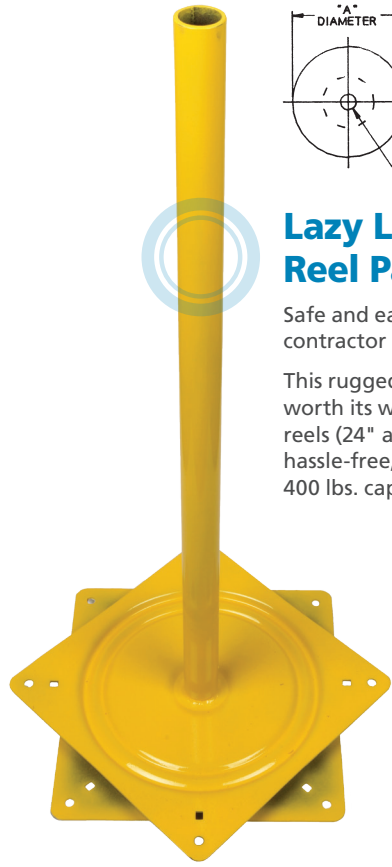
Lazy Louie Liquatite Reel Payout Stand

Safe and easy handling of conduit for contractor and high-rise work.

This rugged yet simple payout reel is worth its weight in gold. It easily handles reels (24" and 30" standard or 32" special) hassle-free, and can take loaded reels of 400 lbs. capacity.

Weight 11 lbs.

P/N 90040



Cartons

Trade Size (in.)	Catalog Number	Standard Carton Type	
		All	LNM-P
3/8	10	100	250
1/2	11	100	200
3/4	12	100	175
1	13	100	100
1-1/4	14	50	100
1-1/2	15	50	50
2	16	50	50
2-1/2	17	25	-
3	18	25	-
3-1/2	350	25	-
4	19	25	-
5	500	25	-
6	600	25	-

Skids

STANDARD SKID QUANTITIES: 48" X40" X5"

Trade Size (in.)	Cat. No.	Flex	Liquatite	Nonmetallic	
		ABR, BR	EF, LA, LT	LNMP	NM
3/8	10	60 coils	45 Cartons	7 Cartons	60 Cartons
1/2	11	25 coils	45 Cartons	7 Cartons	60 Cartons
3/4	12	25 coils	24 Cartons	7 Cartons	48 Cartons
1	13	28 coils	20 Cartons	7 Cartons	30 Cartons
1-1/4	14	28 coils	20 Cartons	7 Cartons	16 Cartons
1-1/2	15	28 coils	5 Cartons	7 Cartons	16 Cartons
2	16	28 coils	5 Cartons	6 Cartons	16 Cartons
2-1/2	17	5 coils	5 Cartons	-	-
3	18	5 coils	5 Cartons	-	-
3-1/2	350	5 coils	5 Cartons	-	-
4	19	4 coils	5 Cartons	-	-

Dimensions

Carton Type	Size: h x d x w (in.)	Carton Product Size (in.)	Ftg. Per Carton
Liquatite Types LA, LT and EF			
R1	15 x 14-3/8 x 7-3/4	1/4	250
		5/16	250
		3/8	100
R2	17-5/8 x 16-3/4 x 8	1/2	100
R3	20-3/4 x 20-3/8 x 8	3/4	100
R4	25-1/4 x 24-1/2 x 8-1/4	1	100
		1-1/4	50
R6	33-5/8 x 37 x 10-3/8	1-1/2	50
		2	50
		2-1/2	25
#3	52 x 52 x 8-1/2	3	25
3 & 4	60-1/4 x 60-1/4 x 6-1/2	3-1/2	25
		4	25
5 & 6	66 x 66 x 12-1/2	5	25
		6	25
Nonmetallic Type LNM-P			
SMALL LNM-P	34-3/4 x 34-3/4 x 7	3/8	250
		1/2	200
		3/4	175
		1	100
		1-1/4	100
Large LNMP	43 x 43 x 7-3/4	1-1/2	50
		2	50
Nonmetallic Type NM and NM2			
-	20 x 6 x 20	3/8	100
-	20 x 6 x 20	1/2	100
-	22 x 7 x 22	3/4	100
-	24 x 8 x 24	1	100
-	26 x 9 x 26	1-1/4	100
-	30 x 7 x 30	1-1/2	50
-	30 x 7 x 30	2	50

Packaging, Disclaimer and Warranty

DISCLAIMER

All specifications contained herein are subject to change without notice. Please refer to www.electriflex.com for the most current product information.

Carton and reel lengths are approximate due to variations during the extrusion process.

PRODUCT WARRANTY

The Electri-Flex Company manufactures its products to the specifications and standards as described in the most current Electri-Flex catalog and it warrants them to be free from defects in materials and workmanship.

Electri-Flex will, in the case of product claim, be liable for only the price of the goods purchased. Remedies with respect to products sold by Electri-Flex will be limited only to the right of replacement, or to repayment of user's price of its product.

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- Liberal catalog and sample policy

A Close-knit Family Business

Electri-Flex was founded and is still owned by the Kinander family. The cultural focus is on high-quality products and services, with a strong sense of loyalty to Electri-Flex and its partners. We are dedicated to keeping this spirit of quality and loyalty alive within each employee.

Electri-Flex's employees, representatives, distributors and customer partners continue to create the success Electri-Flex has enjoyed for more than 55 years.

Conduit Application Guide

	Conduit Type	Page	Flexibility				Metal Used	Plastic Used	High Mech. Strength	Listed for Direct Burial	Halogen-Free	Low Fire Hazard	Accepts Standard Liquidtight Fittings	Self-Extinguish	EMI / RFI Shielding	Approval
			Continued Flexing	Small Bend Radius	Flexible	Pliable (Static)										
Jacketed Metallic	TYPE LA	7			•	Steel	PVC	•	•			•	•		UL SF	
	TYPE LT	8		•	•	Steel	PVC					•			JIC	
	TYPE LTFG	9		•	•	Steel	PVC					•			NSF/FDA	
	TYPE EF	10		•	•	Steel	PVC					•			JIC	
	TYPE LOR	10		•	•	Steel	PVC					•			JIC	
	TYPE CBLA	11			•	Steel	PVC	•	•			•	•		UL SF	
	TYPE CSA	12			•	Steel	PVC	•				•	•		SF	
	TYPE ATLA	13			•	Steel	PVC	•	•			•	•		UL SF	
	TYPE AT	14			•	Steel	PVC					•				
	TYPE ATX	14			•	Steel	TPR			•		•				
	TYPE VJC	15		•	•	•	Steel	PVC				•				
	TYPE ALT	15			•	Aluminum	PVC					•				
	TYPE ZHLA	16			•	Steel	PU	•	•	•	•	•	•		UL	
	TYPE CEA	17			•	Steel	PU			•	•	•	•			
TYPE ACEA	18			•	Aluminum	PU			•	•	•	•				
EMI / RFI	TYPE SLA	22			•	Steel	PVC	•	•	Available	Available	•	•	•	UL	
	TYPE EMS	23			•	Bronze	PVC			Available	Available	•	•	•		
	TYPE EMCS	23			•	Bronze	PVC			Available	Available	•	•	•		
Unjacketed Metallic	TYPE BR	25			•	Steel		•							UL SF 3/8	
	TYPE ABR	26			•	Aluminum									UL SF 3/8	
	TYPE ABRH	27			•	Aluminum		•							SF	
	TYPE FSC	27			•	Steel		•								
	TYPE USL	28		•	•	Steel									RA	
	TYPE UG	28			•	•	Steel									
	TYPE SL	29		•	•	•	Steel									
TYPE PF	30			•	Steel									UL		
Nonmetallic	CORRLOK®	32	•	•	•	•	Nylon	•		•	•		•		RA	
	TYPE LNM-P	33	•		•		PVC					FNMC-A	•		UL SF	
	TYPE NM	34			•		PVC	•	•			•	•		UL SF	
	TYPE NMHT	34			•		PVC	•	•			•	•		UL	
	TYPE NM2	35	•		•		PVC					•	•		RA	

Shield-Flex, SLA, EMS, EMCS, HFSLA, HFEMS & HFEMCS are trademarks of Electri-Flex Company, registered in the U.S. Patent and Trademark Office.

Conduit Application Guide

			Temperature Range											General Chemical Resistance		
			°C	-60°	-40°	-20°	0°	50°	60°	75°	80°	90°	105°	150°		
			°F	-76°	-40°	-4°	32°	122°	140°	167°	176°	194°	221°	302°	Oils	Acids
	Conduit Type	Page														
Jacketed Metallic	TYPE LA	7													•	•
	TYPE LT	8													•	•
	TYPE LTFG	9													•	•
	TYPE EF	10													•	•
	TYPE LOR	10													•	•
	TYPE CBLA	11													•	•
	TYPE CSA	12													•	•
	TYPE ATLA	13													•	•
	TYPE AT	14													•	•
	TYPE ATX	14													•	•
	TYPE VJC	15													•	•
	TYPE ALT	15													•	•
	TYPE ZHLA	16													•	•
	TYPE CEA	17													•	•
	TYPE ACEA	18													•	•
EMI / RFI	TYPE SLA	22													•	•
	TYPE EMS	23													•	•
	TYPE EMCS	23													•	•
Unjacketed Metallic	TYPE BR	25														
	TYPE ABR	26														
	TYPE ABRH	27														
	TYPE FSC	27														
	TYPE USL	28														
	TYPE UG	28														
	TYPE SL	29														
	TYPE PF	30														
Nonmetallic	CORRLOK®	32													•	•
	TYPE LNM-P	33													•	•
	TYPE NM	34													•	•
	TYPE NMHT	34													•	•
	TYPE NM2	35													•	•

Jacketed Metallic

Electri-Flex offers the broadest variety of liquidtight flexible metal conduits, ranging from UL listed and CSA certified products to specialized conduits designed for extreme temperatures, non-halogen, low smoke, RFI shielding and food grade applications.

These conduits offer the advantages of a flexible sealed raceway coupled with the strength of a metal core. For more information on our Jacketed Metallic Conduits, see below for an overview or continue through this section.

Conduit Type	Page
 TYPE LA	7
 TYPE LT	8
 TYPE LTFG	9 NEW
 TYPE EF	10
 TYPE LOR	10
 TYPE CBLA	11
 TYPE CSA	12
 TYPE ATLA	13
 TYPE AT	14
 TYPE ATX	14
 TYPE VJC	15
 TYPE ALT	15
 TYPE ZHLA	16
 TYPE CEA	17
 TYPE ACEA	18

Distinctive Characteristics Include:

- UL listed, CSA certified
- Halogen-free
- Flame-resistant
- High impact and crush strength
- Resistant to many chemicals
- Sunlight-resistant
- Withstands extreme temperature ranges

Applications/Vertical Markets:

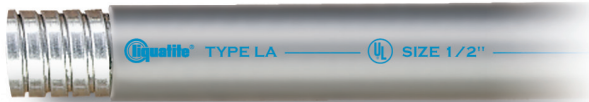
- Passenger Rail Vehicle Wiring
- Industrial Control Equipment
- Machine Tools
- Textile Machinery
- Molding/Extrusion Equipment
- Fiber Optics
- Medical Equipment
- Food and Pharmaceutical Equipment
- Healthcare
- Data Centers
- Waste Water Treatment
- Utility



We can blend to any color preference for quick identification of circuits.

See page 19 for details.

TYPE LA



A flexible steel conduit that is both listed by Underwriters Laboratories Inc. and certified by Canadian Standards Association. It offers outstanding protection against wet, oily conditions and is permitted for use in exposed or concealed locations.

CONSTRUCTION:

The flexible inner core is made from a spiral-wound strip of heavy-gauge, corrosion-resistant, hot-dipped galvanized steel. The 3/8 through 1-1/4 inch trade sizes are squarelock formed and include an integral bonding strip of copper that is enclosed within the convolutions throughout their entire length. The 1-1/2 through 4-inch trade sizes are designed with a fully interlocked strip.

The liquidtight jacketing material is of a high-quality, rugged, flame-retardant flexible PVC compound that resists oils, mild acids and exposure to sunlight. Refer to the Chemical Resistance Guide on our website for further information.

APPLICATION:

This conduit is intended for installation in accordance with Article 350 of the NEC® (ANSI/NFPA-70) and in section 14.5.4 of the ANSI/NFPA-79 Standard for Industrial Machinery:

- Listed and marked for direct burial and in poured concrete.
- For containment of 600 volt and lower potential circuits.
- Sunlight-resistant.
- Suitable as a grounding conductor when used for circuits rated up to 20A for the 3/8 and 1/2 inch grade sizes

and 60A for the 3/4 through 1-1/4 inch trade sizes in lengths six feet or less per NEC Article 250.118(6).

- Installations in hazardous (classified) locations:
 - Class I Div. 2: **Article 501.10(B)(2) & 501.30(B)**
 - Class II Div. 1: **Article 502.10(A)(2) & 502.30(B)** Div 2: **502.10(B)(2)**
 - Class III Div. 1: **Article 503.10(A)(2) & 503.30(B)** Div. 2: **503.10(A)(2)**
- Installed under raised floors in data processing areas. Articles 645.5(E)(2).
- Electric signs and outline lighting over 1,000 volts. Articles 600.7 600.32(A)(1).
- Permitted for service entrance wiring to six feet. Article 230.43.
- Used as feeders and services at marinas and boatyards. Article 553.7(B).
- Wiring on building. Article 225.10.
- Conductor enclosures adjacent to motors over 600V. Article 430.223.
- Underground service, feeder, branch circuit and recreational vehicle site feeder circuit conductors. Article 551.80.
- Elevators and hoistways. Article 620.21.
- Pools and fountains. Article 680.

- Bodies of water. Article 682.
- Fire pumps. Article 695.

Listed File #E29278. Conforms to Underwriters Laboratories Standard ANSI/UL-360 for Liquidtight Flexible Steel conduit.

RoHS and WEEE Compliant.

Certified File #LL18858. Conforms to CSA 22.2 No.56 for use per the Canadian Electrical Code C22.1 Section 12-1300.

STANDARD COLORS:

Machine Tool Gray and Black. Other colors available upon request. Blue is commonly used for computer room installations. See Type CBLA.

WORKING TEMPERATURES:

-30°C to 80°C Dry/60°C Wet/70°C Oil

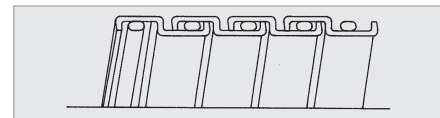
METAL USED: Steel

PLASTIC USED: PVC

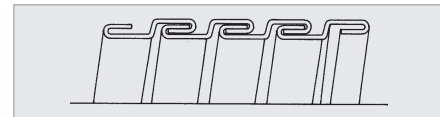
See the Chemical Resistance Guide on our website.



Squarelock with Filler SIZES: 3/8" — 1-1/4"



Interlock SIZES: 1-1/2" — 4"



Trade Size (In.)	Type	Inside Bend Radius (In.)	Weight (Lbs.)/100 Ft.	Carton Footage		Reel Footage			
				Length	Part # Gray/Black	Length	Part # Gray/Black	Length	Part # Gray/Black
3/8	LA-10	2.0	29	100	20101/20801	500	20103/20803	1000	20104/20804
1/2	LA-11	3.0	32	100	21101/21801	500	21103/21803	1000	21104/21804
3/4	LA-12	4.2	53	100	22101/22801	500	22104/22804	1000	22110/22810
1	LA-13	5.5	82	100	23102/23802	400	23104/23804	-	-/-
1-1/4	LA-14	7.0	102	50	24102/24802	200	24104/24804	-	-/-
1-1/2	LA-15	4.5	124	50	25102/25802	150	25104/25804	-	-/-
2	LA-16	6.0	145	50	26102/26802	100	26104/26804	-	-/-
2-1/2	LA/LT-17	8.0	192	25	27102/27802	275	27105/27805	-	-/-
3	LA/LT-18	10.0	252	25	28102/28802	175	28105/28805	-	-/-
3-1/2	LA/LT-350	11.0	308	25	28502/-	175	28505/-	-	-/-
4	LA/LT-19	12.0	350	25	29102/29502	100	29105/29505	-	-/-

See page 37 for dimensions.

Standard Dimensions

LT—LOR—LTFG—EF—LA—CSA—ALT—AT—ATLA—ATX
 ACEA—CEA—ZHLA—SLA—EMS—EMCS—NM—NM2

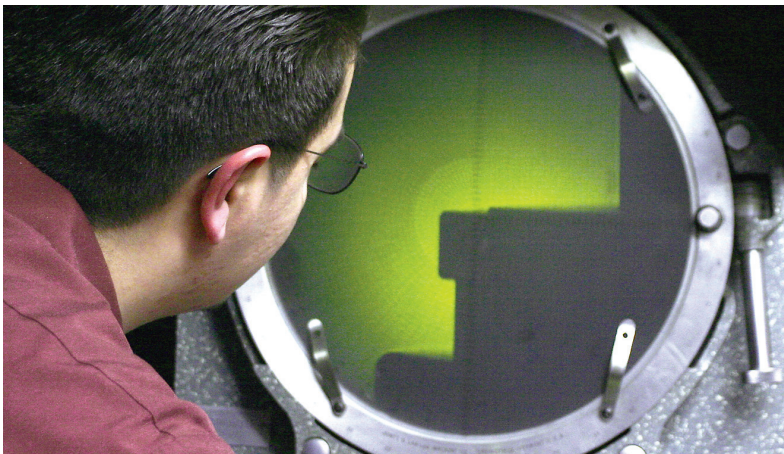
STANDARD DIMENSIONS FOR LIQUIDTIGHT FLEXIBLE CONDUIT

Trade Size (in.)	Type	Diameter (in.)		Diameter (mm)	
		Inside Min/Max	Outside Min/Max	Inside Min/Max	Outside Min/Max
1/4	140	0.245/0.265	0.450/0.470	6.2/6.7	11.4/11.9
5/16	516	0.385/0.405	0.570/0.590	9.8/10.3	14.5/15.0
3/8	10	0.484/0.504	0.690/0.710	12.3/12.8	17.5/18.0
1/2	11	0.622/0.642	0.820/0.840	15.8/16.3	20.8/21.3
3/4	12	0.820/0.840	1.030/1.050	20.8/21.3	26.2/26.7
1	13	1.041/1.066	1.290/1.315	26.4/27.1	32.8/33.4
1-1/4	14	1.380/1.410	1.630/1.660	35.1/35.8	41.4/42.2
1-1/2	15	1.575/1.600	1.865/1.900	40.0/40.6	47.4/48.3
2	16	2.020/2.045	2.340/2.375	51.3/51.9	59.4/60.3
2-1/2	17	2.480/2.505	2.840/2.875	63.0/63.6	72.1/73.0
3	18	3.070/3.100	3.460/3.500	78.0/78.7	87.9/88.8
3-1/2	350	3.500/3.540	3.960/4.000	88.9/89.9	100.6/101.6
4	19	4.000/4.040	4.460/4.500	101.6/102.6	113.3/114.3
5	500	4.975/5.035	5.505/5.565	126.4/127.9	139.8/141.4
6	600	6.015/6.075	6.565/6.625	152.8/154.3	166.8/168.3

This reference chart is applicable to the standard conduit types listed above. Please refer to individual product pages of this catalog for size ranges and dimensions for products not listed here.

COMMON CONVERSIONS

Length	Weight	Temperature
1 Foot = 0.305 Meters	1 Pound = 454 Grams	°C = Degrees Centigrade
1 Meter = 3.281 Feet	1 Pound = 0.454 Kilograms	°F = Degrees Fahrenheit
1 Inch = 25.4 Millimeters	1 Kilogram = 2.205 Pounds	°C = (°F - 32) ÷ 1.8
1 Millimeter = 0.039 Inches	1 Gram = 0.035 Ounces	°F = (°C x 1.8) + 32
1 Inch = 2.54 Centimeters	1 Ounce = 28.349 Grams	-
1 Centimeter = 0.394 Inches	-	-



NEMA Guidelines Publication

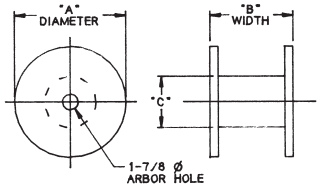
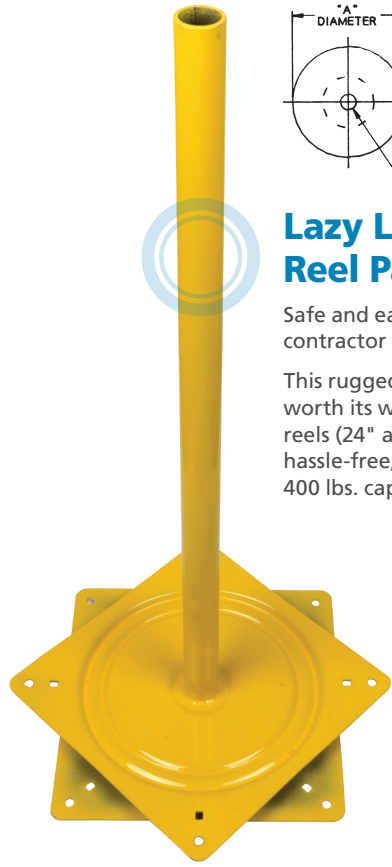
NEMA (National Electrical Manufacturers Association) has developed and published an APPLICATION AND INSTALLATION GUIDELINES FOR FLEXIBLE AND LIQUIDTIGHT FLEXIBLE METAL AND NONMETALLIC CONDUITS. This publication, NEMA RV 3-2010, is available at this link: www.nema.org/stds/rv3.cfm#download

Reel Dimensions

Trade Size (in.)	Type	58"			42"			30"			32" Special			24"		
		LT LA EF	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF	BR ABR LNM-P	LT LA EF			
3/8	10	6000	-	-	-	1000	1000	1000	2000	1000	-	-	-	1000	500	500
1/2	11	4500	-	-	1000	1000	1000	1000	1000	500	-	-	-	-	-	500
3/4	12	2500	1000	-	-	500	500	500	500	500	-	-	-	-	-	-
1	13	1500	-	-	-	400	-	400	400	400	-	400	-	-	-	-
1-1/4	14	1000	-	400	-	200	-	200	-	200	-	200	-	-	-	-
1-1/2	15	750	-	300	-	-	-	-	-	-	150	150	150	-	-	-
2	16	500	-	150	-	-	-	-	-	-	100	150	100	-	-	-
2-1/2	17	275	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	18	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-1/2	350	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	19	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPROXIMATE REEL DIMENSIONS

"A" (in.)	"B" (in.)	"C" (in.)	Weight (lbs.)	Qty./Skid
24	19.5	12	17	4
30	19.5	12	21	4
32 (Special)	19.5	14	23	4
42	20	24	70	1
58 (Jumbo)	36	28	208	1



Lazy Louie Liquatite Reel Payout Stand

Safe and easy handling of conduit for contractor and high-rise work.

This rugged yet simple payout reel is worth its weight in gold. It easily handles reels (24" and 30" standard or 32" special) hassle-free, and can take loaded reels of 400 lbs. capacity.

Weight 11 lbs.

P/N 90040

Cartons

Trade Size (in.)	Catalog Number	Standard Carton Type	
		All	LNM-P
3/8	10	100	250
1/2	11	100	200
3/4	12	100	175
1	13	100	100
1-1/4	14	50	100
1-1/2	15	50	50
2	16	50	50
2-1/2	17	25	-
3	18	25	-
3-1/2	350	25	-
4	19	25	-
5	500	25	-
6	600	25	-

Skids

STANDARD SKID QUANTITIES: 48" X40" X5"

Trade Size (in.)	Cat. No.	Flex	Liquatite	Nonmetallic	
		ABR, BR	EF, LA, LT	LNMP	NM
3/8	10	60 coils	45 Cartons	7 Cartons	60 Cartons
1/2	11	25 coils	45 Cartons	7 Cartons	60 Cartons
3/4	12	25 coils	24 Cartons	7 Cartons	48 Cartons
1	13	28 coils	20 Cartons	7 Cartons	30 Cartons
1-1/4	14	28 coils	20 Cartons	7 Cartons	16 Cartons
1-1/2	15	28 coils	5 Cartons	7 Cartons	16 Cartons
2	16	28 coils	5 Cartons	6 Cartons	16 Cartons
2-1/2	17	5 coils	5 Cartons	-	-
3	18	5 coils	5 Cartons	-	-
3-1/2	350	5 coils	5 Cartons	-	-
4	19	4 coils	5 Cartons	-	-

Dimensions

Carton Type	Size: h x d x w (in.)	Carton Product Size (in.)	Ftg. Per Carton
Liquatite Types LA, LT and EF			
R1	15 x 14-3/8 x 7-3/4	1/4	250
		5/16	250
		3/8	100
R2	17-5/8 x 16-3/4 x 8	1/2	100
R3	20-3/4 x 20-3/8 x 8	3/4	100
R4	25-1/4 x 24-1/2 x 8-1/4	1	100
		1-1/4	50
R6	33-5/8 x 37 x 10-3/8	1-1/2	50
		2	50
		2-1/2	25
#3	52 x 52 x 8-1/2	3	25
3 & 4	60-1/4 x 60-1/4 x 6-1/2	3-1/2	25
		4	25
5 & 6	66 x 66 x 12-1/2	5	25
		6	25
Nonmetallic Type LNM-P			
SMALL LNM-P	34-3/4 x 34-3/4 x 7	3/8	250
		1/2	200
		3/4	175
		1	100
		1-1/4	100
Large LNMP	43 x 43 x 7-3/4	1-1/2	50
		2	50
Nonmetallic Type NM and NM2			
-	20 x 6 x 20	3/8	100
-	20 x 6 x 20	1/2	100
-	22 x 7 x 22	3/4	100
-	24 x 8 x 24	1	100
-	26 x 9 x 26	1-1/4	100
-	30 x 7 x 30	1-1/2	50
-	30 x 7 x 30	2	50

Packaging, Disclaimer and Warranty

DISCLAIMER

All specifications contained herein are subject to change without notice. Please refer to www.electriflex.com for the most current product information.

Carton and reel lengths are approximate due to variations during the extrusion process.

PRODUCT WARRANTY

The Electri-Flex Company manufactures its products to the specifications and standards as described in the most current Electri-Flex catalog and it warrants them to be free from defects in materials and workmanship.

Electri-Flex will, in the case of product claim, be liable for only the price of the goods purchased. Remedies with respect to products sold by Electri-Flex will be limited only to the right of replacement, or to repayment of user's price of its product.