

Steel Core

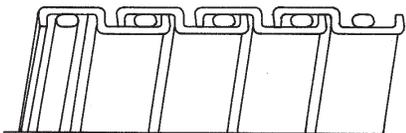
Type LT



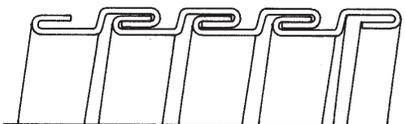
JIC

Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
1/4	LT025-75	75	-	-	-	-	1.0	(25.4)	8
5/16	LT032-75	75	-	-	-	-	1.0	(25.4)	8
3/8	LT038-30	30	LT038-150	150	LT038-300	300	1.5	(38.1)	9
1/2	LT050-30	30	LT050-150	150	LT050-300	300	2.0	(50.8)	11
3/4	LT075-30	30	LT075-150	150	LT075-300	300	2.5	(63.5)	15
1	LT100-30	30	LT100-120	120	-	-	3.0	(76.2)	24
1-1/4	LT125-15	15	LT125-75	75	-	-	3.5	(88.9)	31
1-1/2	LT150-15	15	LT150-45	45	-	-	4.5	(114.3)	40
2	LT200-15	15	LT200-30	30	-	-	5.5	(139.7)	53
5	LT500-8	8	-	-	-	-	17.5	(444.5)	212
6	LT600-8	8	-	-	-	-	22.5	(571.5)	259

See Chart on p. G28 for dimensions and tolerances
* See p. G27 for label and packaging detail



Squarelock with Filler
5/16 in. - 2 in.



Interlock
2-1/2 in. - 6 in.

Type LT

A general purpose, flexible liquidtight steel conduit designed for a variety of installations requiring motion, vibration and bending. It offers good mechanical and moisture protection to enclosed conductors.

Construction

The flexible inner core is made from a spiral wound strip of corrosion resistant plating steel. The 1/4 through 2 inch trade sizes are squarelock formed and, with the exception of the 1/4 inch size, contain a nylon cord packing within the convolutions.

The larger sizes are constructed with a fully interlocked strip to add strength and to prevent unraveling.

A flexible yet durable PVC jacket is extruded over this core creating a liquidtight conduit resistant to most oils, acids and vapors present in industrial environments.

Refer to the Conduit — Chemical Resistance Chart beginning on p. G30.

Applications

This conduit is used extensively in the machine tool and other industrial environments where flexibility is necessary for installation and maintenance or where vibration and movement must be absorbed. The inherent sunlight resistance of PVC enables this product to be used in outdoor applications. Compatible with standard liquidtight fittings. The construction of this conduit conforms to, and is suitable for use with Sections 16 & 17.7 of the Electrical Standard for Industrial Machinery (ANSI/NFPA-79).

Working Temperatures

-20°C to 80°C

Listing / Certification

JIC — manufactured in accordance with the dimensions and specifications as outlined by the Joint Industrial Council Standard for Mass Production Equipment and Machine Tools.

Standard Colours

Machine tool grey and black. Other colours available upon request. Part numbers listed designate grey jacket.

Steel Core

Type LOR



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Carton Content* (m)	Cat. No.	Carton Content* (m)	Inside Bend Radius		Wt. kg/30m
							in.	(mm)	
3/8	LOR038-30	30	LOR038-150	150	LOR038-300	300	2.0	(50.8)	19
1/2	LOR050-50	30	LOR050-150	150	LOR050-300	300	2.5	(63.5)	11
3/4	LOR075-30	30	LOR075-150	150	LOR075-300	300	3.0	(76.2)	15
1	LOR100-30	30	LOR100-120	120	-	-	4.0	(101.6)	24
1-1/4	LOR125-15	15	LOR125-60	60	-	-	4.5	(114.3)	31
1-1/2	LOR150-15	15	-	-	-	-	5.5	(139.7)	40
2	LOR200-15	15	-	-	-	-	7.0	(177.8)	53
2-1/2	LOR250-8	8	-	-	-	-	9.5	(241.3)	76
3	LOR300-8	8	-	-	-	-	11.5	(292.1)	118
3-1/2	LOR350-8	8	-	-	-	-	13.0	(330.2)	132
4	LOR400-8	8	-	-	-	-	14.0	(356.6)	156
5	LOR500-8	8	-	-	-	-	20.0	(508.0)	221
6	LOR600-8	8	-	-	-	-	22.5	(571.5)	259

See Chart on p. G28 for dimensions and tolerances
* See p. G27 for label and packaging detail

Type EF



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Carton Content* (m)	Cat. No.	Carton Content* (m)	Inside Bend Radius		Wt. kg/30m
							in.	(mm)	
3/8	EF038-30	30	EF038-150	150	EF038-300	300	1.5	(38.1)	9
1/2	EF050-30	30	EF050-150	150	EF050-300	300	2.0	(50.8)	11
3/4	EF075-30	30	EF075-150	150	EF075-300	300	3.0	(63.5)	14
1	EF100-30	30	EF100-120	120	-	-	3.0	(76.2)	20
1-1/4	EF125-15	15	EF125-75	75	-	-	3.5	(88.9)	25
1-1/2	EF150-15	15	EF150-45	45	-	-	4.5	(114.3)	41
2	EF200-15	15	EF200-30	30	-	-	5.5	(139.7)	5

See Chart on p. G28 for dimensions and tolerances
* See p. G27 for label and packaging detail

Type LOR

This product is offered as a non-UL oil-resistant conduit that incorporates a high quality PVC jacket.

Applications

The LOR is ideally used in situations where a UL listing or CSA certification is not a factor but where a flexible conduit must withstand exposure to many harsh chemicals, oils, UV, etc. This conduit conforms to Section 17.7 of the Electrical Standard for Industrial Machinery. (ANSI/NFPA-79) Compatible with Standard Liquidtight Fittings.

Working Temperatures

-20°C to 60°C intermitting to 90°C

Standard Colours

Machine tool grey and black. Other colours available upon request. Part numbers listed designate grey jacket.

Note

For a UL listed version, consult your Regional Sales Office for Type LA/LOR.

JIC

Type EF

This flexible liquidtight conduit is a competitive grade version of our Type LT. It conforms to both the JIC standards for dimensions and general construction, and to Section 17.7 of the Electrical Standard for Industrial Machinery (ANSI/NFPA-79).

Construction

The flexible inner core is constructed from a helically formed strip of corrosion resistant steel. A liquidtight PVC jacket is then extruded over the core.

Applications

General installations requiring some movement and protection for contained conductors. Forms a liquidtight system when installed with standard fittings for use indoors or out.

Working Temperatures

-20°C to 80°C

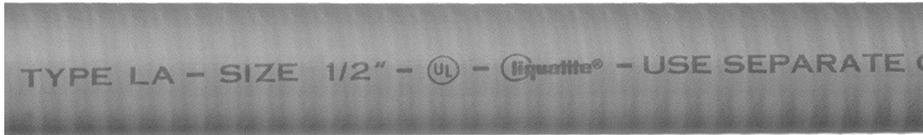
Standard Colour

Machine tool grey

JIC

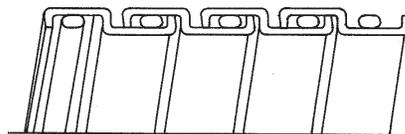
Steel Core

Type LA

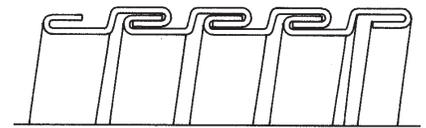


Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
3/8	LA038-30	30	LA038-150	150	LA038-300	300	2.0	(50.8)	13
1/2	LA050-30	30	LA050-150	150	LA050-300	300	3.0	(76.2)	15
3/4	LA075-30	30	LA075-150	150	LA075-300	300	4.2	(106.7)	24
1	LA100-30	30	LA100-120	120	-	-	5.5	(139.7)	37
1-1/4	LA125-15	15	LA125-60	60	-	-	7.0	(177.8)	46
1-1/2	LA150-15	15	LA150-45	45	-	-	4.5	(114.3)	47
2	LA200-15	15	LA200-30	30	-	-	6.0	(152.4)	66
2-1/2	LA250-8	8	LA250-80	80	-	-	8.0	(203.2)	87
3	LA300-8	8	LA300-50	50	-	-	10.0	(254.0)	114
3-1/2	LA350-8	8	LA350-50	50	-	-	11.0	(279.4)	140
4	LA400-8	8	LA400-30	30	-	-	12.0	(304.8)	154

See Chart on p. G28 for dimensions and tolerances
 * See p. G27 for label and packaging detail



Squarelock with filler
3/8 in. - 1-1/4 in.



Interlock
1-1/2 in. - 4 in.

Type LA

A flexible liquidtight steel conduit which is both listed UL and certified CSA. 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 square lock formed and include an integral bonding strip of copper that is enclosed within the convolutions throughout its 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 which resists oils, mild acids and exposure to sunlight. For further information, refer to the Conduit — Chemical Resistance chart beginning on p. G30.

Applications

This conduit is intended for installation with Rule 12-1300 of Canadian Electrical Code (CEC) Part I 2009.

The use of a separate bonding conductor is mandatory in accordance with CEC Rule 12-1306 for Ordinary locations.

The use of Liquidtight Flexible Conduit with sign and Outline Lighting are in accordance with CEC Rule 34-400 (2):

- Listed and marked for direct burial and in poured concrete
- For containment of 600-volt and lower potential circuits
- Sunlight resistant

Working Temperatures

-30 °C to 80 °C (dry) / 60 °C (wet) and 70 °C (oil)

Listing / Certification

Certified. Conforms to CSA 22.2 No. 56 for use per CEC C22.1 Section 12-1300.

Listed. Conforms to UL Standard ANSI/UL-360 for Liquidtight Flexible Steel Conduit.

Standard Colours

Machine tool grey, and black. Other colours available upon request. Blue is commonly used for computer room installations. See TYPE CBLA on p. G8.

Steel Core

Type CBLA — Computer Blue



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
3/8	CBLA038-30	30	CBLA038-150	150	CBLA038-300	300	2.0	(50.8)	13
1/2	CBLA050-30	30	CBLA050-150	150	CBLA050-300	300	3.0	(76.2)	15
3/4	CBLA075-30	30	CBLA075-150	150	CBLA075-300	300	4.2	(106.7)	24
1	CBLA100-30	30	CBLA100-120	120	-	-	5.5	(139.7)	37
1-1/4	CBLA125-15	15	CBLA125-60	60	-	-	7.0	(177.8)	46
1-1/2	CBLA150-15	15	CBLA150-45	45	-	-	4.5	(114.3)	47
2	CBLA200-15	15	CBLA200-30	30	-	-	6.0	(152.4)	66
2-1/2	CBLA250-8	8	CBLA250-80	80	-	-	8.0	(203.2)	87
3	CBLA300-8	8	CBLA300-50	50	-	-	10.0	(254.0)	114
3-1/2	CBLA350-8	8	CBLA350-50	50	-	-	11.0	(279.4)	140
4	CBLA400-8	8	CBLA400-30	30	-	-	12.0	(304.8)	154

See Chart on p. G28 for dimensions and tolerances
* See p. G27 for label and packaging detail

Type CBLA

Computer Blue LA is a liquidtight flexible steel conduit commonly used for computer room installations. The blue jacket colour easily identifies circuitry for computer power wiring.

Construction

CBLA has a flexible inner core made from a spiral wound strip of heavy gauge, hot-dipped galvanized steel. The 3/8 through 1-1/4 inch trade sizes contain an integral bonding strip of copper. The 1-1/2 and larger sizes are designed with a fully interlocked strip.

The jacketing material is a rugged flame retardant flexible blue PVC. For installations which do not allow the use of PVC, see TYPE ZHLA on p. G12.

Applications

Listed and marked for direct burial and in poured concrete.

Working Temperatures

-20°C to 60°C

Listing / Certification



Certified. Conforms to CSA 22.2 No. 56 for use per CEC C22.1 Section 12-1300



Listed. Conforms to UL Standard ANSI/UL-360 for Liquidtight Flexible Steel Conduit

Steel Core

Type CSA



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
3/8	CSA038-30	30	CSA038-150	150	CSA038-300	300	2.0	(50.8)	11
1/2	CSA050-30	30	CSA050-150	150	CSA050-300	300	3.0	(76.2)	16
3/4	CSA075-15	15	-	-	-	-	-	-	-
3/4	CSA075-30	30	CSA075-150	150	CSA075-300	300	4.0	(101.6)	24
1	CSA100-30	30	CSA100-120	-	-	-	5.0	(127.0)	27
1-1/4	CSA125-15	15	CSA125-60	60	-	-	6.2	(157.5)	39
1-1/2	CSA150-15	15	CSA150-45	45	-	-	4.5	(114.3)	55
2	CSA200-15	15	CSA200-30	30	-	-	6.0	(152.4)	70
2-1/2	CSA250-8	8	-	-	-	-	8.0	(203.2)	93
3	CSA300-8	8	-	-	-	-	10.0	(254.0)	120
4	CSA400-8	8	-	-	-	-	12.0	(304.8)	181

See Chart on p. G28 for dimensions and tolerances
 * See p. G27 for label and packaging detail

Type CSA

This flexible liquidtight steel conduit is certified CSA. Its design and function is similar to that of type LA except that it cannot be used as a ground return path per CEC. It also offers a wider operating temperature range.

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 cord packed.

The durable PVC flame retardant jacket is designed for good flexibility and impact resistance at low temperatures.

Applications

This conduit is intended for use according to CEC as described in section 12-1300 for dry, damp or wet locations where flexibility is necessary.

This conduit is intended for installation with Rule 12-1300 of Canadian Electrical Code (CEC) Part I 2009.

The use of a separate bonding conductor is mandatory in accordance with CEC Rule 12-1306 for Ordinary Locations.

The use of Liquidtight Flexible Conduit with sign and Outline Lighting are in accordance with CEC Rule 34-400 (2)

Working Temperatures

-40°C to 75°C

Listing / Certification

 Certified. Conforms to CSA Standard C22.2, No. 56. Flame Test Rating FT-4 per CSA Standard C22.2, No. 0.3.

Standard Colour

Black

Steel Core

Type ATLA — All Temperature



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
3/8	ATLA038-30	30	ATLA038-150	150	ATLA038-300	300	2.0	(50.8)	13
1/2	ATLA050-30	30	ATLA050-150	150	ATLA050-300	300	3.0	(76.2)	15
3/4	ATLA075-30	30	ATLA075-150	150	ATLA075-300	300	4.2	(106.7)	24
1	ATLA100-30	30	ATLA100-120	120	-	-	5.5	(139.7)	37
1-1/4	ATLA125-15	15	ATLA125-60	60	-	-	7.0	(177.8)	46
1-1/2	ATLA150-15	15	ATLA150-45	45	-	-	4.5	(114.3)	47
2	ATLA200-15	15	ATLA200-30	30	-	-	6.0	(152.4)	66
2-1/2	ATLA250-8**	8	-	-	-	-	8.0	(203.2)	87
3	ATLA300-8**	8	-	-	-	-	10.0	(254.0)	114
3-1/2	ATLA350-8**	8	-	-	-	-	11.0	(279.4)	140
4	ATLA400-8**	8	-	-	-	-	12.0	(304.8)	154

See Chart on p. G28 for dimensions and tolerances

* See p. G27 for label and packaging detail

** CSA not applicable

Type ATLA

A liquidtight flexible steel conduit designed specifically for extreme hot or cold environments. The flexible inner core is identical to that found in Type LA. The specially formulated PVC jacket remains flexible at low temperatures and resists ageing at elevated temperatures. It is listed UL and certified CSA.

Construction

ATLA has a flexible inner core made from a spiral wound strip of heavy gauge, hot-dipped galvanized steel. The 3/8 through 1-1/4 inch trade sizes contain an integral bonding strip of copper. The 1-1/2 and larger sizes are designed with a fully interlocked strip.

The jacketing material is a rugged flame retardant flexible PVC resistant to weathering, UV, oils and many chemicals. Refer to the Conduit — Chemical Resistance Guide beginning on p. G30.

Applications

Designed to be used with high temperature machine tool wiring. Ideal for outdoor installations in cold climates. This conduit is intended for installation with Rule 12-1300 of Canadian Electrical Code (CEC) Part I 2002.

The use of a separate bonding conductor is mandatory in accordance with CEC Rule 12-1306 for Ordinary locations.

The use of Liquidtight Flexible Conduit with sign and Outline Lighting are in accordance with CEC Rule 34-400 (2).

- Listed and marked for direct burial and in poured concrete
- For containment of 600-volt and lower potential circuits

Working Temperatures

-55°C to 105°C Air / 60°C Wet / 70°C Oil

Listing / Certification

 Certified. Conforms to CSA 22.2 No. 56 for use per the CEC C22.1 Section 12-1300

 Listed. Conforms to UL Standard ANSI/UL-360 for Liquidtight Flexible Steel Conduit

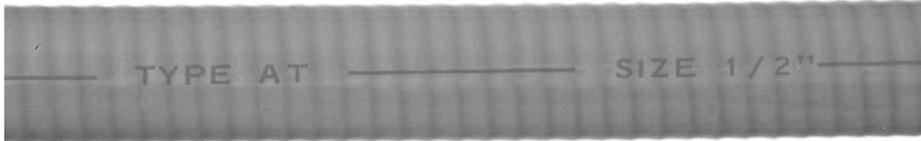
Conforms to the requirements of Section 16 & 17.7 of the ANSI/NFPA-79 Electrical Standard for Industrial Machinery.

Standard Colour

Machine tool grey

Steel Core

Type AT – High and Low Temperatures



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
3/8	AT038-30	30	AT038-150	150	AT038-300	300	1.5	(38.1)	9
1/2	AT050-30	30	AT050-150	150	AT050-300	300	2.0	(50.8)	11
3/4	AT075-30	30	AT075-150	150	AT075-300	300	2.5	(63.5)	15
1	AT100-30	30	AT100-120	120	-	-	3.0	(76.2)	24
1-1/4	AT125-15	15	AT125-60	60	-	-	3.5	(88.9)	31
1-1/2	AT150-15	15	AT150-45	45	-	-	4.5	(114.3)	40
2	AT200-15	15	AT200-30	30	-	-	5.5	(139.7)	53
2-1/2	AT250-8	8	-	-	-	-	8.0	(203.2)	76
3	AT300-8	8	-	-	-	-	10.0	(254.0)	118
3-1/2	AT350-8	8	-	-	-	-	11.0	(279.4)	132
4	AT400-8	8	-	-	-	-	12.0	(304.8)	156
5	AT500-8	8	-	-	-	-	17.5	(444.5)	221
6	AT600-8	8	-	-	-	-	22.5	(571.5)	259

See Chart on p. G28 for dimensions and tolerances
* See p. G27 for label and packaging detail

Type AT

A flexible steel conduit which uses a jacketing material specifically designed for hot or cold environments.

Applications

Type AT is well suited for exposure to extreme climatic conditions. It is also widely used on industrial process equipment such as annealing ovens, lumber kilns, foundries and refrigeration, etc. The construction of this conduit conforms to, and is suitable for use with Sections 16 and 17.7 of the Electrical Standard for Industrial Machinery (ANSI/NFPA-79). Uses standard liquidtight fittings.

Working Temperatures

-55°C to 105°C intermitting to 120°C

Standard Colour

Machine tool grey

Note

For a UL listed and CSA certified version, see TYPE ATLA on p. G10.

Type ATX – Extreme Temperature



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
3/8	ATX038-30	30	ATX038-150	150	ATX038-300	300	1.5	(38.1)	10
1/2	ATX050-30	30	ATX050-150	150	ATX050-300	300	2.0	(50.8)	12
3/4	ATX075-30	30	ATX075-150	150	ATX075-300	300	2.5	(63.5)	18
1	ATX100-30	30	ATX100-120	120	-	-	3.0	(76.2)	25
1-1/4	ATX125-15	15	ATX125-60	60	-	-	3.5	(88.9)	33
1-1/2	ATX150-15	15	ATX150-45	45	-	-	4.5	(114.3)	47
2	ATX200-15	15	ATX200-30	30	-	-	5.5	(139.7)	62
2-1/2	ATX250-8	8	-	-	-	-	8.0	(203.2)	85
3	ATX300-8	8	-	-	-	-	10.0	(254.0)	111
4	ATX400-8	8	-	-	-	-	12.0	(304.8)	151

See Chart on p. G28 for dimensions and tolerances
* See p. G27 for label and packaging detail

Type ATX

A conduit designed to withstand an extreme temperature range.

Construction

Utilizes the flexibility of our standard LT core, coupled with the advantage of a thermoplastic rubber jacket that is virtually unaffected by temperature extremes and contains no halogens. The material has a UL 94-HB flammability rating.

Applications

Used in situations where there are concerns of resistance to temperature exposure. These include heavy outdoor equipment, boilers and furnaces, etc. Refer to the Conduit — Chemical Resistance Guide beginning on p. G30.

Working Temperatures

-60°C to 150°C intermitting to 165°C

Standard Colour

Black

Steel Core

Type ZHLA — Non-Halogen, Low Smoke, Flame Retardant



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Cat. No.	Reel Content* (m)	Inside Bend Radius		Weight kg/30m
							in.	(mm)	
3/8	ZHLA038-30	30	ZHLA038-150	150	ZHLA038-300	300	2.0	(50.8)	13
1/2	ZHLA050-30	30	ZHLA050-150	150	ZHLA050-300	300	3.0	(76.2)	15
3/4	ZHLA075-30	30	ZHLA075-150	150	ZHLA075-300	300	4.2	(106.7)	24
1	ZHLA100-30	30	ZHLA100-120	120	-	-	5.5	(139.7)	37
1-1/4	ZHLA125-15	15	ZHLA125-60	60	-	-	7.0	(177.8)	46
1-1/2	ZHLA150-15	15	ZHLA150-45	45	-	-	4.5	(114.3)	47
2	ZHLA200-15	15	ZHLA200-30	30	-	-	6.0	(152.4)	66
2-1/2	ZHLA250-8	8	-	-	-	-	8.0	(203.2)	87
3	ZHLA300-8	8	-	-	-	-	10.0	(254.0)	114
3-1/2	ZHLA350-8	8	-	-	-	-	11.0	(279.4)	140
4	ZHLA400-8	8	-	-	-	-	12.0	(304.8)	154

See Chart on p. G28 for dimensions and tolerances
* See p. G27 for label and packaging detail

Type ZHLA Combustion & Flammability Properties

Combustion & Flammability Properties**	Test	Value
-Vertical Burn (Material)	UL94	V-0 Rating No Flaming Drips
-Vertical Burn (Conduit)	UL360	Pass No Flaming Drips
-Oxygen Index %	D2863	28.5
-Flame Spread Index	ASTM E162	20; No Flaming Drips
-Flame Propagation	ASTM C542 (NFPA-130)	Pass No Flaming Drips
-Smoke Generation (Flaming)	ASTM E662 (NFPA 258)	Ds 50 @ 1.5 min Ds 102 @ 4.0 min
-Smoke Generation (Non-Flaming)	ASTM E662 (NFPA 258)	Ds 5 @ 1.5 min Ds 26 @ 4.0 min
-Toxic Gas Generation	BOMBARDIER SMP 800-C	Pass
-Toxicity Index	NES 713	3.9

**Test data is based on controlled laboratory conditions and does not necessarily reflect performance in actual fire conditions
Additional product information available upon request

Type ZHLA

Non-halogen, low smoke and low flame spread are what makes Type ZHLA a proven choice for applications where limiting toxic combustion materials is an important issue. Since ZHLA is also UL Listed, it is ideal for field installation in confined, public areas such as subways, tunnels, etc.

Construction

ZHLA has a flexible inner core made from a spiral wound strip of heavy gauge, hot-dipped galvanized steel. The 3/8 in. through 1-1/4 in. trade sizes contain an integral bonding strip of copper. The 1-1/2 in. and larger sizes are designed with a fully interlocked strip. The specially formulated thermoplastic black polyurethane jacket has excellent flame resistance and low smoke and toxicity generation characteristics. It is also resistant to ozone, hydrocarbons, moderate chemicals, oils and fuels. Refer to the Conduit — Chemical Resistance Guide beginning on p. G30.

Applications

There are many situations and areas where PVC is not allowed for electrical construction. The jacketing material used for ZHLA virtually eliminates the release of acidic gases found in PVC products.

- Meets the requirements of Bombardier SMP 800-C for Toxic Gas Generation
- Meets the requirements of both ASTM E162 for Flame Spread and ASTM E662 for Smoke Generation.
- Listed and marked for direct burial and in poured concrete.
- For containment of 600 V and lower potential circuits.
- Sunlight resistant

Working Temperatures

-40°C to 80°C Air / 60°C Wet / 70°C Oil

Listing / Certification

 Certified. Conforms to CSA 22.2 No. 56 for use per the CEC C22.1 Section 12-1300

 Listed. Conforms to UL Standard ANSI/UL-360 for Liquidtight Flexible Steel Conduit

Standard Colour

Black

Steel Core

Type CEA – Non-Halogen, Low Smoke, Flame Retardant



Trade Size (in.)	Cat. No.	Carton Content* (m)	Cat. No.	Reel Content* (m)	Minimum Jacket Thickness	Inside Bend Radius		Weight kg/30m
						in.	(mm)	
3/8	CEA038-30	30	CEA038-150	150	300	1.5	(38.1)	9
1/2	CEA050-30	30	CEA050-150	150	300	2.0	(50.8)	11
3/4	CEA075-30	30	CEA075-150	150	300	2.5	(63.5)	15
1	CEA100-30	30	CEA100-120	120	-	3.0	(76.2)	24
1-1/4	CEA125-15	15	CEA125-60	60	-	3.5	(88.9)	31
1-1/2	CEA150-15	15	CEA150-45	45	-	4.5	(114.3)	40
2	CEA200-15	15	CEA200-30	30	-	5.5	(139.7)	53
2-1/2	CEA250-8	8	-	-	-	8.0	(203.2)	76
3	CEA300-8	8	-	-	-	10.0	(254.0)	118
3-1/2	CEA350-8	8	-	-	-	11.0	(279.4)	132
4	CEA400-8	8	-	-	-	12.0	(304.8)	156
5	CEA500-8**	8	-	-	2.5	17.5	(444.5)	212
6	CEA600-8**	8	-	-	2.5	22.5	(635.0)	259

See Chart on p. G28 for dimensions and tolerances

* See p. G27 for label and packaging detail

**Available on request

Type ACEA also available (liquidtight flexible aluminum conduit)

Aluminum core weighs approximately one third less than steel core

Type CEA

This liquidtight flexible steel conduit is designed for applications where safety concerns exist regarding a material's reaction in a fire situation.

Construction

The flexible inner core of this product is made from a galvanized steel strip. As in type LT, this core contains string packing between the helical convolutions in trade sizes 3/8 in. through 2 in. The specially formulated thermoplastic polyurethane jacket has excellent flame retardant characteristics as well as low smoke and toxicity generation characteristics. Acidic gases such as hydrogen chloride, hydrogen fluoride and hydrogen bromide are virtually eliminated as products of combustion.

Applications

This product is ideally suited for installation in confined or enclosed areas where construction materials must generate very little smoke, and have a low flame spread as well as low toxic gas emissions in the event of fire. Such applications include mass transit vehicles where CEA is extensively used for wiring harnesses within and under passenger rail cars. Other applications include use in underground subway structures and tunnels.

Working Temperatures

-40°C to 80°C

Standard Colours

Grey and black. Other colours available upon request. Part numbers listed designate grey jacket.

Type CEA Combustion & Flammability Properties

Combustion & Flammability Properties**	Test	Value
-Vertical Burn (Material)	UL94	V-0 Rating No Flaming Drips
-Vertical Burn (Conduit)	UL360	Pass No Flaming Drips
-Oxygen Index %	D2863	28.5
-Flame Spread Index	ASTM E162	20; No Flaming Drips
-Flame Propagation	ASTM C542 (NFPA-130)	Pass No Flaming Drips
-Smoke Generation (Flaming)	ASTM E662 (NFPA 258)	Ds 50 @ 1.5 min Ds 102 @ 4.0 min
-Smoke Generation (Non-Flaming)	ASTM E662 (NFPA 258)	Ds 5 @ 1.5 min Ds 26 @ 4.0 min
-Toxic Gas Generation	BOMBARDIER SMP 800-C	Pass
-Toxicity Index	NES 713	3.9

**Test data is based on controlled laboratory conditions and does not necessarily reflect performance in actual fire conditions
Additional product information available upon request

Steel Core

Type BR



Type BR

This non-jacketed flexible steel conduit has many universal wiring applications. It is often referred to as "Greenfield" or "Reduced Wall Flex".

Construction

Type BR is formed from high corrosion resistant hot-dipped galvanized steel. Its profile and helical shape allow it to withstand impact and crushing forces.

Applications

General Use: In accordance with CEC Rule 12-1002 (1) the flexible metal conduit is permitted in or on buildings of either combustible or non-combustible constructions.

Restriction and Exception:

CEC Rule 12-1004 (a) states: "12 (3/8) trade size flexible metal conduit shall be permitted to be used for runs of not more than 1.5 m (5 ft.) for the connection of equipment." and CEC Rule 12-1004 (b) states: "12 (3/8) trade size liquidtight flexible conduit may be used as permitted by this code."

Securements with straps:

CEC Rule 12-1010 (3) states: "When flexible metal conduit is installed, it shall be secured at intervals not exceeding 1.5 m (5 ft.) and within 300 mm (12 in.) on each side of every outlet box or fitting except where flexible metal conduit is fished and except for lengths of not over 900 mm (3 ft) at terminals where flexibility is necessary."

Conductor fill:

CEC Rule 12-1014 defines the maximum number of conductor, the CEC Tables 6 provides the maximum number of conductors of one size in trade sizes of conduit, CEC Table 8 provides the maximum allowable per cent conduit fill, and CEC Table 9 provides the cross-sectional areas of conduit.

Specific Use and applications:

Elevators, Hoistways, in accordance with CEC Rules 38-021 (1) (a) (1) and 38-021 (1) (a) (iv) Elevators, Cars, in accordance with CEC Rules 38-021 (1) (b) (v) Elevators, Within Machine Rooms, Control Rooms and Machinery Spaces and Control Spaces, in accordance with CEC Rule 38-021 (1) (c) (i) Elevators, Counterweights, in accordance with CEC Rule 38-021 (1) (d) Escalators, in accordance with CEC Rule 38-021 (2) Lifts for persons with physical disabilities, in accordance with CEC Rule 38-021 (3) Theater installation, in accordance with CEC Rule 44-102 (1)

Listing / Certification



Certified. (3/8 inch size only). Conforms to CSA 22.2 No. 56 for use per CEC C22.1 Section 12-1000. Meets Federal Specification WW-C-566c Type II



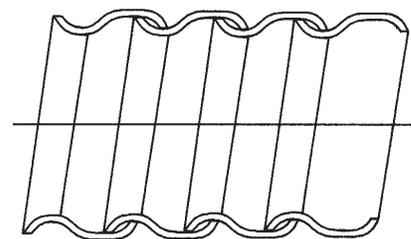
Listed. (sizes 3/8 through 3 in.). Conforms to UL Standard ANSI/UL-1 for Flexible Metal Conduit.

Flexible metal conduit is also permitted for use on industrial machinery where temperatures exceed the limits of liquidtight flexible conduit. (ANSI/NFPA-79) Section 16.3.4 (exception) and Section 17.9.



Trade Size (in.)	Cat. No.	Inner Diameter				Outer Diameter			
		min.		max.		min.		max.	
		in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)
3/8	BR038*	0.375	(9.5)	0.393	(10.0)	0.560	(14.2)	0.610	(15.5)
1/2	BR050	0.625	(15.9)	0.645	(16.4)	0.860	(21.8)	0.920	(23.4)
3/4	BR075	0.812	(20.6)	0.835	(21.2)	1.045	(26.5)	1.105	(28.1)
1	BR100	1.000	(25.4)	1.040	(26.4)	1.300	(33.0)	1.380	(35.1)
1-1/4	BR125	1.250	(31.8)	1.300	(33.0)	1.550	(39.4)	1.630	(41.4)
1-1/2	BR150	1.500	(38.1)	1.575	(40.0)	1.850	(47.0)	1.950	(49.5)
2	BR200	2.000	(50.8)	2.080	(52.8)	2.350	(59.7)	2.454	(62.3)
2-1/2	BR250	2.500	(63.5)	2.700	(68.6)	2.860	(72.6)	3.060	(77.7)
3	BR300	3.000	(76.2)	3.200	(81.3)	3.360	(85.3)	3.560	(90.4)
3-1/2	BR350	3.500	(88.9)	-	-	3.860	(98.0)	4.060	(103.1)
4	BR400	4.000	(101.6)	-	-	4.360	(110.7)	4.560	(115.8)

* CSA Certified



Types BR and ABR Strip Profile

Trade Size (in.)	Cat. No.	Coil Content (m)	Cat. No.	Coil Content (m)	Cat. No.	Coil Content (m)	Cat. No.	Coil Content (m)	Cat. No.	Coil Content (m)	Inside Bend Radius		Weight kg/30m
											(in.)	(mm)	
3/8	BR038-8*	8	BR038-15*	15	BR038-30*	30	BR038-75*	75	BR038-300*	300	2.0	(50.8)	18
1/2	BR050-8	8	BR050-15	15	BR050-30	30	-	-	BR050-300	300	3.0	(76.2)	13
3/4	BR075-8	8	BR075-15	15	BR075-30	30	-	-	BR075-150	150	4.0	(101.6)	15
1	-	-	BR100-15	15	-	-	-	-	BR100-120	120	5.0	(127.0)	24
1-1/4	-	-	BR125-15	15	-	-	-	-	BR125-120	120	6.2	(157.5)	29
1-1/2	-	-	BR150-8	8	-	-	-	-	BR150-90	90	7.5	(190.5)	36
2	-	-	BR200-8	8	-	-	-	-	BR200-45	45	10.0	(254.0)	45
2-1/2	-	-	BR250-8	8	-	-	-	-	-	-	12.5	(317.5)	68
3	-	-	BR300-8	8	-	-	-	-	-	-	15.0	(381.0)	82
3-1/2	-	-	BR350-8	8	-	-	-	-	-	-	17.5	(444.5)	100
4	-	-	BR400-8	8	-	-	-	-	-	-	20.0	(508.0)	122

* CSA Certified

Steel

Type SL



Type SL

This “extra-flexible” product, available in the smaller diameters, is designed for tightspot installation and where continuous flexing is required of a steel wound hose.

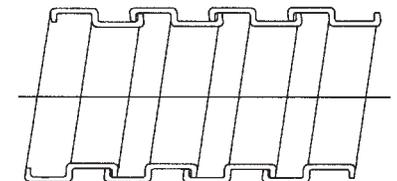
Construction

Type SL is helically wound from a formed strip of ElectroGalvanized steel. It is sized to be used with a variety of set-screw and clamp type fittings.

Applications

Offers good mechanical protection to wiring in a variety of O.E.M. applications

Trade Size	Cat. No.	Coil Content (m)	Inner Diameter				Outer Diameter				Min. Inside Bend Radius		Weight kg/30m
			min.		max.		min.		max.		in.	(mm)	
in.	(mm)		in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	
-	-	SL316-75	75	0.172 (4.35)	0.202 (5.13)	0.280 (7.11)	0.310 (7.87)	0.75 (19.5)	2				
-	-	SL140-75	75	0.235 (5.97)	0.265 (6.73)	0.328 (8.33)	0.358 (9.09)	0.75 (19.5)	3				
5/16	-	SL516-75	75	0.297 (7.54)	0.327 (8.31)	0.391 (9.93)	0.421 (10.69)	0.75 (19.5)	3				
-	-	SL380-75	75	0.360 (9.14)	0.390 (9.91)	0.485 (12.32)	0.515 (13.08)	1.00 (25.4)	4				
-	-	SL716-75	75	0.422 (10.72)	0.452 (11.48)	0.547 (13.89)	0.577 (14.66)	1.00 (25.4)	4				
3/8	16	SL038-75	75	0.492 (12.50)	0.512 (13.00)	0.617 (15.67)	0.637 (16.18)	1.00 (25.4)	5				
-	-	SL916-45	45	0.547 (13.89)	0.577 (14.66)	0.672 (17.07)	0.702 (17.83)	1.25 (31.8)	5				
1/2	-	SL050-45	45	0.622 (15.80)	0.642 (16.31)	0.747 (18.97)	0.767 (19.48)	1.50 (38.1)	7				
-	20	SL050M-45	45	0.650 (16.51)	0.670 (17.01)	0.775 (19.69)	0.795 (20.19)	1.50 (38.1)	7				
-	-	SL340-45	45	0.735 (18.67)	0.765 (19.43)	0.865 (21.97)	0.895 (22.73)	1.50 (38.1)	8				
3/4	25	SL075-30	30	0.827 (21.00)	0.847 (21.51)	0.957 (24.31)	0.977 (24.82)	2.00 (50.8)	8				
1	-	SL100-15	15	1.041 (26.44)	1.066 (27.07)	1.181 (30.00)	1.206 (30.63)	2.00 (50.8)	9				
-	32	SL100M-15	15	1.102 (27.99)	1.122 (28.50)	1.242 (31.55)	1.262 (32.05)	2.00 (50.8)	-				



Squarelock

Type UG



Type UG

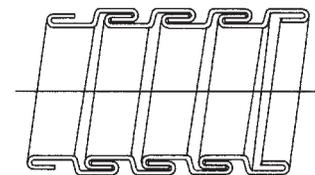
A fully-interlocked flexible steel conduit designed for high strength in “tight-spot” installations.

Construction

This conduit is manufactured from a bright tin plated steel strip which is fully interlocked at the edges to produce a strong, yet flexible product. The interlock feature does not allow the conduit to unravel if twisted and permits the conduit to retain its shape when bent. This lightweight product is compatible with many set-screw and clamp type fittings.

Applications

The bright appearance of the finished product lends itself to installations where the conduit may be visible after final assembly.



Interlock

Cat. No.	Coil Content (m)	Inside Diameter		Outer Diameter Min. Inside		Bend Radius		Wt. kg/30m
		Min. in. (mm)	Max. in. (mm)	Min. in. (mm)	Max. in. (mm)	in.	(mm)	
UG380-15	15	0.443(11.25)	0.473(12.01)	0.563(14.30)	0.593(15.06)	2.5	(63.5)	7
UG120-15	15	0.755(19.18)	0.785(19.94)	0.875(22.23)	0.905(22.99)	3.0	(76.2)	10
UG340-15	15	0.943(23.95)	0.973(24.71)	1.063(28.70)	1.093(27.76)	3.5	(89.0)	14
UG100-15	15	1.208(30.68)	1.238(31.45)	1.328(33.73)	1.358(34.50)	4.5	(114.3)	16
UG125-15	15	1.485(37.72)	1.515(38.48)	1.578(40.08)	1.608(40.84)	5.5	(139.7)	23
UG150-15	15	1.735(44.07)	1.765(44.83)	1.843(46.81)	1.873(47.57)	6.5	(165.1)	27
UG200-15	15	2.235(56.77)	2.265(57.53)	2.390(60.71)	2.420(61.47)	8.5	(216.0)	36
UG280-15	15	2.735(69.47)	2.765(70.23)	2.937(74.60)	2.967(75.36)	10.5	(267.0)	39
UG300-15	15	3.360(85.34)	3.390(86.11)	3.438(87.33)	3.468(88.09)	13.0	(330.2)	48

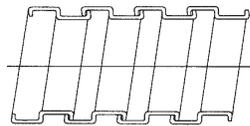
Note: Trade sizes do not apply to Type UG

Steel Core

Type USL



Cat. No.	Inner Dia.		Outer Dia.		Cat. No.	Coil Content (m)	Min. Inside Bend Radius		Wt. kg/30m
	Min.	Max.	Min.	Max.			in.	(mm)	
	in. (mm)	in. (mm)	in. (mm)	in. (mm)					
USL516	0.297(7.54)	0.327(8.30)	0.457(11.60)	0.487(12.37)	USL516-75	75	1.25	(31.75)	5
USL380	0.360(9.14)	0.390(9.91)	0.520(13.20)	0.550(13.97)	USL380-75	75	1.25	(31.75)	6
USL716	0.422(10.7)	0.452(11.48)	0.582(14.78)	0.612(15.54)	USL716-75	75	1.50	(38.10)	7
USL120	0.485(12.3)	0.515(13.08)	0.645(15.86)	0.675(17.15)	USL120-75	75	1.50	(38.10)	8
USL916	0.557(14.1)	0.577(14.65)	0.707(17.96)	0.737(18.72)	USL916-75	75	1.50	(38.10)	9



Squarelock — Type USL

Type USL

This extra-flexible steel conduit is recognized UL and CSA for use within listed and certified assemblies.

Construction

Helically formed from hot-dipped galvanized steel, type USL offers good corrosion resistance and provides excellent mechanical protection to enclosed circuits.

Applications

This product is intended as a factory installed component of various assemblies. Typical uses include modular office partitions, show-case lighting, range tops and other applications. For component applications within Canada, ask for CSA Report #LO 4000-4875.

Listing / Certification



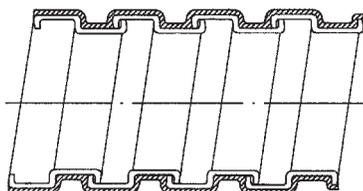
UL Recognized File #E53253

Type VJC — with PVC Jacket



Trade Size (in.)	Cat. No.	Carton Content* (m)	Outside Dia. Over Jacket				Internal Bend radius				Wt. kg/30m
			Min.		Max.		Min.		Max		
			in.	(mm)	in.	(mm)	in.	(mm)	in.	(mm)	
3/8	VJC038-30	30	0.647	(16.43)	0.677	(17.20)	1.0	(25.4)	5	(127.0)	5
1/2	VJC050-30	30	0.777	(19.74)	0.807	(20.50)	1.5	(38.1)	6	(152.4)	7
-	VJC050M-30	30	0.805	(20.45)	0.835	(21.21)	1.5	(38.1)	6	(152.4)	7
3/4	VJC075-30	30	0.987	(25.07)	1.017	(25.83)	2.0	(51.0)	10	(254.0)	9
1	VJC100-30	30	0.221	(5.61)	1.246	(31.65)	3.0	(76.0)	10	(254.0)	11
-	VJC100M-30	30	1.272	(32.31)	1.302	(33.07)	3.0	(76.0)	10	(254.0)	-

* Reels available, consult your Regional Sales Office



Type VJC

Vacuum jacketed steel conduit for high-flex installations

Construction

A unique vacuum extrusion process allows this product to have a thin PVC jacket which does not restrict the great flexibility characteristics of the inner core. The core material is the same as type SL. VJC is designed with dimensions that will accept standard liquid-tight fittings.

Applications

VJC is suitable for use in both static applications where a tight bend diameter is needed and in dynamic use such as machining centers and robotics.

Working Temperatures

-20°C to 80°C

Standard Colour

Black. Other colours available upon request. Consult your Regional Sales Office for details.