CATALOG

KAF-TECH®

LIQUID-TUFF™ – FLEXIBLE LIQUIDTIGHT CONDUIT CATALOG

• Industrial & Commercial Liquidtight Conduit • Flexible Metal Conduit

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Kaf-Tech®'s Flexible Liquidtight

Kaf-Tech® has brought together innovation and engineering in our quality controlled factories to produce an outstanding line of Industrial Liquid-Tuff conduits.

We know that in the industrial world you need conduits that can be trusted to work hard for years even in punishing situations. Kaf-Tech's flexible liquidtight products give you the robust characteristics your specific applications require. Whether you need conduits for confined public spaces such as subways, tunnels and underground rooms, or conduits for hazardous environments, Kaf-Tech's Liquid-Tuff Industrial liquidtight conduits are ready to serve your demanding needs.

Just take a look at UL LSZH or Extreme Temperature LFMC conduits and you'll find surface finishes and flexibility coupled with durable halogen-free compounds. If your application requires a liquidtight conduit that can perform in temperature ranges from 105C to -55C Kaf-Tech offers Hi/Low Temperature Liquid-Tuff. Need liquidtight conduits in a variety of colors for identification? We offer UL LFMC in black, red, orange, green, blue, and yellow along with standard gray. With Kaf-Tech's LFNC-A non-metallic liquidtight we've manufactured a flexible, strong, and performance driven conduit ready to meet the demands of constant motion equipment such as robotic arms.

Many of Kaf-Tech's Liquid-Tuff conduits have more expansive temperature ratings than other brands. And, when you look at other brands you'll find we match-up or exceed expectations in a side by side comparison (see page 51).

We are proud of the manufacturing processes we've brought together in order to produce the flexible conduits you need for your harsh, oily, wet, hot, cold, or hazardous environments.

Take a look, we think you'll agree – Kaf-Tech your partner yesterday, today and into the future.

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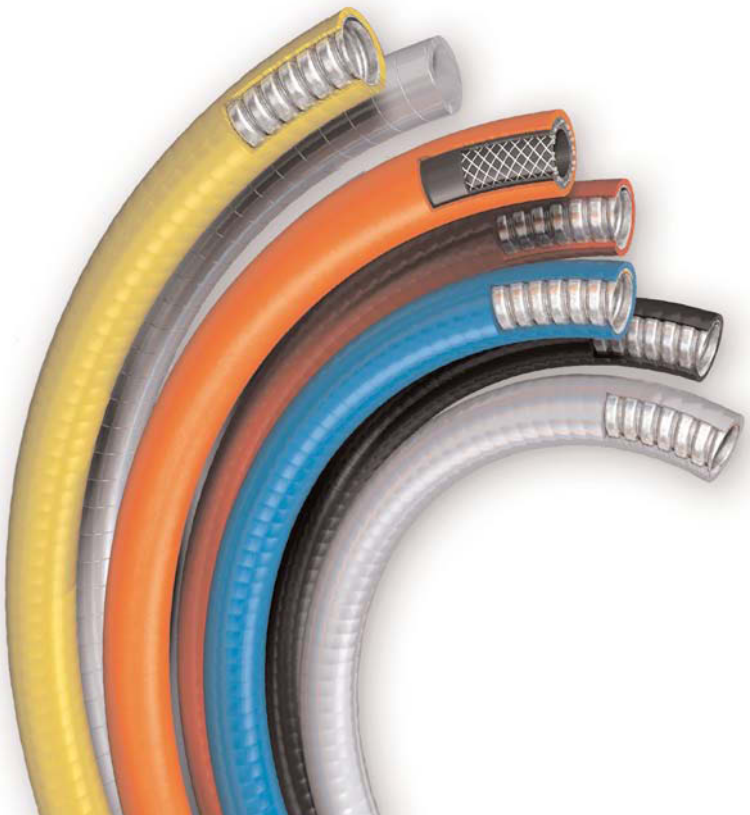

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Subject: **Material Safety Data Sheets (MSDS)**
Kaf-Tech® LIQUID-TUFF™ Flexible Conduits

An official notice from OSHA confirms that the electrical products (cables, conduits, fittings, modular wiring, etc.) manufactured by Kaf-Tech come under the classification of "Articles" under the Hazard Communication Standard. By definition, an article is defined as a product that does not "release or otherwise result in exposure to hazardous chemicals under normal conditions of use." Consequently, the electrical products manufactured by Kaf-Tech do not require Material Safety Data Sheets.

The lubricants used in the manufacturing of conduits and cables are also covered by OSHA as non-hazardous and are primarily vegetable based materials.

Please contact us if you have any additional questions.

Industrial Liquidtight Flexible Conduits

Industrial Liquidtight Flexible Conduit

LIQUID-TUFF™
UL Hi-Low Temperature Liquidtight Flexible Steel Conduit, Type LFMC

Description

- Superior temperature ratings
- Hot dipped zinc galvanized low carbon steel core
- UL bonding strip 3/8" – 1¼" for grounding
- Sunlight resistant
- Flame retardant PVC jacket – Grey

Temperature Rating

- 105°C/221°F Dry
- -55°C/-67°F Low temperature
- 60°C Wet
- 70°C Oil resistant

Applications

- High temperature use
- Machine tool wiring applications
- Ideal for cold climate installations
- 600 volt and lower circuits
- Direct burial and concrete embedment
- Bond wire for grounding in sizes 3/8" – 1¼" NEC® 250.118(6)
- Hazardous locations per NEC® 501
- Site lighting and other outdoor wiring jobs

References & Ratings

- UL 360 File E26540
- NEC® 250.118(6), 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21 (A)(d), 645.5(D)(2), 680.21, 680.42, 695.6(E) and 695.14(E)
- Department of Defense UL 360 adopted on October 1, 1987

Ordering Information / Product Dimensions/Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
6901-30-00	3/8	12	100'	–	25	0.594/0.614	0.690/0.710	0.484/0.504	2
6902-30-00	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6902-45-00	1/2	16	–	500'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6902-60-00	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6903-30-00	3/4	21	100'	–	48	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6903-45-00	3/4	21	–	500'	48	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6903-60-00	3/4	21	–	1000'	48	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6904-30-00	1	27	100'	–	80	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6904-41-00	1	27	–	400'	80	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6905-24-00	1¼	35	50'	–	105	1.540/1.570	1.630/1.660	1.380/1.410	8
6906-24-00	1½	41	50'	–	110	1.735/1.770	1.865/1.900	1.575/1.600	9
6907-24-00	2	53	50'	–	147	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6908-22-00	2½	63	25'	–	172	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6909-22-00	3	78	25'	–	200	3.295/3.335	3.460/3.500	3.070/3.100	17.5
6910-22-00	3½	91	25'	–	235	3.720/3.789	3.960/4.000	3.500/3.540	20
6911-22-00	4	103	25'	–	256	4.220/4.280	4.460/4.500	4.000/4.040	24

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Review NEC® 350.60 and 250.118(6) for grounding requirements.

LIQUID-TUFF™
UL Hi-Low Temperature Liquidtight Flexible Steel Conduit, Type LFMC

Scope

This specification covers Kaf-Tech UL Listed LIQUID-TUFF™ Hi-Low Liquidtight Flexible Steel Conduit designed for use as a raceway for power, control and communication cables in accordance with Article 350 of the National Electrical Code.
The product is Underwriters Laboratories Inc. (UL) Listed for 105°C (221°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also UL Listed in all trade sizes for direct burial, outdoor use and sunlight resistance. THE LIQUID-TUFF™ HI-LOW IS UL LISTED FOR -55°C (-67°F) LOW TEMPERATURE APPLICATIONS.
This Liquidtight Flexible Steel Conduit is manufactured and tested in accordance with Underwriters Laboratories Inc. Standard UL 360.
The product carries the UL Listing Mark.

Construction

The Type Hi-Low Liquidtight Flexible Steel Conduit shall be formed from a zinc coated galvanized low carbon steel strip having a uniform width and thickness. The construction shall be in accordance with UL 360. The finished Type Hi-Low LFMC dimensions shall be in accordance with Table 5.1 of UL 360 which is summarized in Table 3.

Jacket – PVC

A rugged moisture, oil and sunlight resistant polyvinyl chloride (PVC) jacket shall be applied directly over the flexible metal conduit with a wall thickness in accordance with Table 4.1 of UL 360 which is summarized in Table 2. Jacket: Grey

Grounding

Permanent circuit ground protection is provided through the continuous bonding strip built into the conduit core in sizes 3/8" through 1¼".
A separate grounding conductor is required by the NEC® for trade sizes 1½" and larger.

Markings

The surface of the outer jacket shall be clearly marked with a legible print legend in compliance with UL 360.

Performance Tests

In accordance with UL 360, the completed LIQUID-TUFF™ Hi-Low Liquidtight Flexible Steel Conduit shall meet all of the performance requirements outlined in Appendix A.

Reference Standards

UL 360	Standard for Liquidtight Flexible Steel Conduit
File Reference(s):	UL E26540
NEC® Articles:	250.118(6), 350.60, 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 645.5(D)(2), 680.21, 680.42, 695.6(E) and 695.14(E)

Department of Defense Adopted UL 360 on October 1, 1987

LIQUID-TUFF™
UL Hi-Low Temperature Liquidtight Flexible Steel Conduit, Type LFMC

Table 2
Jacket Thickness

Conduit Trade Size	Conduit Trade Metric Designator	Minimum Acceptable Average Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050
3	78	0.050
3½	91	0.060
4	103	0.060

Table 3
Conduit Diameters
Acceptable Internal and External Diameters

Conduit Size Trade Size, In.	Conduit Size Metric Designator	Internal Diameter, In. Min.	Internal Diameter, In. Max.	Over Conduit, In. Min.	Over Conduit, In. Max.	Over Jacket, In. Min.	Over Jacket, In. Max.
3/8	12	0.484	0.504	0.594	0.614	0.690	0.710
1/2	16	0.622	0.642	0.732	0.765	0.820	0.840
3/4	21	0.820	0.840	0.930	0.960	1.030	1.050
1	27	1.041	1.066	1.201	1.226	1.290	1.315
1¼	35	1.380	1.410	1.540	1.570	1.630	1.660
1½	41	1.575	1.600	1.735	1.770	1.865	1.900
2	53	2.020	2.045	2.180	2.215	2.340	2.375
2½	63	2.480	2.505	2.640	2.675	2.840	2.875
3	78	3.070	3.100	3.295	3.335	3.460	3.500
3½	91	3.500	3.540	3.720	3.789	3.960	4.000
4	103	4.000	4.040	4.220	4.280	4.460	4.500

Appendix A

UL Performance Tests
Resistance and High Current
Fault Current
Impact
Tension
Crushing
Pipe Stiffness
Flexibility
Low Temperature Flexibility
Zinc Coating
Vertical Flame
Physical Properties
Deformation
Mechanical Water Absorption
Moisture Penetration
Sunlight Resistance
Test for Secureness of Fittings
Test for Durability of Ink Printing

LIQUID-TUFF™
Low Smoke Zero Halogen – LSZH
UL Liquidtight Flexible Metal Conduit Type LFMC

Description

- Low smoke, zero halogen raceway
- Low toxicity generation characteristics
- Hot dipped zinc galvanized low carbon steel core
- Excellent temperature ratings
- Black thermoplastic polyurethane jacket
- UL copper bonding strip 3/8" – 1¼" for grounding
- Sunlight resistant
- Flame retardant TPU jacket

Temperature Rating

- 80°C/176°F Dry
- 60°C/140°F Wet
- 70°C/158°F Oil resistant
- -40°C

Applications

- Wherever limiting toxic material of combustion is needed
- 600 volt and lower circuits
- Direct burial and concrete embedment
- Bond wire for grounding in sizes 3/8" – 1¼" NEC® 250.118(6)
- Hazardous locations per NEC® 501

References & Ratings

- UL 360 File E26540
- NEC® 250.118(6), 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.42, 695.6(E) and 695.14(E)
- Department of Defense UL 360 adopted on October 1, 1987
- ASTM® E 162 Flame Spread Index
- ASTM® E 662 Smoke Density Generation
- Bombardier SMP-800C Toxic Gas Generation
- UL 94 Tests for Flammability of Plastic Materials for Parts
- UL does not list any manufacturers liquidtight conduit as low smoke zero halogen

Ordering Information / Product Dimensions/Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
6701-30-00	3/8	12	100'	–	24	0.594/0.614	0.690/0.710	0.484/0.504	2
6702-30-00	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6702-45-00	1/2	16	–	500'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6702-60-00	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6703-30-00	3/4	21	100'	–	47	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6703-45-00	3/4	21	–	500'	47	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6703-60-00	3/4	21	–	1000'	47	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6704-30-00	1	27	100'	–	78	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6704-41-00	1	27	–	400'	78	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6705-24-00	1¼	35	50'	–	102	1.540/1.570	1.630/1.660	1.380/1.410	8
6705-40-00	1¼	35	–	200'	102	1.540/1.570	1.630/1.660	1.380/1.410	8
6705-47-00	1¼	35	–	750'	102	1.540/1.570	1.630/1.660	1.380/1.410	8
6706-24-00	1½	41	50'	–	107	1.735/1.770	1.865/1.900	1.575/1.600	9
6707-24-00	2	53	50'	–	144	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6708-22-00	2½	63	25'	–	168	2.640/2.675	2.840/2.875	2.480/2.505	14.62

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

LIQUID-TUFF™
Low Smoke Zero Halogen – LSZH
UL Liquidtight Flexible Metal Conduit Type LFMC

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ LOW SMOKE ZERO HALOGEN (LSZH) UL Liquidtight Flexible Metal Conduit designed for use as a raceway for power, control and communication cables in accordance with Article 350 of the National Electric Code.
The product is intended for applications where limiting smoke and toxic materials of combustion are important considerations. The product is Underwriters Laboratories Inc. (UL) Listed for use at 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also UL Listed for direct burial, outdoor use, sunlight resistance and for -40°C (-40°F) low temperatures applications. UL Listed Liquidtight Flexible Metal Conduit is manufactured and tested in accordance with Underwriters Laboratories Inc. Standard UL 360. The product carries the UL Listing Mark. Underwriters Laboratories Inc. does not list any manufacturers Liquidtight Flexible Metal Conduit as being low smoke zero halogen.

Construction

The LIQUID-TUFF™ LSZH Liquidtight Flexible Metal Conduit shall be formed from zinc coated galvanized low carbon steel strip having a uniform width and thickness. There shall be a continuous bonding strip built into the conduit core for the 3/8 through 1¼ trade sizes. The construction shall be in accordance with the UL 360 Standard. The Low Smoke Zero Halogen designation shall be based upon testing to ASTM® 162 – Flame Spread Index, ASTM® E662 – Smoke Density Generation and Bombardier SMP-800C – Toxic Gas Generation. The finished LIQUID-TUFF™ LSZH Liquidtight Flexible Metal Conduit dimensions shall be in accordance with Table 5.1 of UL 360 which is summarized in Table 3.

Jacket – TPU

A rugged low-smoke, moisture, oil, sunlight resistant and flame retardant thermoplastic polyurethane jacket shall be applied directly over the flexible metal conduit. The physical properties of the jacket material shall comply with the UL 360 Standard. The Low Smoke Zero Halogen jacket shall be tested to and comply with ASTM® 162 – Flame Spread Index, ASTM® E662 – Smoke Density Generation and Bombardier SMP-800C – Toxic Gas Generation. The test results are summarized in Table 1. Underwriters Laboratories Inc. (UL) does not List any manufacturers jacket compound as being low smoke zero halogen. The jacket wall thickness shall be in accordance with Table 4.1 of UL 360 which is summarized in Table 2. Jacket: Black

Grounding

Permanent circuit ground protection is provided through the continuous bonding strip built into the conduit core in trade sizes 3/8 through 1¼. A separate grounding conductor is required by the NEC® for all trade sizes 1½ and larger.

Reference Standards

UL 360	Standard for Liquidtight Flexible Steel Conduit
File Reference	UL E26540
NEC® Articles	250.118(6), 300.22, 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.42, 695.6(E) and 695.14(E)
Department of Defense	UL 360 adopted on October 1, 1987
ASTM® E 162	Flame Spread Index
ASTM® E 662	Smoke Density Generation
Bombardier SMP-800C	Toxic Gas Generation
UL 94	Tests for Flammability of Plastic Materials for Parts

Markings

The surface of the outer jacket shall be clearly marked with a legible print legend in compliance with the UL 360 Standard.

Performance Tests

In accordance with UL 360, the completed LIQUID-TUFF™ LSZH Liquidtight Flexible Metal Conduit shall meet all of the performance requirements outlined in Appendix A.

LIQUID-TUFF™
Low Smoke Zero Halogen – LSZH
UL Liquidtight Flexible Metal Conduit Type LFMC

Table 1
LIQUID-TUFF™ LSZH Combustion and Flammability Properties

PROPERTY	TEST	RESULTS
Vertical Burn (Material)	UL 94	UL Listed: V-O Rating No Flaming Drips
Vertical Burn (Conduit)	UL 360	UL Listed: Passed
Oxygen Index % (Material)	ASTM® D 2863	25%
Flame Spread Index	ASTM® E-162	Passed No Flaming Drips
Smoke Generation (Flaming)	ASTM® E662 (NFPA-258)	Ds=13 @ 1.5 min Ds=57 @ 4.0 min No Flaming Drips
Smoke Generation (Non-flaming)	ASTM® E662 (NFPA-258)	Ds=1 @ 1.5 min Ds=8 @ 4.0 min No Flaming Drips
Toxic Gas Generation	Bombardier SMP-800C	Pass

Testing performed by independent test laboratory.
Test results available upon request.

Table 2
Jacket Thickness

Conduit Trade		Minimum Acceptable Average
Trade Size	Metric Designator	Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050

Table 3
Conduit Diameters
Acceptable Internal and External Diameters

Conduit Size		Internal Diameter, In.		Over Conduit, In.		Over Jacket, In.	
Trade Size, In.	Metric Designator	Min.	Max.	Min.	Max.	Min.	Max.
3/8	12	0.484	0.504	0.594	0.614	0.690	0.710
1/2	16	0.622	0.642	0.732	0.765	0.820	0.840
3/4	21	0.820	0.840	0.930	0.960	1.030	1.050
1	27	1.041	1.066	1.201	1.226	1.290	1.315
1¼	35	1.380	1.410	1.540	1.570	1.630	1.660
1½	41	1.575	1.600	1.735	1.770	1.865	1.900
2	53	2.020	2.045	2.180	2.215	2.340	2.375
2½	63	2.480	2.505	2.640	2.675	2.840	2.875

Appendix A

UL 360 Performance Tests

Resistance and High Current
Fault Current
Impact
Tension
Crushing
Pipe Stiffness
Flexibility
Low Temperature Flexibility
Zinc Coating
Vertical Flame
Physical Properties
Deformation
Mechanical Water Absorption
Moisture Penetration
Sunlight Resistance
Test for Secureness of Fittings
Test for Durability of Ink Printing

LIQUID-TUFF™
Low Smoke Zero Halogen – LSZH-VF
Non-UL Liquidtight Flexible Metal Conduit

Description

- Low smoke, zero halogen raceway
- Low toxicity generation characteristics
- Hot dipped zinc galvanized low carbon steel core
- Excellent temperature ratings
- Black thermoplastic polyurethane jacket
- Sunlight resistant
- Flame retardant TPU jacket

Temperature Rating

- 80°C/176°F Dry
- 60°C/140°F Wet
- 70°C/158°F Oil resistant
- -40°C

Applications

- Wherever limiting toxic material of combustion is needed
- 600 volt and lower circuits

References & Ratings

- Non-UL core
- ASTM® E 162 Flame Spread Index
- ASTM® E 662 Smoke Density Generation
- Bombardier SMP-800C Toxic Gas Generation
- UL 94 Tests for Flammability of Plastic Materials for Parts

Ordering Information / Product Dimensions/Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
6751-30-00	3/8	12	100'	–	21	0.594/0.614	0.690/0.710	0.484/0.504	2
6752-30-00	1/2	16	100'	–	25	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6752-45-00	1/2	16	–	500'	25	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6752-60-00	1/2	16	–	1000'	25	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6753-30-00	3/4	21	100'	–	32	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6753-45-00	3/4	21	–	500'	32	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6753-60-00	3/4	21	–	1000'	32	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6754-30-00	1	27	100'	–	43	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6754-41-00	1	27	–	400'	43	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6755-24-00	1¼	35	50'	–	57	1.540/1.570	1.630/1.660	1.380/1.410	8
6755-40-00	1¼	35	–	200'	57	1.540/1.570	1.630/1.660	1.380/1.410	8
6755-47-00	1¼	35	–	750'	57	1.540/1.570	1.630/1.660	1.380/1.410	8
6756-24-00	1½	41	50'	–	85	1.735/1.770	1.865/1.900	1.575/1.600	9
6757-24-00	2	53	50'	–	112	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6758-22-00	2½	63	25'	–	116	2.640/2.675	2.840/2.875	2.480/2.505	14.62

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Not listed for grounding.

LIQUID-TUFF™
Low Smoke Zero Halogen – LSZH-VF
Non-UL Liquidtight Flexible Metal Conduit

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ Non-UL LOW SMOKE ZERO HALOGEN (LSZH) Liquidtight Flexible Metal Conduit designed for use where limiting smoke and toxic materials of combustion are important considerations. The product is intended for use at 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also acceptable for outdoor use at -40°C (-40°F) low temperatures and is sunlight resistant. This Liquidtight Flexible Metal Conduit is manufactured and tested in accordance with generally accepted industry practices.

The product is designed to be used for specific applications where Underwriters Laboratories Inc. (UL) or other agency approvals are not required.

Construction

The LIQUID-TUFF™ LSZH Liquidtight Flexible Metal Conduit shall be formed from zinc coated galvanized low carbon steel strip having a uniform width and thickness. The Low Smoke Zero Halogen designation shall be based upon testing to ASTM® 162 – Flame Spread Index, ASTM® E662 – Smoke Density Generation and Bombardier SMP-800C – Toxic Gas Generation. The finished LIQUID-TUFF™ LSZH Liquidtight Flexible Metal Conduit dimensions shall be in accordance with Table 3.

Jacket – TPU

A rugged low-smoke, moisture, oil, sunlight resistant and flame retardant thermoplastic polyurethane jacket shall be applied directly over the flexible metal conduit. The Low Smoke Zero Halogen jacket shall be tested to and comply with ASTM® 162 – Flame Spread Index, ASTM® E662 – Smoke Density Generation and Bombardier SMP-800C – Toxic Gas Generation. The test results are summarized in Table 1. In addition the jacket shall comply with Table 2 of this specification.

Reference Standards

ASTM® E 162	Flame Spread Index
ASTM® E 662	Smoke Density Generation
Bombardier SMP-800C	Toxic Gas Generation
UL 94	Tests for Flammability of Plastic Materials for Parts

Grounding

A separate grounding conductor is required for all trade sizes.

Markings

The surface of the outer jacket shall be clearly marked with the applicable print legend.

Performance Tests

The completed LIQUID-TUFF™ LSZH Non-UL Liquidtight Flexible Metal Conduit shall meet all of the performance requirements outlined in Appendix A.

LIQUID-TUFF™
Low Smoke Zero Halogen – LSZH-VF
Non-UL Liquidtight Flexible Metal Conduit

Table 1
LIQUID-TUFF™ LSZH-VF Combustion and Flammability Properties

PROPERTY	TEST	RESULTS
Vertical Burn (Material)	UL 94	UL Listed: V-O Rating No Flaming Drips
Vertical Burn (Conduit)	UL 360	Passed
Oxygen Index % (Material)	ASTM® D 2863	25%
Flame Spread Index	ASTM® E-162	Passed No Flaming Drips
Smoke Generation (Flaming)	ASTM® E662 (NFPA-258)	Ds=13 @ 1.5 min Ds=57 @ 4.0 min No Flaming Drips
Smoke Generation (Non-flaming)	ASTM® E662 (NFPA-258)	Ds=1 @ 1.5 min Ds=8 @ 4.0 min No Flaming Drips
Toxic Gas Generation	Bombardier SMP-800C	Pass

Testing performed by independent test laboratory.
Test results available upon request.

Table 2
Jacket Thickness

Conduit Trade Size	Conduit Trade Metric Designator	Minimum Acceptable Average Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050

Table 3
Conduit Diameters
Acceptable Internal and External Diameters

Conduit Size Trade Size, In.	Conduit Size Metric Designator	Internal Diameter, In. Min.	Internal Diameter, In. Max.	Over Conduit, In. Min.	Over Conduit, In. Max.	Over Jacket, In. Min.	Over Jacket, In. Max.
3/8	12	0.484	0.504	0.594	0.614	0.690	0.710
1/2	16	0.622	0.642	0.732	0.765	0.820	0.840
3/4	21	0.820	0.840	0.930	0.960	1.030	1.050
1	27	1.041	1.066	1.201	1.226	1.290	1.315
1¼	35	1.380	1.410	1.540	1.570	1.630	1.660
1½	41	1.575	1.600	1.735	1.770	1.865	1.900
2	53	2.020	2.045	2.180	2.215	2.340	2.375
2½	63	2.480	2.505	2.640	2.675	2.840	2.875

Appendix A

Performance Tests
Flexibility
Low Temperature Flexibility
Zinc Coating
Vertical Flame
Physical Properties
Deformation
Mechanical Water Absorption
Moisture Penetration
Sunlight Resistance
Test for Durability of Ink Printing

LIQUID-TUFF™
Non-UL Oil Resistant/High Temperature Liquidtight Flexible Steel Conduit

Description

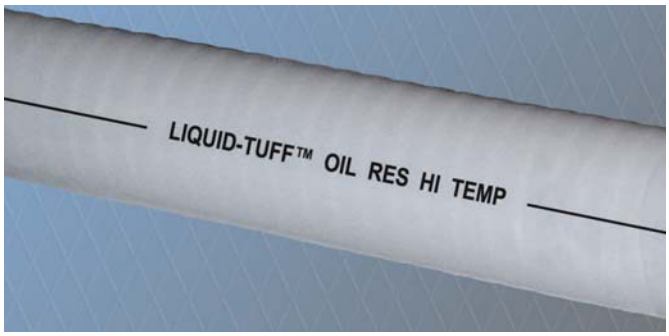
- High-quality PVC jacket for oil resistance and high temperatures – Grey
- Hot dipped zinc galvanized low carbon steel core
- Excellent flexibility
- Non-UL liquidtight electrical raceway

Temperature Rating

- 105°C/221°F Dry
- 60°C/140°F Wet
- 70°C/158°F Oil resistant
- -26°C

Applications

- Oily and harsh chemical environments
- UV resistant
- Excellent flexibility
- Industrial applications
- Indoor or outdoor locations
- Provides mechanical protection for conductors



References & Ratings

- Non-UL
- Separate grounding conductor required in all sizes

Ordering Information / Product Dimensions/Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
5901-30-00	3/8	12	100'	–	22	0.594/0.614	0.690/0.710	0.484/0.504	2
5901-45-00	3/8	12	–	500'	22	0.594/0.614	0.690/0.710	0.484/0.504	2
5901-60-00	3/8	12	–	1000'	22	0.594/0.614	0.690/0.710	0.484/0.504	2
5902-30-00	1/2	16	100'	–	26	0.732/0.765	0.820/0.840	0.622/0.642	3.25
5902-45-00	1/2	16	–	500'	26	0.732/0.765	0.820/0.840	0.622/0.642	3.25
5902-60-00	1/2	16	–	1000'	26	0.732/0.765	0.820/0.840	0.622/0.642	3.25
5903-30-00	3/4	21	100'	–	34	0.930/0.960	1.030/1.050	0.820/0.840	4.25
5903-45-00	3/4	21	–	500'	34	0.930/0.960	1.030/1.050	0.820/0.840	4.25
5903-60-00	3/4	21	–	1000'	34	0.930/0.960	1.030/1.050	0.820/0.840	4.25
5904-30-00	1	27	100'	–	46	1.201/1.226	1.290/1.315	1.041/1.066	6.5
5904-41-00	1	27	–	400'	46	1.201/1.226	1.290/1.315	1.041/1.066	6.5
5905-24-00	1¼	35	50'	–	62	1.540/1.570	1.630/1.660	1.380/1.410	8
5905-40-00	1¼	35	–	200'	62	1.540/1.570	1.630/1.660	1.380/1.410	8
5906-24-00	1½	41	50'	–	91	1.735/1.770	1.865/1.900	1.575/1.600	9
5907-24-00	2	53	50'	–	120	2.180/2.215	2.340/2.375	2.020/2.045	11.12
5908-22-00	2½	63	25'	–	122	2.640/2.675	2.840/2.875	2.480/2.505	14.62
5909-22-00	3	78	25'	–	148	3.295/3.335	3.460/3.500	3.070/3.100	17.5
5910-22-00	3½	91	25'	–	202	3.720/3.789	3.960/4.000	3.500/3.540	20
5911-22-00	4	103	25'	–	255	4.220/4.280	4.460/4.500	4.000/4.040	24

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

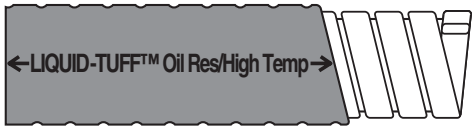
Not for grounding.

LIQUID-TUFF™
Non-UL Oil Resistant/High Temperature Liquidtight Flexible Steel Conduit

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ Non-UL Oil Resistant/High Temperature Liquidtight Flexible Steel Conduit designed for use in high temperature oily applications. The product is intended for use at 105°C (221°F) in a dry location, 60°C (140°F) in a wet location, 70°C (158°F) in an oily location and at -26°C (-15°F) in a low temperature application. The product is rated for outdoor and sunlight resistant use in dark colors.

The product is designed to be used for specific applications where Underwriters Laboratories Inc. (UL) or other agency approvals are not required.



Construction

Non-UL Oil Resistant/High Temperature Liquidtight Flexible Steel Conduit shall be formed from a zinc coated galvanized low carbon steel strip having a uniform width and thickness. The convolutions of the interlock shall be filed with a fibrous material designed to promote flexibility.

Jacket – PVC

A rugged moisture, oil and sunlight resistant polyvinyl chloride (PVC) jacket shall be applied directly over the flexible metal conduit with a wall thickness in accordance with Table 2. Jacket: Grey

Grounding

A separate grounding conductor is required for all trade sizes.

Markings

The surface of the outer jacket shall be clearly marked with the applicable legible print legend.

Performance Tests

Table 2
Jacket Thickness

Conduit Trade Size	Conduit Trade Metric Designator	Minimum Acceptable Average Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050
3	78	0.050
3½	91	0.060
4	103	0.060

The finished product dimensions shall be in accordance with Table 3.

Table 3
Conduit Diameters
Acceptable Internal and External Diameters

Conduit Size Trade Size, In.	Conduit Size Metric Designator	Internal Diameter, In. Min.	Internal Diameter, In. Max.	Over Conduit, In. Min.	Over Conduit, In. Max.	Over Jacket, In. Min.	Over Jacket, In. Max.
3/8	12	0.484	0.504	0.594	0.614	0.690	0.710
1/2	16	0.622	0.642	0.732	0.765	0.820	0.840
3/4	21	0.820	0.840	0.930	0.960	1.030	1.050
1	27	1.041	1.066	1.201	1.226	1.290	1.315
1¼	35	1.380	1.410	1.540	1.570	1.630	1.660
1½	41	1.575	1.600	1.735	1.770	1.865	1.900
2	53	2.020	2.045	2.180	2.215	2.340	2.375
2½	63	2.480	2.505	2.640	2.675	2.840	2.875
3	78	3.070	3.100	3.295	3.335	3.460	3.500
3½	91	3.500	3.540	3.720	3.789	3.960	4.000
4	103	4.000	4.040	4.220	4.280	4.460	4.500

Appendix A

Performance Tests
Flexibility
Low Temperature Flexibility
Zinc Coating
Vertical Flame
Physical Properties
Mechanical Water Absorption
Moisture Penetration
Sunlight Resistance

LIQUID-TUFF™
Non-UL Extreme Temperature
Liquidtight Flexible Metal Conduit

Description

- High quality thermoplastic rubber jacket – Black
- Ability to withstand extremes in temperature
- Hot dipped zinc galvanized low carbon steel core
- Halogen free
- Oil and ozone resistant
- Superior flexibility

Temperature Rating

- 150°C/302°F Dry – Intermittent use
- 135°C/275°F Dry – Continuous use
- 60°C Oily and wet
- -60°C/-76°F Low temperature brittle point

Applications

- Resists extremes in temperature
- Very high operating temperatures
- For location requiring halogen free conduits
- Industrial applications
- Indoor or outdoor locations
- Provides mechanical protection for conductors

References & Ratings

- Non-UL
- Meets UL 94HB flammability requirements
- Meets ASTM® D746 low temperature brittle point -60°/-76°F
- Separate grounding conductor is required for all trade sizes

Ordering Information

Product Dimensions/Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
6801-30-00	3/8	12	100'	–	19	0.594/0.614	0.690/0.710	0.484/0.504	2
6802-30-00	1/2	16	100'	–	23	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6802-45-00	1/2	16	–	500'	23	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6802-60-00	1/2	16	–	1000'	23	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6803-30-00	3/4	21	100'	–	29	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6803-45-00	3/4	21	–	500'	29	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6803-60-00	3/4	21	–	1000'	29	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6804-30-00	1	27	100'	–	40	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6804-41-00	1	27	–	400'	40	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6805-24-00	1¼	35	50'	–	52	1.540/1.570	1.630/1.660	1.380/1.410	8
6805-40-00	1¼	35	–	200'	52	1.540/1.570	1.630/1.660	1.380/1.410	8
6806-24-00	1½	41	50'	–	81	1.735/1.770	1.865/1.900	1.575/1.600	9
6807-24-00	2	53	50'	–	106	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6808-22-00	2½	63	25'	–	108	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6809-22-00	3	78	25'	–	130	3.295/3.335	3.460/3.500	3.070/3.100	17.5
6810-22-00	3½	91	25'	–	178	3.720/3.789	3.960/4.000	3.500/3.540	20
6811-22-00	4	103	25'	–	225	4.220/4.280	4.460/4.500	4.000/4.040	24

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Not for grounding.

LIQUID-TUFF™
Non-UL Extreme Temperature Liquidtight Flexible Metal Conduit

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ Non-UL EXTREME TEMPERATURE Liquidtight, Flexible Metal Conduit designed for use where operation at a high temperature is required.
The product is appropriate for intermittent use at 150°C (302°F) and continuous use at 135°C (275°F) in a dry location, 60°C in a wet location or 60°C in an oily location. The LIQUID-TUFF™ EXTREME TEMPERATURE jacket material is halogen-free, meets UL 94HB flammability requirements and has a low temperature brittle point of -60°C (-76°F).

The product is designed to be used for specific applications where Underwriters Laboratories Inc. (UL) or other agency approvals are not required.

Construction

The Non-UL EXTREME TEMPERATURE Liquidtight, Flexible Steel Conduit core shall be formed into a very flexible interlocked steel conduit from a zinc coated galvanized low carbon steel strip having a uniform width and thickness. The convolutions of the interlock shall be filed with a fibrous material designed to promote flexibility.

Jacket – TPR

A rugged moisture, oil and ozone resistant thermoplastic elastomer jacket shall be extruded directly over the interlocked very flexible steel core. The jacket is halogen free, has a UL 94HB Flammability Rating and has a -60°C (-76°F) Low Temperature Brittle Point when tested in accordance with ASTM® D-746. The wall thickness is in conformance with Table 1. Jacket: Black

720-Hour Xenon-Arc sunlight/weather resistance - ASTM D2565 and ASTM G155.

Grounding

A separate grounding conductor is required for all trade sizes.

Markings

The outer surface of the jacket shall be clearly marked with the applicable print legend.

Performance Tests

The completed LIQUID-TUFF™ Non-UL EXTREME TEMPERATURE Liquidtight Flexible Steel Conduit shall meet all of the applicable performance requirements.

Table 1
Jacket Thickness

Conduit Trade Size	Conduit Trade Metric Designator	Minimum Acceptable Average Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050
3	78	0.050
3½	91	0.060
4	103	0.060

LIQUID-TUFF™
UL Liquidtight Flexible Non-Metallic Conduit Type A Orange Type LFNC-A

Description

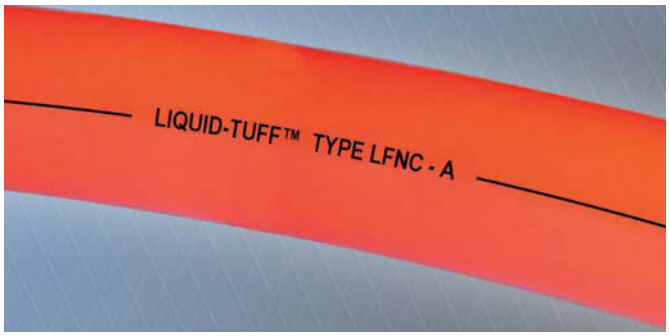
- Layered Type A construction per NEC® 356.2(1)
- Nylon reinforced braid between two layers of PVC for strength and flexibility
- Flame retardant compound
- Sunlight resistant
- Oil resistant
- Mild acid resistance
- Non-conductive raceway

Temperature Rating

- 80°C/176°F Dry
- 60°C/140°F Wet
- 60°C/140°F Oil resistant

Applications

- Constant flexing and motion applications
- Signage and outdoor lighting over 1000 volts per 600.32 (A) (1)
- Hazardous locations per NEC® 501
- Industrial and commercial applications
- Physical protection from abrasion of the conductors inside
- Indoor or outdoor locations



References & Ratings

- UL 1660 E123464
- NEC® 356, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21, 645.5(D)(2), 680.21, 680.23, 680.25, and 680.42
- CSA C22.2 No. 227.2.1 File LL69271

Ordering Information / Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Wall Thickness	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
6501-30-00	3/8	12	100'	–	14	0.035	0.475/0.515	0.745/0.785	2
6502-30-00	1/2	16	100'	–	16	0.035	0.610/0.650	0.900/0.940	3.25
6502-60-00	1/2	16	–	1000'	16	0.035	0.610/0.650	0.900/0.940	3.25
6503-30-00	3/4	21	100'	–	18	0.035	0.805/0.845	1.140/1.180	4.25
6504-30-00	1	27	100'	–	29	0.035	1.020/1.065	1.400/1.450	6.5
6504-45-00	1	27	–	500'	29	0.035	1.020/1.065	1.400/1.450	6.5
6505-24-00	1¼	35	50'	–	40	0.040	1.360/1.405	1.790/1.835	8
6506-24-00	1½	41	50'	–	83	0.040	1.575/1.630	2.035/2.090	9
6507-24-00	2	53	50'	–	140	0.040	2.035/2.090	2.595/2.650	11.1

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

LIQUID-TUFF™
UL Liquidtight Flexible Non-Metallic Conduit Type A Orange
Type LFNC-A

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ Layered Liquidtight Flexible Non-Metallic Conduit, designed for use in wet, dry or oily locations as a flame resistant, Non-Metallic raceway for power, control and communications cables where repetitive motion and constant flexing is required. It is intended for applications where abrasion and physical abuse may occur. It complies with Article 356 of the NEC® regarding layered conduit Type LFNC-A. The product is UL Listed for 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 60°C (140°F) in a oily location. It is also UL Listed through 2-inch trade sizes for outdoor use and sunlight resistance. This Liquidtight Flexible Non-Metallic Conduit is manufactured and tested in accordance with Harmonized Underwriters Laboratories Inc. Standard UL 1660. The product carries the UL Listing Mark, CSA Certification, and CSA Harmonized Certification.

Construction

Liquidtight Flexible Non-Metallic Conduit Type LFNC-A is a layered raceway of circular cross section with a smooth flexibly polyvinyl chloride (PVC) inner layer with a reinforcing layer covered with a flexible polyvinyl chloride (PVC) jacket. The wall thicknesses and dimensions of the layered conduit shall comply with Table1 of harmonized UL 1660/CSA C22.2 No. 227.2.1 of UL 1660 which is summarized in Table 1. Color: Orange

Grounding

A separate Grounding conductor is required by both the National Electrical Code and Canadian Electrical Code for all trade sizes.

Markings

The outer surface of the conduit shall be clearly marked with a legible print legend in accordance with harmonized UL 1660/CSA C22.2 No. 227.2.1.

Performance Tests

The completed LIQUID-TUFF™ Liquidtight Flexible Non-Metallic Conduit Type A shall meet all of the performance requirements contained in UL 1660 outlined in Appendix A.

Reference Standards

UL 1660/ CSA C22.2 No. 227.2.1	Standard for Liquidtight Flexible Non-Metallic Conduit
File References	UL E123464, CSA 69271
NEC® Articles:	356, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.23, 680.25, and 680.42

Table 1

Conduit Size Trade Size, In.	Metric	Inside Diameter, In. Min.	Inside Diameter, In. Max.	Outside Diameter, In. Min.	Outside Diameter, In. Max.	Min. Bend Radii, In.	Weight lbs/100ft	Min. Wall Thickness Inches
3/8	(12)	0.475	0.515	0.745	0.785	2.0	14	.035
1/2	(16)	0.610	0.650	0.900	0.940	3.25	16	.035
3/4	(21)	0.805	0.845	1.140	1.180	4.25	18	.035
1	(27)	1.020	1.065	1.400	1.450	6.5	29	.035
1¼	(35)	1.360	1.405	1.790	1.835	8.0	40	.040
1½	(41)	1.575	1.630	2.035	2.090	9.5	83	.040
2	(53)	2.035	2.090	2.595	2.650	11.1	140	.040

Appendix A

UL Performance Tests

- Physical Properties
  - Original Tensile and Elongation
  - Air Oven Aging Test
  - Oil Immersion Test
  - Deformation
- Tension
- Flexibility (Room and Low Temperature)
- Vertical Flame
- Room Temperature Impact
- Secureness of Fittings
- Mechanical Water Absorption
- Moisture Penetration Test
- Durability of Ink
- Sunlight Resistance
- Crush Test

LIQUID-TUFF™
UL High Temperature Liquidtight Flexible Non-Metallic Conduit Type LFNC-B

Description

- Type B Non-Metallic conduit
- High temperature applications
- Direct burial
- Sunlight resistant
- Rigid PVC core for strength – Black
- Strong integral reinforcing member within conduit wall
- Sunlight resistant
- Oil resistant
- Non-conductive raceway

Temperature Rating

- 105°C/221°F Dry
- 60°C/140°F Wet
- 70°C/158°F Oil resistant

Applications

- For high ambient conditions
- Wet, dry, oily locations
- Outdoor, sunlight resistant
- Direct burial applications
- Commercial and industrial jobs

References & Ratings

- UL 1660 E123464
- Package lengths in excess of 100 feet contain splices; these splices must be cut out before use.
- NEC® 356, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.23, 680.25, 680.27, 680.42, 695.6(E) and 695.14(E)

* Package lengths in excess of 100 feet contain splices; these splices must be cut out before use.

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Wall Thickness	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
6851-30-00	3/8	12	100'	–	12	0.095	0.484/0.504	0.690/0.710	1.5
6852-30-00	1/2	16	100'	–	13	0.090	0.622/0.642	0.820/0.840	1.8
6852-60-00	1/2	16	–	1000'	13	0.090	0.622/0.642	0.820/0.840	1.8
6853-30-00	3/4	21	100'	–	18	0.095	0.820/0.840	1.030/1.050	3.0
6853-46-00	3/4	21	–	700'	18	0.095	0.820/0.840	1.030/1.050	3.0
6853-60-00	3/4	21	–	1000'	18	0.095	0.820/0.840	1.030/1.050	3.0
6854-30-00	1	27	100'	–	27	0.100	1.041/1.066	1.290/1.315	4.0
6854-45-00	1	27	–	500'	27	0.100	1.041/1.066	1.290/1.315	4.0
6855-24-00	1¼	35	50'	–	35	0.105	1.380/1.410	1.630/1.660	6.0
6856-24-00	1½	41	50'	–	48	0.125	1.575/1.600	1.865/1.900	6.5
6857-24-00	2	53	50'	–	70	0.125	2.020/2.045	2.340/2.375	11.5

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

LIQUID-TUFF™
UL High Temperature Liquidtight Flexible Non-Metallic Conduit Type LFNC-B

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ UL High Temperature Liquidtight Flexible Non-Metallic Conduit (Type LFNC-B) designed for use in wet, dry or oily locations as a flame resistant, Non-Metallic raceway for power, control and communications cables in compliance with Article 356 of the National Electrical Code.
The product is UL Listed for 105°C (221°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also UL Listed through 2-inch trade sizes for direct burial, outdoor and sunlight resistance use. This Liquidtight Flexible Non-Metallic Conduit is manufactured and tested in accordance with Underwriters Laboratories Inc. Standard UL 1660. The product carries the UL Listing Mark.

Construction

Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B is a raceway of circular cross section with a smooth polyvinyl chloride (PVC) inner surface and an integral reinforcing member within the conduit wall. The wall thicknesses and dimensions of the integral conduit shall comply with Table 6.4 of UL 1660 which are summarized in Table 1.

Grounding

A separate Grounding conductor is required by the National Electrical Code for all trade sizes.

Markings

The outer surface of the conduit shall be clearly marked with a legible print legend in accordance with UL 1660.

Performance Tests

The completed UL LIQUID-TUFF™ Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B shall meet all of the performance requirements contained in UL 1660 and outlined in Appendix A.

Reference Standards

UL 1660	Standard for Liquidtight Flexible Non-Metallic Conduit
UL File References	UL E123464
NEC® Articles:	356, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.23, 680.25, 680.27, 680.42, 695.6(E) and 695.14(E)

Table 1

Conduit Size Trade Size, In.	Metric	Inside Diameter, In. Min.	Inside Diameter, In. Max.	Outside Diameter, In. Min.	Outside Diameter, In. Max.	Min. Bend Radii, In.	Weight lbs/100ft
3/8	(12)	0.484	0.504	0.690	0.710	1.5	12
1/2	(16)	0.622	0.642	0.820	0.840	1.8	13
3/4	(21)	0.820	0.840	1.030	1.050	3.0	18
1	(27)	1.041	1.066	1.290	1.315	4.0	27
1¼	(35)	1.380	1.410	1.630	1.660	6.0	35
1½	(41)	1.575	1.600	1.865	1.900	6.5	48
2	(53)	2.020	2.045	2.340	2.375	11.5	70

* Package lengths in excess of 100 feet contain splices; these splices must be cut out before use.

Appendix A

UL Performance Tests

Physical Properties for 105°C:
- Original Tensile and Elongation
- Air Oven Aging Test
- Oil Immersion Test
- Deformation

Tension
Flexibility (Room and Low Temperature)
Vertical Flame
Room Temperature Impact
Secureness of Fittings
Mechanical Water Absorption
Moisture Penetration Test
Durability of Ink
Sunlight Resistance
Crush Test
Pipe Stiffness for Direct Burial

Commercial Liquidtight Flexible Conduit

Commercial Liquidtight Flexible Conduit

LIQUID-TUFF™ – UL Liquidtight Flexible Steel Conduit, Type LFMC (Grey, Black, Red, Orange, Yellow, Green)

Description

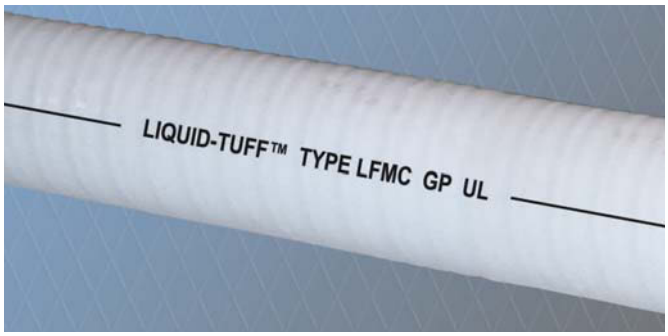
- UL bonded strip 3/8" – 1¼" for grounding
- UL Liquidtight all sizes
- Sunlight resistant
- Flame retardant PVC jacket
- Hot dipped zinc galvanized low carbon steel core
- Available in Grey, Black, Red, Orange, Yellow or Green

Temperature Rating

- 80°C to -30°C Dry
- 60°C Wet
- 70°C Oil resistant

Applications

- 600 volt and lower circuits
- Direct burial in earth
- Concrete embedment
- Sunlight and weather exposure
- Suitable for grounding per NEC® 250.118(6), 3/8" – 1¼"
- Hazardous location per NEC® 501
- Raised computer room floors per NEC® 645.5(D)
- Service entrance wiring up to 6 feet per NEC® 230.43(15)
- Feeders and services for marina and boat yards



References & Ratings

- UL 360, File Reference E26540, CSA Certified File LL51593, CSA C22.2 Number 56
- NEC® 250.118(6), 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.42, 695.6(E), 695.14(E)
- Canadian Electrical Code (CEC) Part I Clause 12-1300
- UL approved for use in direct burial applications including concrete and earth burial (Sizes 3/8" through 4")
- Conduit in sizes 1½" and larger requires grounding conductor per NEC® 350.60
- May be installed under raised computer room floors per NEC® 645.5(D)

Ordering Information / Product Dimensions/Bend Radius

Product Code Black	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
6201-30-BK	3/8	12	100'	–	24	0.594/0.614	0.690/0.710	0.484/0.504	2
6202-30-BK	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-45-BK	1/2	16	–	500'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-60-BK	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6203-30-BK	3/4	21	100'	–	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-45-BK	3/4	21	–	500'	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-60-BK	3/4	21	–	1000'	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6204-30-BK	1	27	100'	–	79	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6204-80-BK	1	27	–	400'	79	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6205-24-BK	1¼	35	50'	–	103	1.540/1.570	1.630/1.660	1.380/1.410	8
6205-40-BK	1¼	35	–	200'	103	1.540/1.570	1.630/1.660	1.380/1.410	8
★6206-24-BK	1½	41	50'	–	109	1.735/1.770	1.865/1.900	1.575/1.600	9
★6206-35-BK	1½	41	–	150'	109	1.735/1.770	1.865/1.900	1.575/1.600	9
★6207-30-BK	2	53	–	100'	146	2.180/2.215	2.340/2.375	2.020/2.045	11.12

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Review NEC® 350.60 and 250.118(6) for grounding requirements, conduit sizes 1½" and larger.

★Minimum order quantity required.

For more colors and sizes see the next page.

LIQUID-TUFF™ – UL Liquidtight Flexible Steel Conduit, Type LFMC (Grey, Black, Red, Orange, Yellow, Green)

Ordering Information

Product Dimensions/Bend Radius

Product Code Gray	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
6201-30-00	3/8	12	100'	–	24	0.594/0.614	0.690/0.710	0.484/0.504	2
6201-45-00	3/8	12	–	500'	24	0.594/0.614	0.690/0.710	0.484/0.504	2
6201-60-00	3/8	12	–	1000'	24	0.594/0.614	0.690/0.710	0.484/0.504	2
6201-65-00	3/8	12	–	2500'	24	0.594/0.614	0.690/0.710	0.484/0.504	2
6202-30-00	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-45-00	1/2	16	–	500'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-60-00	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-68-00	1/2	16	–	3500'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6203-30-00	3/4	21	100'	–	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-45-00	3/4	21	–	500'	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-60-00	3/4	21	–	1000'	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-66-00	3/4	21	–	2000'	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6204-30-00	1	27	100'	–	79	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6204-41-00	1	27	–	400'	79	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6204-64-00	1	27	–	1250'	79	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6205-24-00	1¼	35	50'	–	103	1.540/1.570	1.630/1.660	1.380/1.410	8
6205-40-00	1¼	35	–	200'	103	1.540/1.570	1.630/1.660	1.380/1.410	8
6205-47-00	1¼	35	–	750'	103	1.540/1.570	1.630/1.660	1.380/1.410	8
6206-24-00	1½	41	50'	–	109	1.735/1.770	1.865/1.900	1.575/1.600	9
6206-35-00	1½	41	–	150'	109	1.735/1.770	1.865/1.900	1.575/1.600	9
6206-62-00	1½	41	–	600'	109	1.735/1.770	1.865/1.900	1.575/1.600	9
6207-24-00	2	53	50'	–	146	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6207-30-00	2	53	–	100'	146	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6207-80-00	2	53	–	300'	146	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6208-22-00	2½	63	25'	–	169	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6208-79-00	2½	63	–	275'	169	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6209-22-00	3	78	25'	–	195	3.295/3.335	3.460/3.500	3.070/3.100	17.5
6209-56-00	3	78	–	175'	195	3.295/3.335	3.460/3.500	3.070/3.100	17.5
6220-22-00	3½	91	25'	–	230	3.720/3.789	3.960/4.000	3.500/3.540	20
6220-56-00	3½	91	–	175'	230	3.720/3.789	3.960/4.000	3.500/3.540	20
6210-22-00	4	103	25'	–	250	4.220/4.280	4.460/4.500	4.000/4.040	24
6210-30-00	4	103	–	100'	250	4.220/4.280	4.460/4.500	4.000/4.040	24
RED★									
6202-30-RD	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-60-RD	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6203-30-RD	3/4	21	100'	–	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-45-RD	3/4	21	–	500' ★	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
ORANGE★									
6202-30-OE	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-60-OE	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6203-30-OE	3/4	21	100'	–	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-45-OE	3/4	21	–	500' ★	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
YELLOW★									
6202-30-YW	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-60-YW	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6203-30-YW	3/4	21	100'	–	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-45-YW	3/4	21	–	500' ★	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
GREEN★									
6202-30-GN	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6202-60-GN	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6203-30-GN	3/4	21	100'	–	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6203-45-GN	3/4	21		500' ★	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Review NEC® 350.60 and 250.118(6) for grounding requirements.
★ ¾" available on 1000' Reels, call for details

LIQUID-TUFF™
UL Liquidtight Flexible Steel Conduit, Type LFMC

Scope

This specification covers Kaf-Tech UL LIQUID-TUFF™ Liquidtight Flexible Steel Conduit designed for use as a raceway for power, control and communication cables in accordance with Article 350 of the National Electrical Code. The product is Underwriters Laboratories Inc. (UL) Listed for 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also UL Listed in all trade sizes for direct burial in either earth or concrete encasement, outdoor use and sunlight resistance. This LIQUID-TUFF® is now UL Listed for 70°C OIL RESISTANT applications. In addition the product is CSA certified for use at 75°C (167°F) in dry and oily locations and for minus 25°C (-13°F) low temperature applications. This Liquidtight Flexible Steel Conduit is manufactured and tested in accordance with Underwriters Laboratories Inc. Standard UL 360 and CSA International Standard CSA C22.2 Number 56. The product carries the UL Listing Mark and the CSA Certification Mark.

Construction

The Type UL Liquidtight Flexible Steel Conduit shall be formed from a zinc coated galvanized low carbon steel strip having a uniform width and thickness. The construction shall be in accordance with UL 360 and CSA C22.2 Number 56 requirements. The finished Type LFMC dimensions shall be in accordance with Table 5.1 of UL 360 and Table 2 of CSA C22.2 No. 56 which are summarized in Table 3.

Jacket – PVC

A rugged moisture, oil and sunlight resistant polyvinyl chloride (PVC) jacket shall be applied directly over the flexible metal conduit with a wall thickness in accordance with Table 4.1 of UL 360 and Table 4 of CSA C22.2 No.56 which are summarized in Table 2.

Jacket Colors: Grey, Black, Red, Orange, Yellow or Green

Grounding

Permanent circuit ground protection is provided through the continuous bonding strip built into the conduit core in sizes 3/8" through 1¼". A separate grounding conductor is required by the NEC® for trade sizes 1½" and larger. The Canadian Electric Code requires a grounding conductor for all trade sizes of Liquidtight Flexible Metal Conduit.

Reference Standards

UL 360	Standard for Liquidtight Flexible Steel Conduit
CSA C22.2 No. 56	Standard for Flexible Metal Conduit and Liquidtight Flexible Metal Conduit
File Reference(s):	UL E26540; CSA 51593
NEC® Articles:	250.118(6), 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 645.5(D)(2), 680.21, 680.42, 695.6(E) and 695.14(E)

Department of Defense Adopted UL 360 on October 1, 1987

Markings

The surface of the outer jacket shall be clearly marked with a legible print legend in compliance with UL 360 and CSA C22.2 No. 56.

Performance Tests

In accordance with UL 360 and CSA C22.2 No. 56, the completed UL LIQUID-TUFF™ Liquidtight Flexible Steel Conduit shall meet all of the performance requirements outlined in Appendix A.

LIQUID-TUFF™
UL Liquidtight Flexible Steel Conduit, Type LFMC

Table 2
Jacket Thickness

Conduit Trade Size	Conduit Trade Metric Designator	Minimum Acceptable Average Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050
3	78	0.050
3½	91	0.060
4	103	0.060

Appendix A

UL Performance Tests	CSA Performance Tests
Resistance and High Current	Physical Properties
Fault Current	Original Tensile and Elongation
Impact	Air Oven Aging Test
Tension	Oil Immersion Test
Crushing	Deformation Test
Pipe Stiffness	Tension
Flexibility	Zinc Coating
Zinc Coating	Low Temperature Flexibility
Vertical Flame	Vertical Flame
Physical Properties	Cold Impact
Deformation	Pinhole Test
Mechanical Water Absorption	Compatibility with Connectors
Moisture Penetration	
Sunlight Resistance	
Test for Secureness of Fittings	
Test for Durability of Ink Printing	

Table 3
Conduit Diameters
Acceptable Internal and External Diameters

Conduit Size Trade Size, In.	Conduit Size Metric Designator	Internal Diameter, In. Min.	Internal Diameter, In. Max.	Over Conduit, In. Min.	Over Conduit, In. Max.	Over Jacket, In. Min.	Over Jacket, In. Max.
3/8	12	0.484	0.504	0.594	0.614	0.690	0.710
1/2	16	0.622	0.642	0.732	0.765	0.820	0.840
3/4	21	0.820	0.840	0.930	0.960	1.030	1.050
1	27	1.041	1.066	1.201	1.226	1.290	1.315
1¼	35	1.380	1.410	1.540	1.570	1.630	1.660
1½	41	1.575	1.600	1.735	1.770	1.865	1.900
2	53	2.020	2.045	2.180	2.215	2.340	2.375
2½	63	2.480	2.505	2.640	2.675	2.840	2.875
3	78	3.070	3.100	3.295	3.335	3.460	3.500
3½	91	3.500	3.540	3.720	3.789	3.960	4.000
4	103	4.000	4.040	4.220	4.280	4.460	4.500

LIQUID-TUFF™
Computer Blue UL Liquidtight Flexible Metal Conduit, Type LFMC

Description

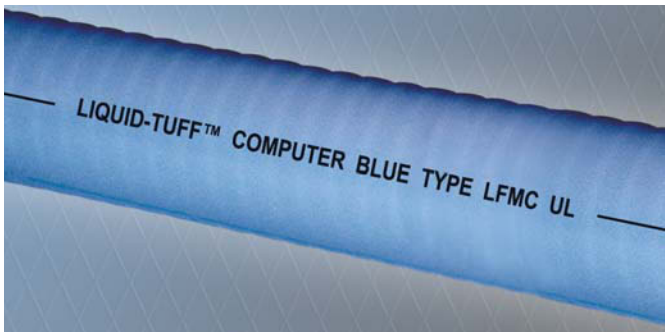
- UL bonded strip 3/8" – 1¼" for grounding
- UL Liquidtight all sizes
- Sunlight resistant
- Flame retardant PVC jacket
- Hot dipped zinc galvanized low carbon steel core
- Blue PVC jacket

Temperature Rating

- 80°C to -30°C Dry
- 60°C Wet
- 70°C Oil resistant

Applications

- Raised computer room floors per NEC® 645.5(D)
- 600 volt and lower circuits
- Direct burial in earth
- Concrete embedment
- Suitable for grounding per NEC® 250.118(6), 3/8" – 1¼"
- Hazardous location per NEC® 501



References & Ratings

- UL 360, File Reference E26540
- CSA LL51593, CSA C22.2 Number 56
- NEC® 250.118(6), 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.42, 695.6(E), 695.14(E)
- Canadian Electrical Code (CEC) Part I Clause 12-1300
- UL bonding strip 3/8" – fit 1¼" for grounding
- UL approved for use in direct burial applications including concrete and earth burial (Sizes 3/8" through 4")
- Conduit in sizes 1½" and larger requires grounding conductor per NEC® 350.60

Ordering Information / Product Dimensions/Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches) Over Conduit (min/max)	External Diameter (inches) Over Jacket (min/max)	Internal Diameter (min/max) inches	Bend Radius (inches)
6402-30-00	1/2	16	100'	–	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6402-45-00	1/2	16	–	500'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6402-60-00	1/2	16	–	1000'	31	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6403-30-00	3/4	21	100'	–	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6403-45-00	3/4	21	–	500'	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6403-66-00	3/4	21	–	2000'	49	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6404-30-00	1	27	100'	–	79	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6404-41-00	1	27	–	400'	79	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6405-24-00	1¼	35	50'	–	103	1.540/1.570	1.630/1.660	1.380/1.410	8
6405-40-00	1 ¼	35	–	200'	103	1.540/1.570	1.630/1.660	1.380/1.410	8
6406-24-00	1 ½	41	50'	–	90	1.735/1.770	1.865/1.900	1.575/1.600	9
6406-35-00	1 ½	41	–	150'	90	1.735/1.770	1.865/1.900	1.575/1.600	9
6407-24-00	2	53	50'	–	120	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6407-30-00	2	53	–	100'	120	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6408-22-00	2 ½	63	25'	–	121	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6408-79-00	2 ½	63	–	275'	121	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6409-22-00	3	78	25'	–	145	3.295/3.335	3.460/3.500	3.070/3.100	17.5
6409-56-00	3	78	–	175'	145	3.295/3.335	3.460/3.500	3.070/3.100	17.5

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Review NEC® 350.60 and 250.118(6) for grounding requirements.

LIQUID-TUFF™ Computer Blue UL Liquidtight Flexible Metal Conduit, Type LFMC

Scope

This specification covers Kaf-Tech UL LIQUID-TUFF™ Computer Blue Liquidtight Flexible Steel Conduit designed for use as a raceway for power, control and communication cables in accordance with Article 350 of the National Electrical Code. The product is Underwriters Laboratories Inc. (UL) Listed for 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also UL Listed in all trade sizes for direct burial in either earth or concrete encasement, outdoor use and sunlight resistance. This LIQUID-TUFF™ is now UL Listed for 70°C OIL RESISTANT applications. In addition the product is CSA certified for use at 75°C (167°F) in dry and oily locations and for minus 25°C (-13°F) low temperature applications. This Liquidtight Flexible Steel Conduit is manufactured and tested in accordance with Underwriters Laboratories Inc. Standard UL 360 and CSA International Standard CSA C22.2 Number 56. The product carries the UL Listing Mark and the CSA Certification Mark.

Construction

The Type UL Liquidtight Flexible Steel Conduit shall be formed from a zinc coated galvanized low carbon steel strip having a uniform width and thickness. The construction shall be in accordance with UL 360 and CSA C22.2 Number 56 requirements. The finished Type LFMC dimensions shall be in accordance with Table 5.1 of UL 360 and Table 2 of CSA C22.2 No. 56 which are summarized in Table 3.

Jacket – PVC

A rugged moisture, oil and sunlight resistant polyvinyl chloride (PVC-colored Blue) jacket shall be applied directly over the flexible metal conduit with a wall thickness in accordance with Table 4.1 of UL 360 and Table 4 of CSA C22.2 No.56 which are summarized in Table 2.

Jacket: Blue

Grounding

Permanent circuit ground protection is provided through the continuous bonding strip built into the conduit core in sizes 3/8" through 1¼". A separate grounding conductor is required by the NEC® for trade sizes 1½" and larger. The Canadian Electric Code requires a grounding conductor for all trade sizes of Liquidtight Flexible Metal Computer Blue Conduit.

Reference Standards

UL 360	Standard for Liquidtight Flexible Steel Conduit
CSA C22.2 No. 56	Standard for Flexible Metal Conduit and Liquidtight Flexible Metal Computer Blue Conduit
File Reference(s):	UL E26540; CSA 51593
NEC® Articles:	250.118(6), 350.60, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21(A)(d), 645.5(D)(2), 680.21, 680.42, 695.6(E) and 695.14(E)

Department of Defense Adopted UL 360 on October 1, 1987

Markings

The surface of the outer jacket shall be clearly marked with a legible print legend in compliance with UL 360 and CSA C22.2 No. 56.

Performance Tests

In accordance with UL 360 and CSA C22.2 No. 56, the completed UL LIQUID-TUFF™ Computer Blue Liquidtight Flexible Steel Conduit shall meet all of the performance requirements outlined in Appendix A.

LIQUID-TUFF™
Computer Blue UL Liquidtight Flexible Metal Conduit, Type LFMC

Table 2
Jacket Thickness

Conduit Trade Size	Conduit Trade Metric Designator	Minimum Acceptable Average Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050
3	78	0.050
3½	91	0.060
4	103	0.060

Appendix A

UL Performance Tests	CSA Performance Tests
Resistance and High Current	Physical Properties
Fault Current	Original Tensile and Elongation
Impact	Air Oven Aging Test
Tension	Oil Immersion Test
Crushing	Deformation Test
Pipe Stiffness	Tension
Flexibility	Zinc Coating
Zinc Coating	Low Temperature Flexibility
Vertical Flame	Vertical Flame
Physical Properties	Cold Impact
Deformation	Pinhole Test
Mechanical Water Absorption	Compatibility with Connectors
Moisture Penetration	
Sunlight Resistance	
Test for Secureness of Fittings	
Test for Durability of Ink Printing	

Table 3
Conduit Diameters
Acceptable Internal and External Diameters

Conduit Size Trade Size, In.	Conduit Size Metric Designator	Internal Diameter, In. Min.	Internal Diameter, In. Max.	Over Conduit, In. Min.	Over Conduit, In. Max.	Over Jacket, In. Min.	Over Jacket, In. Max.
3/8	12	0.484	0.504	0.594	0.614	0.690	0.710
1/2	16	0.622	0.642	0.732	0.765	0.820	0.840
3/4	21	0.820	0.840	0.930	0.960	1.030	1.050
1	27	1.041	1.066	1.201	1.226	1.290	1.315
1¼	35	1.380	1.410	1.540	1.570	1.630	1.660
1½	41	1.575	1.600	1.735	1.770	1.865	1.900
2	53	2.020	2.045	2.180	2.215	2.340	2.375
2½	63	2.480	2.505	2.640	2.675	2.840	2.875
3	78	3.070	3.100	3.295	3.335	3.460	3.500
3½	91	3.500	3.540	3.720	3.789	3.960	4.000
4	103	4.000	4.040	4.220	4.280	4.460	4.500

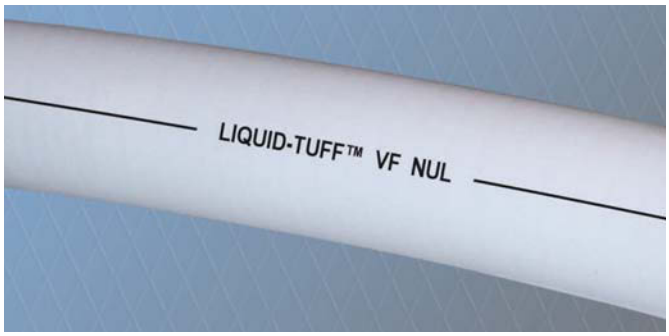
LIQUID-TUFF™
Non-UL Liquidtight VF Flexible Steel Conduit

Description

- Mechanical and moisture protection for conductors
- Sunlight resistant
- Flame retardant PVC jacket – Grey
- Hot dipped zinc galvanized low carbon steel core
- Very flexible

Temperature Rating

- 60°C to -20°C Dry
- 60°C Wet
- 60°C Oil resistant



Applications

- 600 volt and lower circuits
- Vibration and movement absorbing

Ordering Information / Product Dimensions/Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	External Diameter (inches)		Internal Diameter (min/max) inches	Bend Radius (inches)
						Over Conduit (min/max)	Over Jacket (min/max)		
6101-30-00	3/8	12	100'	–	22	0.594/0.614	0.690/0.710	0.484/0.504	2
6101-45-00	3/8	12	–	500'	22	0.594/0.614	0.690/0.710	0.484/0.504	2
6101-60-00	3/8	12	–	1000'	22	0.594/0.614	0.690/0.710	0.484/0.504	2
6101-65-00	3/8	12	–	2500'	22	0.594/0.614	0.690/0.710	0.484/0.504	2
6102-30-00	1/2	16	100'	–	26	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6102-45-00	1/2	16	–	500'	26	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6102-60-00	1/2	16	–	1000'	26	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6102-68-00	1/2	16	–	3500'	26	0.732/0.765	0.820/0.840	0.622/0.642	3.25
6103-30-00	3/4	21	100'	–	33	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6103-45-00	3/4	21	–	500'	33	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6103-60-00	3/4	21	–	1000'	33	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6103-66-00	3/4	21	–	2000'	33	0.930/0.960	1.030/1.050	0.820/0.840	4.25
6104-30-00	1	27	100'	–	45	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6104-41-00	1	27	–	400'	45	1.201/1.226	1.290/1.315	1.041/1.066	6.5
6105-24-00	1¼	35	50'	–	60	1.540/1.570	1.630/1.660	1.380/1.410	8
6105-40-00	1¼	35	–	200'	60	1.540/1.570	1.630/1.660	1.380/1.410	8
6105-47-00	1¼	35	–	750'	60	1.540/1.570	1.630/1.660	1.380/1.410	8
6106-24-00	1½	41	50'	–	90	1.735/1.770	1.865/1.900	1.575/1.600	9
6106-35-00	1½	41	–	150'	90	1.735/1.770	1.865/1.900	1.575/1.600	9
6106-62-00	1½	41	–	600'	90	1.735/1.770	1.865/1.900	1.575/1.600	9
6107-24-00	2	53	50'	–	120	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6107-30-00	2	53	–	100'	120	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6107-80-00	2	53	–	300'	120	2.180/2.215	2.340/2.375	2.020/2.045	11.12
6108-22-00	2½	63	25'	–	121	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6108-79-00	2½	63	–	275'	121	2.640/2.675	2.840/2.875	2.480/2.505	14.62
6109-22-00	3	78	25'	–	145	3.295/3.335	3.460/3.500	3.070/3.100	17.5
6109-56-00	3	78	–	175'	145	3.295/3.335	3.460/3.500	3.070/3.100	17.5
6120-22-00	3½	91	25'	–	200	3.720/3.789	3.960/4.000	3.500/3.540	20
6120-56-00	3½	91	–	175'	200	3.720/3.789	3.960/4.000	3.500/3.540	20
6110-22-00	4	103	25'	–	250	4.220/4.280	4.460/4.500	4.000/4.040	24
6110-30-00	4	103	–	100'	250	4.220/4.280	4.460/4.500	4.000/4.040	24

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Not for grounding.

LIQUID-TUFF™ Non-UL Liquidtight Flexible Steel Conduit, Type LFMC-VF

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ Liquidtight, Flexible Steel Conduit, Type VF designed for use in specific applications where the product is designed to be used for specific applications where Underwriters Laboratories Inc. (UL) or other agency approvals are not required flexibility is required. The product is appropriate for use at 60°C (140°F) in a dry location, 60°C in a wet location or 60°C in an oily location. SUNLIGHT RESISTANT in all trade sizes. The product is JIC and has no agency listing or certification.

Construction

The LIQUID-TUFF™ Liquidtight, Flexible Steel Conduit, Type VF core shall be formed into an interlocked steel conduit from a zinc coated galvanized low carbon steel strip having a uniform width and thickness. The convolutions of the interlock shall be filed with a fibrous material designed to promote flexibility.

Jacket – PVC

A rugged moisture, oil and sunlight resistant polyvinyl chloride (PVC) jacket shall be extruded directly over the interlocked flexible steel core with a wall thickness in conformance with Table 1 below.
Jacket: Grey

Markings

The outer surface of the jacket shall be clearly marked with the applicable print legend.

Performance Tests

The completed LIQUID-TUFF™ Liquidtight, Flexible Steel Conduit, Type VF shall meet all of the performance requirements prescribed by applicable manufacturing standards.

Table 1

Conduit Size		Minimum Acceptable Average
Trade Size	Metric Designator	Thickness of Jacket, (inches)
3/8	12	0.030
1/2	16	0.030
3/4	21	0.035
1	27	0.035
1¼	35	0.035
1½	41	0.040
2	53	0.040
2½	63	0.050
3	78	0.050
3½	91	0.060
4	103	0.060

LIQUID-TUFF™
UL Liquidtight Flexible Non-Metallic Conduit
Type LFNC-B

Description

- UL Listed and CSA certified
- Rugged Non-Metallic PVC
- Interior integral reinforced member within conduit wall
- Integral Type B construction per NEC® 356.2(2)
- Rigid PVC spiral core for strength
- Outdoor applications including direct burial
- Rated for concrete embedment
- Sunlight and oil resistant
- Non-conductive raceway

Temperature Rating

- 80°C Dry
- 60°C Wet
- 70°C Oil resistant
- 20°C After installation

Applications

- For 600 volt and lower potential circuits
- 3/8" through 2" rated for direct burial and poured concrete
- Hazardous locations per NEC® 501
- Industrial and commercial applications
- Indoor or outdoor locations
- Suitable for pool and spa use
- Air conditioning and HVAC units

References & Ratings

- UL 1660, UL File E123464
- CSA C 22.2 No. 227.2.1
- CSA File 69271
- NEC® 356, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21, 645.5(D)(2), 680.21, 680.23, 680.25, 680.27, 680.42, 695.6(E), and 695.14(E)

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
6001-30-00	3/8	12	100'	–	12	0.484/0.504	0.690/0.710	2
6001-60-00	3/8	12	–	1000'	12	0.484/0.504	0.690/0.710	2
6002-30-00	1/2	16	100'	–	13	0.622/0.642	0.820/0.840	3.25
6002-60-00	1/2	16	–	1000'	13	0.622/0.642	0.820/0.840	3.25
6003-30-00	3/4	21	100'	–	18	0.820/0.840	1.030/1.050	4.25
6003-46-00	3/4	21	–	700'	18	0.820/0.840	1.030/1.050	4.25
6004-30-00	1	27	100'	–	27	1.041/1.066	1.290/1.315	6.5
6004-45-00	1	27	–	500'	27	1.041/1.066	1.290/1.315	6.5
6005-24-00	1¼	35	50'	–	35	1.380/1.410	1.630/1.660	8
6006-24-00	1½	41	50'	–	48	1.575/1.600	1.865/1.900	9
6007-24-00	2	53	50'	–	70	2.020/2.045	2.340/2.375	11.1

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

LIQUID-TUFF™
UL Liquidtight Flexible Non-Metallic Conduit
Type LFNC-B

Scope

This specification covers Kaf-Tech UL LIQUID-TUFF™ Integral Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B designed for use in wet, dry or oily locations as a flame resistant, Non-Metallic raceway for power, control and communications cables in compliance with Article 356 of the National Electrical Code. The product is UL Listed for 80°C (176°F) in a dry location, 60°C (140°F) in a wet location and 70°C (158°F) in an oily location. It is also UL Listed through 2-inch trade sizes for direct burial, outdoor use and sunlight resistance. In addition the product is CSA certified for use at 75°C (167°F) in dry and oily locations and for minus 18°C (0°F) low temperature applications. This Liquidtight Flexible harmonized Non-Metallic Conduit is manufactured and tested in accordance with Underwriters Laboratories Inc. Standard UL 1660 and CSA International Standard CSA C22.2 Number 227.2.1. The product carries the UL Listing Mark and the CSA Certification Mark.

Construction

Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B is a raceway of circular cross section with a smooth polyvinyl chloride (PVC) inner surface and an integral reinforcing member within the conduit wall. The wall thicknesses and dimensions of the integral conduit shall comply with table 3 of harmonized UL 1660/CSA No. 227.2.1 which are summarized in Table 1.

Grounding

A separate Grounding conductor is required by both the National Electrical Code and the Canadian Electrical Code for all trade sizes.

Markings

The outer surface of the conduit shall be clearly marked with a legible print legend in accordance with UL 1660 and CSA C22.2 No. 227.2.1.

Performance Tests

The completed UL LIQUID-TUFF™ Liquidtight Flexible Non-Metallic Conduit, Type LFNC-B shall meet all of the performance requirements contained in UL 1660 and CSA C22.2 No. 227.2.1 and outlined in Appendix A.

* Package lengths in excess of 100 feet contain splices; these splices must be cut out before use.

Reference Standards

UL 1660	Standard for Liquidtight Flexible Non-Metallic Conduit
CSA C22.2 No. 227.2.1	Standard for Flexible Liquidtight Non-Metallic Conduit
File References	UL File E123464; CSA 69271
NEC® Articles:	356, 390.15, 501.10(B)(2), 502.10(A)(2), 503.10(A)(2), 511.7(A)(1), 620.21, 645.5(D)(2), 680.21, 680.23, 680.25, 680.27, 680.42, 695.6(E) and 695.14(E)

LIQUID-TUFF™
UL Liquidtight Flexible Non-Metallic Conduit
Type LFNC-B

Table 1

Conduit Size Trade Size, In.	Metric	Inside Diameter, In. Min.	Max.	Outside Diameter, In. Min.	Max.	Min. Bend Radii, In.	Weight lbs/100ft
3/8	(12)	0.484	0.504	0.690	0.710	1.5	12
1/2	(16)	0.622	0.642	0.820	0.840	1.8	13
3/4	(21)	0.820	0.840	1.030	1.050	3.0	18
1	(27)	1.041	1.066	1.290	1.315	4.0	27
1¼	(35)	1.380	1.410	1.630	1.660	6.0	35
1½	(41)	1.575	1.600	1.865	1.900	6.5	48
2	(53)	2.020	2.045	2.340	2.375	11.5	70

* Package lengths in excess of 100 feet contain splices; these splices must be cut out before use.

Appendix A

UL Performance Tests	CSA Performance Tests
Physical Properties	Physical Properties
Original Tensile and Elongation	Original Tensile and Elongation
Air Oven Aging Test	Air Oven Aging Test
Oil Immersion Test	Oil Immersion Test
Deformation	Tension
Tension	Low Temperature Flexibility
Flexibility (Room and Low Temperature)	Vertical Flame
Vertical Flame	Cold Impact
Room Temperature Impact	Fitting Pull-Out
Secureness of Fittings	Fitting Liquid-Tightness
Mechanical Water Absorption	Moisture Penetration Test
Moisture Penetration Test	Durability of Ink
Durability of Ink	Weather Resistance
Sunlight Resistance	
Crush Test	
Pipe Stiffness for Direct Burial	

LIQUID-TUFF™
Ultraflex™ Mechanical Non-Metallic (NMPT) Protection Tubing

Description

(1) Non-UL liquidtight raceway

(2) ® component, extra-flexible Non-Metallic mechanical protection tubing

- Corrugated flame resistant PVC with integral reinforcing member
- Non-conductive raceway – black

Temperature Rating

- 60°C Dry
- 60°C Wet and oily

Applications

- ® recognized component for use in protection of insulated wire in assemblies or consoles of electrical apparatus. Use is to be determined by Underwriters Laboratories Inc.
- Non-UL liquidtight raceway

References & Ratings

- ® recognized component Liquidtight Mechanical Protection Tubing under UL File Number E79977
- UL1696 Standard for Non-Metallic Mechanical Protection Tubing
- CSA File LL69271
- CSA C22.2 No. 227.3

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
160-012	3/8	12	100'	–	5	0.484/0.504	0.695/0.705	0.49
160-016	1/2	16	100'	–	8	0.622/0.642	0.825/0.835	0.63
160-021	3/4	21	100'	–	11	0.820/0.840	1.035/1.045	0.83
160-026	1	27	100'	–	16	1.041/1.066	1.297/1.308	1.10
160-035	1¼	35	100'	–	21	1.380/1.410	1.640/1.650	1.40
160-040	1½	41	100'	–	26	1.575/1.600	1.877/1.888	1.59
160-051	2	53	100'	–	33	2.020/2.045	2.352/2.363	2.04

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

LIQUID-TUFF™
Ultraflex™ Mechanical Non-Metallic (NMPT) Protection Tubing
(1) ® Recognized Component (2) Non-UL Non-Metallic Conduit (NMPT)

Scope

This specification covers Kaf-Tech LIQUID-TUFF™ Liquidtight ULTRAFLEX™ (1) ® RECOGNIZED COMPONENT EXTRA-FLEXIBLE NON-METALLIC MECHANICAL PROTECTION TUBING and (2) NON-UL EXTRA-FLEXIBLE NON-METALLIC CONDUIT.

(1) LIQUID-TUFF™ Liquidtight ULTRAFLEX™ ® RECOGNIZED COMPONENT EXTRA FLEXIBLE NON-METALLIC MECHANICAL PROTECTION TUBING is designed for use in connection with the support of and protection of insulated wires, placed within the tubing, that are used to interconnect separate component assemblies or consoles of electrical apparatus, such as x-ray equipment. Use of the combination is to be determined by Underwriters Laboratories Inc. The acceptable use of this material is limited to the following conditions:

1. This tubing may be used for the routing of internal wiring between electrical components of electrical equipment. The protection afforded to the internal wiring by the tubing may be considered equivalent to the protection afforded the internal conductors by the jacket of a Type SJT flexible cord.
2. The tubing is suitable for use at a maximum temperature of 60°C.
3. The tubing and manufacturer's supplied fittings were not tested to determine flammability rating per UL 224.
4. The tubing shall be terminated at each end of the consoles or appliances to which connected to provide strain relief to withstand a 35-pound pull for 1.0 minute. Fittings available from the manufacturer met this requirement.
5. The percent fill of the tubing with conductors shall not exceed 75% where percent fill is defined as: Percent Fill = Area of Enclosed Conductors x 100/Internal Area of Tubing Fill Factor.
6. The minimum bend radius shall not be less than the outside diameter of the tubing.
7. The manufacturer's fittings were subjected to the Oil Spray Test in accordance with UL 514B.
8. As this tubing and manufacturer supplied fittings are to be Recognized as a Component, final acceptance will be determined in terms of the combination of component and appliance as determined by Underwriters Laboratories Inc., regarding such characteristics as flammability; degree of bending or flexing; resistance to water, oil and abrasion; and physical strength.

(2) LIQUID-TUFF™ Liquidtight ULTRAFLEX™ NON-UL EXTRA-FLEXIBLE Non-Metallic CONDUIT is designed for use in wet, dry or oily locations as a flame resistant, Non-Metallic raceway for power, control and communications cables. The product is intended for use at 60°C (140°F) in a dry location, 60°C (140°F) in a wet location and 60°C (140°F) in a oily location. It is sunlight resistant.

Construction

LIQUID-TUFF™ Liquidtight ULTRAFLEX™ MECHANICAL PROTECTION TUBING/CONDUIT has a circular cross section with a smooth polyvinyl chloride (PVC) inner surface and an integral reinforcing member within the conduit wall. The dimensions of the integral tubing/conduit shall comply with Table 1. Color: black

Grounding

Where applicable a separate grounding conductor is required for all trade sizes.

Markings

The product marking is contained on the outer carton.

Performance Tests

The completed LIQUID-TUFF™ Liquidtight ULTRAFLEX™ TUBING and CONDUIT shall meet the performance requirements outlined in Appendix A.

Standards

CSA C22.3 No. 227.3

UL1696

Non-metallic Mechanical Protection Tubing

File

UL E79977

CSA 69271

LIQUID-TUFF™
Ultraflex™ Mechanical Non-Metallic (NMPT) Protection Tubing
(1) ® Recognized Component (2) Non-UL Non-Metallic Conduit (NMPT)

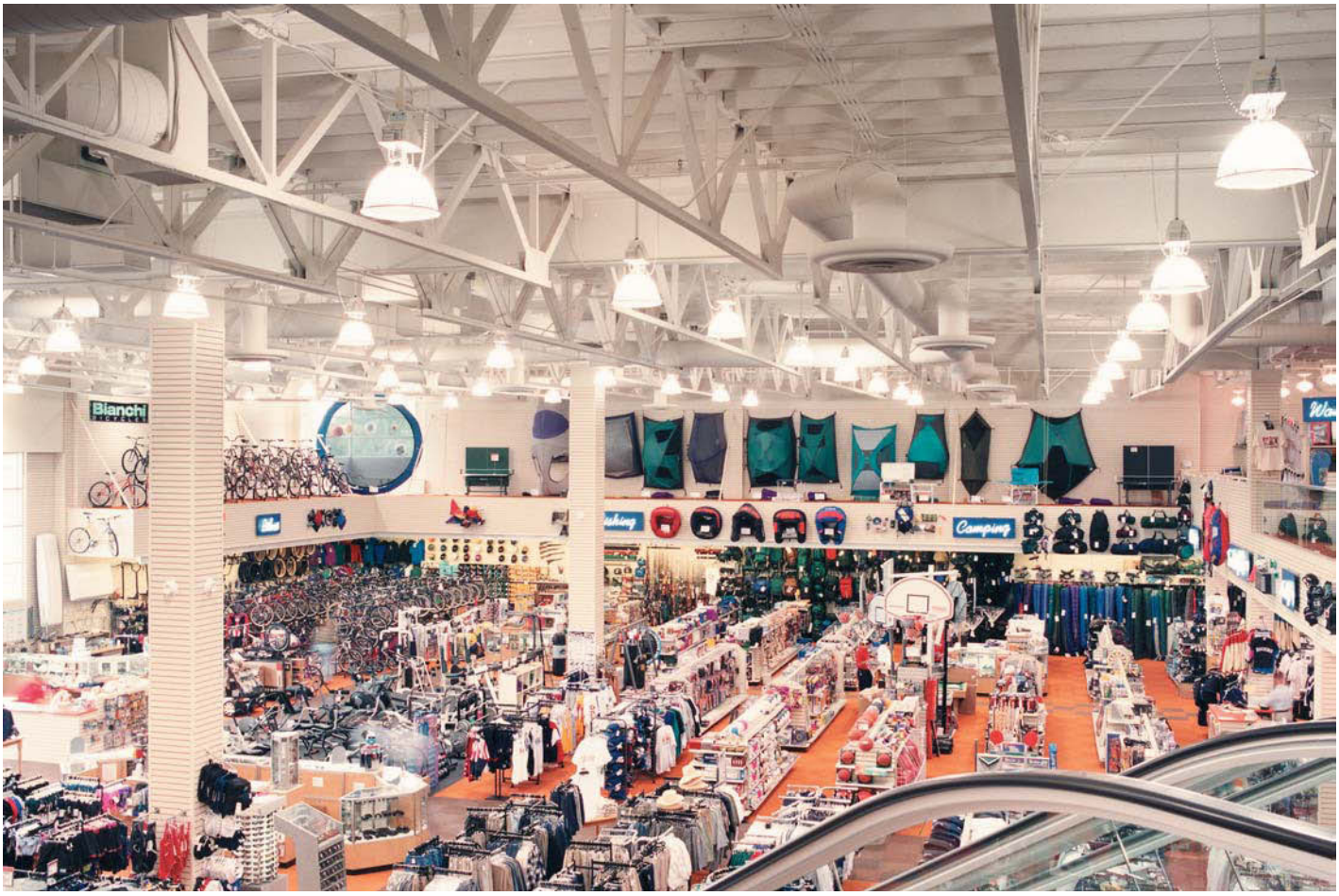
Table 1

Conduit Size Trade Size, In.	Metric	Inside Diameter, In. Min.	Max.	Outside Diameter, In. Min.	Max.	Min. Bend Radii, In.	Weight lbs/100ft
3/8	(12)	0.484	0.504	0.695	0.705	0.49	5
1/2	(16)	0.622	0.642	0.825	0.835	0.63	8
3/4	(21)	0.820	0.840	1.035	1.045	0.83	11
1	(27)	1.042	1.066	1.297	1.308	1.10	16
1¼	(35)	1.380	1.410	1.640	1.650	1.40	21
1½	(41)	1.576	1.600	1.877	1.888	1.59	26
2	(53)	2.021	2.045	2.352	2.363	2.04	33

Appendix A

PERFORMANCE REQUIREMENTS
Heat Aging Test
Cold Bend Test
Heat Shock Test
Crush Test
Impact Test
Oil Spray Test

Flexible Metal Conduit

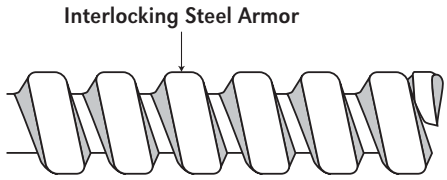


Flexible Metal Conduit

Reduced Wall Flexible Steel Conduit
Type RW FSC

Description

- Reduced Wall Flexible Steel Conduit
- High grade hot dipped zinc galvanized low carbon steel
- Interlocking design
- Corrosion resistant



Applications

- Flexible metal raceway for electrical power, control and communication cables
- Motor leads
- Listed assemblies
- Listed wire fixtures
- Manufactured wiring systems

References & Ratings

- UL 1, UL 1479, File Reference E11831, CSA File Number 15035, CSA C22.2 No. 56 (trade size 3/8 only)
- Federal Specification WW-C-566C, (now superseded by UL 1)
- NEC® 250.118(5), 300.22(C), 348, 430.223, 501.10(B)(2), 645.5
- Cable Tray installations per NEC®
- Environmental Air-Handling space installation NEC® 300.22(C)
- UL Classified 1, 2 and 3-hour Through-Penetration Fire Systems UL File R14141

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
5501-22-00+	3/8	12	25'	—	17	0.375/0.393	0.560/0.610	2
5501-24-00+	3/8	12	50'	—	17	0.375/0.393	0.560/0.610	2
5501-30-00+	3/8	12	100'	—	17	0.375/0.393	0.560/0.610	2
5501-42-00+	3/8	12	250'	—	17	0.375/0.393	0.560/0.610	2
5501-45-00+	3/8	12	—	500'	17	0.375/0.393	0.560/0.610	2
5501-60-00+	3/8	12	—	1000'	17	0.375/0.393	0.560/0.610	2
5502-22-00	1/2	16	25'	—	27	0.625/0.645	0.860/0.920	3
5502-24-00	1/2	16	50'	—	27	0.625/0.645	0.860/0.920	3
5502-30-00	1/2	16	100'	—	27	0.625/0.645	0.860/0.920	3
5502-45-00	1/2	16	—	500'	27	0.625/0.645	0.860/0.920	3
5502-60-00	1/2	16	—	1000'	27	0.625/0.645	0.860/0.920	3
5503-22-00	3/4	21	25'	—	35	0.812/0.835	1.045/1.105	4
5503-24-00	3/4	21	50'	—	35	0.812/0.835	1.045/1.105	4
5503-30-00	3/4	21	100'	—	35	0.812/0.835	1.045/1.105	4
5503-45-00	3/4	21	—	500'	35	0.812/0.835	1.045/1.105	4
5503-60-00	3/4	21	—	1000'	35	0.812/0.835	1.045/1.105	4
5504-24-00	1	27	50'	—	51	1.000/1.040	1.300/1.380	5
5504-80-00	1	27	—	300'	51	1.000/1.040	1.300/1.380	5
5505-24-00	1¼	35	50'	—	63	1.250/1.300	1.550/1.630	6.25
5505-40-00	1¼	35	—	200'	63	1.250/1.300	1.550/1.630	6.25
5506-22-00	1½	41	25'	—	76	1.500/1.575	1.850/1.950	7.50
5507-22-00	2	53	25'	—	100	2.000/2.080	2.350/2.450	10
5508-22-00	2½	63	25'	—	165	2.500/ —	2.860/3.060	12.50
5509-22-00	3	78	25'	—	197	3.000/ —	3.360/3.560	15
5510-22-00	3½	91	25'	—	230	3.500/ —	3.860/4.060	17.50
5511-22-00	4	103	25'	—	263	4.000/ —	4.360/4.560	20

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.
+CSA certified

Review NEC® 348.60 and 250.118(5) for grounding requirements.

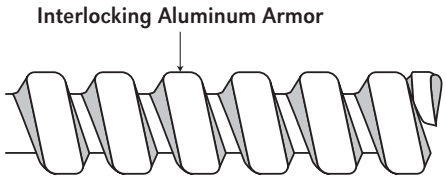
Reduced Wall Aluminum Flexible Metal Conduit
Type RW FAC

Description

- Lightweight Reduced Wall Aluminum Flexible Conduit
- Premium aluminum alloy
- Interlocking design

Applications

- Flexible metal raceway for electrical power, control and communication cables
- Motor leads
- Listed assemblies
- Listed wire fixtures
- Manufactured wiring systems



References & Ratings

- UL 1, UL 1479, File Reference E11831, CSA File Number 15035, CSA C22.2 No. 56 (trade size 3/8 only)
- Federal Specification WW-C-566C, (now superseded by UL 1)
- NEC® 250.118(5), 300.22(C), 348, 430.223, 501.10(B)(2), 645.5
- Cable Tray installations per NEC®
- Environmental Air-Handling space installation NEC® 300.22(C)
- UL Classified 1, 2 and 3-hour Through-Penetration Fire Systems UL File R14141
- Los Angeles may allow longer lengths for grounding, check local codes for details

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
5601-22-00+	3/8	12	25'	—	6	0.375/0.393	0.560/0.610	2
5601-24-00+	3/8	12	50'	—	6	0.375/0.393	0.560/0.610	2
5601-30-00+	3/8	12	100'	—	6	0.375/0.393	0.560/0.610	2
5601-42-00+	3/8	12	250'	—	6	0.375/0.393	0.560/0.610	2
5601-45-00+	3/8	12	—	500'	6	0.375/0.393	0.560/0.610	2
5601-60-00+	3/8	12	—	1000'	6	0.375/0.393	0.560/0.610	2
5602-22-00	1/2	16	25'	—	10	0.625/0.645	0.860/0.920	3
5602-24-00	1/2	16	50'	—	10	0.625/0.645	0.860/0.920	3
5602-30-00	1/2	16	100'	—	10	0.625/0.645	0.860/0.920	3
5602-45-00	1/2	16	—	500'	10	0.625/0.645	0.860/0.920	3
5602-60-00	1/2	16	—	1000'	10	0.625/0.645	0.860/0.920	3
5603-22-00	3/4	21	25'	—	12	0.812/0.835	1.045/1.105	4
5603-24-00	3/4	21	50'	—	12	0.812/0.835	1.045/1.105	4
5603-30-00	3/4	21	100'	—	12	0.812/0.835	1.045/1.105	4
5603-45-00	3/4	21	—	500'	12	0.812/0.835	1.045/1.105	4
5603-60-00	3/4	21	—	1000'	12	0.812/0.835	1.045/1.105	4
5604-24-00	1	27	50'	—	18	1.000/1.040	1.300/1.380	5
5604-80-00	1	27	—	300'	18	1.000/1.040	1.300/1.380	5
5605-24-00	1¼	35	50'	—	22	1.250/1.300	1.550/1.630	6.25
5605-40-00	1¼	35	—	200'	22	1.250/1.300	1.550/1.630	6.25
5606-22-00	1½	41	25'	—	26	1.500/1.575	1.850/1.950	7.50
5607-22-00	2	53	25'	—	35	2.000/2.080	2.350/2.450	10
5608-22-00	2½	63	25'	—	57	2.500/ —	2.860/3.060	12.50
5609-22-00	3	78	25'	—	68	3.000/ —	3.360/3.560	15
5610-22-00	3½	91	25'	—	80	3.500/ —	3.860/4.060	17.50
5611-22-00	4	103	25'	—	91	4.000/ —	4.360/4.560	20

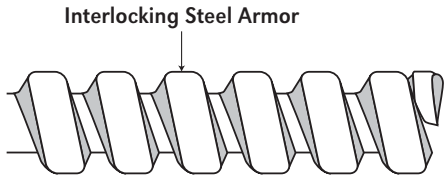
NOTE: All dimensions and weights are subject to normal manufacturing tolerances.
+CSA certified

Review NEC® 348.60 and 250.118(5) for grounding requirements.

Extra Flexible Conduit

Description

- Non-UL Extra Flexible Steel Conduit
- High grade galvanized low carbon steel
- Interlocking design
- Corrosion resistant



Applications

- Flexible metal raceway for specific applications where UL and other agency approvals are not required
- Motor leads

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
5201-42-00	3/8	12	250'	–	8	0.375/0.393	0.560/0.610	2
5201-45-00	3/8	12	–	500'	8	0.375/0.393	0.560/0.610	2
5201-60-00	3/8	12	–	1000'	8	0.375/0.393	0.560/0.610	2
5203-30-00	1/2	16	100'	–	16	0.625/0.645	0.860/0.920	3
5203-45-00	1/2	16	–	500'	16	0.625/0.645	0.860/0.920	3
5203-60-00	1/2	16	–	1000'	16	0.625/0.645	0.860/0.920	3
5204-30-00	3/4	21	100'	–	21	0.812/0.835	1.045/1.105	4
5205-24-00	1	27	50'	–	34	1.000/1.040	1.300/1.380	5
5206-24-00	1¼	35	50'	–	42	1.250/1.300	1.550/1.630	6.25
5207-22-00	1½	41	25'	–	63	1.500/1.575	1.850/1.950	7.50
5208-22-00	2	53	25'	–	84	2.000/2.080	2.350/2.450	10
5209-22-00	2½	63	25'	–	104	2.500/ –	2.860/3.060	12.50
5210-22-00	3	78	25'	–	125	3.000/ –	3.360/3.560	15
5211-22-00	3½	91	25'	–	145	3.500/ –	3.860/4.060	17.50
5212-22-00	4	103	25'	–	165	4.000/ –	4.360/4.560	20

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Flexcon Extra-Flexible Steel Conduit

Description

Kaf-Tech FLEXCON EXTRA-FLEXIBLE STEEL CONDUIT is manufactured from one continuous length of high grade steel, hot dipped in a zinc bath for protection against the normal effects of corrosion. The steel strip is formed into interlocking convolutions firmly joined to assure a rugged yet very flexible conduit which provides exceptional flexibility for tight U-bend applications. The convolutions are manufactured to insure smoother interior and exterior surfaces, which facilitate both cable and conduit pulling. The FlexCon installs easily with standard armored cable or flexible metal conduit connectors. The product is designed to be used for specific applications where Underwriters Laboratories Inc. or other agency approvals are not required.

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
5101-24-00	3/8	12	50'	–	11.8	0.375/0.400	0.520/0.540	1.250
5101-30-00	3/8	12	–	100'	11.8	0.375/0.400	0.520/0.540	1.250
5101-42-00	3/8	12	–	250'	11.8	0.375/0.400	0.520/0.540	1.250
5102-24-00	1/2	16	50'	–	14.3	0.500/0.525	0.640/0.665	1.750
5102-30-00	1/2	16	–	100'	14.3	0.500/0.525	0.640/0.665	1.750
5103-24-00	3/4	21	50'	–	19.9	0.750/0.775	0.890/0.915	2.000
5103-30-00	3/4	21	–	100'	19.9	0.750/0.775	0.890/0.915	2.000

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

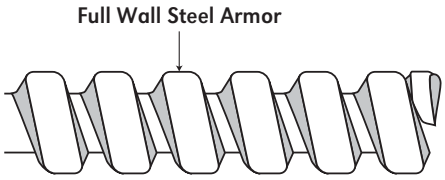
Full Wall Steel Flexible Metal Conduit

Description

- Full wall flexible metal conduit
- High grade zinc galvanized low carbon steel
- Interlocked design
- Corrosion resistant
- Strongest metal conduit available

Applications

- Flexible metal raceway for electrical power, control and communication cables
- Motor leads
- Listed assemblies
- Listed wire fixtures
- Manufactured wiring systems



References & Ratings

- UL 1, UL 1479, File Reference E11831, CSA Certified File LL15035, CSA C22.2 No. 56
- Federal Specification WW-C-566C, (now superseded by UL 1)
- NEC® 250.118(5), 300.22(C), 348, 430.223, 501.10(B)(2), 645.5
- Cable Tray installations per NEC®
- Environmental Air-Handling space installation NEC® 300.22(C)
- UL Classified 1, 2 and 3-hour Through-Penetration Fire Systems UL File R14141

Ordering Information

Product Dimensions/ Bend Radius

Product Code	Trade Size (inches)	Trade Size (mm)	Coil Length (feet)	Reel Length (feet)	Approx. Weight/ 100 feet (pounds)	Internal Diameter (min/max) inches	External Diameter (min/max) inches	Bend Radius (inches)
5402-30-00	1/2	16	100'	–	47	0.625/0.645	0.860/0.920	3
5402-45-00	1/2	16	–	500'	47	0.625/0.645	0.860/0.920	3
5402-60-00	1/2	16	–	1000'	47	0.625/0.645	0.860/0.920	3
5403-30-00	3/4	21	100'	–	60	0.812/0.835	1.045/1.105	4
5403-45-00	3/4	21	–	500'	60	0.812/0.835	1.045/1.105	4

NOTE: All dimensions and weights are subject to normal manufacturing tolerances.

Review NEC® 348.60 and 250.118(5) for grounding requirements.

Chemical Resistance/Reference Information

The information contained in the Chemical Resistance Guide has been compiled from various literature references and sources. It may be considered as a basis for chemical resistance but not as a guarantee. It is strongly advised that specific Liquid-Tuff™ products be tested under actual service conditions to determine suitability. Liquid-Tuff samples for chemical resistance testing available upon request.

Chemical Resistance/Reference Information

Chemical Resistance Guide

Jacket Material Key

PVC = POLYVINYL CHLORIDE
TPR = THERMOPLASTIC ELASTOMER
TPU = THERMOPLASTIC POLYURETHANE

Rating Key

E = RESISTANT: GOOD FOR CONTINUOUS EXPOSURE
G = GOOD FOR INTERMITTENT EXPOSURE
F = USE ONLY WHERE LIMITED LIFE IS ACCEPTABLE
X = DO NOT USE

Chemical	%	Jacket Material PVC	TPR	TPU
A				
ASTM® Fuel A		F	G	G
ASTM® Fuel B		X	F	F
ASTM® Fuel C			F	F
ASTM® Oil No. 1		G	G	G
ASTM® Oil No. 2				G
ASTM® Oil No. 3		F		G
Acetaldehyde				
Acetamide				
Acetate Solvents		X		
Acetic Acid (Glacial)		F		G
Acetic Acid	40	G	E	G
Acetic Acid	10	G	E	G
Acetic Anhydride		X		
Acetone		X		X
Acetyl Bromide				
Acetyl Chloride				
Acetylene				
Acrylonitrite		E	E	
Adipic Acid				
Alcohols				
Alcohols (Aliphatic)		F		
Alkalies		E		
Allyl Alcohol				
Aluminum Salts		E		
Aluminum Chloride		E		G
Aluminum Sulfate (Alums)		E		
Aluminum Sulfide				
Alums				
Ammonia				G
Ammonia (Dry Gas)		E		G
Ammonia (Anhydrous Liquids)		X		
Ammonia (Aqueous)		E		
Ammoniated Latex		E		
Ammonium Acetate				
Ammonium Carbonate				
Ammonium Chloride		E		G
Ammonium Chloride	10	E		
Ammonium Hydroxide		E		
Ammonium Nitrate				
Ammonium Persulfate				
Ammonium Salts				
Ammonium Sulfate				
Ammonium Sulfide				
Ammonium Thicyanide				
Amyl Acetate		X		
Amyl Alcohol				

Chemical	%	Jacket Material PVC	TPR	TPU
A				
Amyl Chloride				
Aniline			E	X
Aniline Hydrochloride				
Aniline Oils		X		
Animal Fats & Oils		E		
Aniseed Oil				
Anthracene		X		
Antifreeze Compounds	50/50		E	
Antimony Salts				
Aqua Regia				
Aromatic Fuels		X		
Aromatic Hydrocarbons		X		
Arsenic Salts				
Asphalt		X		
Attar of Roses				
B				
Banana Oil		X		
Barium Carbonate				
Barium Chloride		E		
Barium Hydroxide		E		
Barium Salts				
Barium Sulfide		E		
Battery Acid				
Benzaldehyde				
Benzaldehyde				
Benzene		X	X	X
Benzine (Petroleum Ether)		F		
Benzoic Acid				
Benzole				
Benzyl				X
Bitumen				
Borax		E		
Bordeaux Mixture		E		
Boric Acid		E		G
Brake Fluid			E	
Brake Fluid A				X
Brine		E		
Bromine		X	X	
Bromobenzene			X	
Bunker Oil				
Butane				G
Butanol				
Butyl Acetate		X	E	X
Butyl Alcohol		G		X
Butylene Glycol				
Butyric Acid				

Chemical Resistance Guide

Jacket Material Key

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TPR = THERMOPLASTIC ELASTOMER
TPU = THERMOPLASTIC POLYURETHANE

Rating Key

E = RESISTANT: GOOD FOR CONTINUOUS EXPOSURE
G = GOOD FOR INTERMITTENT EXPOSURE
F = USE ONLY WHERE LIMITED LIFE IS ACCEPTABLE
X = DO NOT USE

Chemical	%	Jacket Material PVC	TPR	TPU
C				
Calcium Carbonate				
Calcium Chloride	20	E	E	G
Calcium Chloride	10	E	E	G
Calcium Hydroxide		E		
Calcium Hypochlorite		E		
Calcium Nitrate				
Calcium Sulfate				
Camphor				
Carbolic Acid (Phenol)		G		
Carbon Dioxide		E		
Carbon Disulfide		X		
Carbon Tetrachloride		X		X
Carbonic Acid		E		
Casein		E		
Castor Oil		E		
Catechol				
Caustic Soda		E		E
Cello-Solv		X		
Chlorinated Hydrocarbons		X		
Chlorinated Lime				
Chlorine				X
Chlorine (water solution)	40	F		G
Chlorine Gas (dry & wet)		X		
Chloroacetic Acid				
Chlorobenzene		X		X
Chlorobromomethane				
Chloroform		X		X
Chrome Baths				
Chromic Acid	40	F		X
Chromic Acid	10	G		
Chromic Acid	1	E		
Chromium Potassium Sulfate				
Chromium Salts				
Citric Acid		E		
Coal Tar		X		
Coconut Oil		F		
Copper Salts				
Corn Oil		E		
Cottonseed Oil		F		
Creosote		X		
Cresol		F		
Cresylic Acid		X		
Cupric Chloride				
Cupric Nitrate				
Cupric Sulfate				
Cyclohexane		G	X	X

Chemical	%	Jacket Material PVC	TPR	TPU
C				
Cyclohexanol				
Cyclohexanone		G		
D				
DDT Weed Killer		E		
DOP				
DTE Oil				
Decalin				
Degreasing Fluids		X		
Detergents (dish washing)		E	E	
Di Iso Cyante		F		
Di Methyl Formamide		X		
Di Methyl Hydrazine		X		
Di-isodecyl Phthalate		X		
Dibutyl Ether				
Dibutyl Phthalate		X		
Dichlorobenzene				
Dichloroethylene		X		
Diesel Fuel		X		G
Diesel Oils		F		
Diester Oil				
Diethyl Ether		E	E	
Diethylene Glycol		G		
Dimethyl Acetamide				
Dimethyl Formamide			E	
Dioctyl Phthalate (DOP)		X	E	E
Dioxane			E	
Dodeayl Mercaptan				
Dow General Weed Killer (H20)		G		
Dow General Weed Killer (Phenol)		X		
Dowtherm				
E				
Edible Fats and Oils				
Esters		X		
Ether		X		X
Ethyl Acetate		X		X
Ethyl Alcohol (Ethanol)		F	E	X
Ethyl Bromide				
Ethyl Chloride				
Ethylene Chloride				G
Ethylene Dichloride		X		
Ethylene Glycol	50	G		G
Ethylene Oxide		X		
F				
Fatty Acids		E		
Ferric Chloride		E		G
Ferric Nitrate				

Chemical Resistance Guide

Jacket Material Key

PVC = POLYVINYL CHLORIDE
TPR = THERMOPLASTIC ELASTOMER
TPU = THERMOPLASTIC POLYURETHANE

Rating Key

E = RESISTANT: GOOD FOR CONTINUOUS EXPOSURE
G = GOOD FOR INTERMITTENT EXPOSURE
F = USE ONLY WHERE LIMITED LIFE IS ACCEPTABLE
X = DO NOT USE

Chemical	%	Jacket Material PVC	TPR	TPU
F				
Ferric Sulfate		E		
Ferrous Chloride		E		
Ferrous Sulfate		E		
Flourochlorohydrocarbons				
Formaldehyde	40	X		
Formalin				
Formamide				
Formic Acid	85			X
Formic Acid	40			X
Formic Acid	10	E		X
Freon			F	X
Freon 12				X
Freons		X		
Fuel Oil		G		
Furfurol		F		
G				
Gallic Acid		E		
Gasoline - 100 Octane		F		X
Glycerine		E	E	E
Glycol				E
Glycolic Acid				
Grease		E	G	E
Green Sulfate Liquor		E		
H				
Heptachlor in Petroleum Solvents		E		
Heptane		F		G
Hexane		F	G	G
Hydfaulic Fluids - Ester Base		X		
Hydraulic Fluids - Petroleum Base		F		
Hdrazine				
Hydrobromic Acid		E		
Hydrocarbon Oil				
Hydrochloric Acid (Muriatic)	40	F		
Hydrochloric Acid	10	G	E	
Hydrochloric Acid	1	E	E	
Hydrocyanic Acid				
Hydrofluoric Acid	70	X		
Hydrofluoric Acid	10			
Hydrofluoroboric Acid	40	F		
Hydrofluoroboric Acid	10	G		
Hydrogen				
Hydrogen Chloride				G
Hydrogen Chloride				G
Hydrogen Fluoride				
Hydrogen Peroxide	30	G		
Hydrogen Peroxide	10	E		

Chemical	%	Jacket Material PVC	TPR	TPU
H				
Hydrogen Peroxide	2	E		E
Hydrogen Sulfide				
Hydrolic Fluid				G
Hydrolodic Acid				
I				
Ink				
Iodine Solution				X
Iron Salts - Acid Soln.				
Iron Salts - Neut. Soln.				
Isooctane		F		
Isopropanal				
Isopropyl Acetate		X		
Isopropyl Alcohol		G		X
J				
JP-4 Oil				
Jet Fuels (JP-3,4, and 5)		F		
K				
Kerosene		F		G
Ketones		X		
L				
Lacquer Thinners		X		
Lactic Acid	90			F
Lactic Acid	50			F
Lactic Acid	5			F
Lanolin				
Lead Acetate				
Lead Salts				
Linseed Oil		E		
Lox				
Lubricating Oils, Greases, Soaps		E		
M				
MIL-D-5606 Oil				
MIL-L-7808 Oil				
Magnesium Chloride		E		G
Magnesium Hydroxide	10	E		
Magnesium Salts				
Magnesium Sulfate		E		
Malathion 50 in Aromatics		X		
Malic Acid		E		
Mercury				
Mercury Salts				
Methanol	10			X
Methyl Acetate		X		X
Methyl Alcohol		F		
Methyl Bromide		X		
Methylene Chloride		X		X

Chemical Resistance Guide

Jacket Material Key

PVC = POLYVINYL CHLORIDE
TPR = THERMOPLASTIC ELASTOMER
TPU = THERMOPLASTIC POLYURETHANE

Rating Key

E = RESISTANT: GOOD FOR CONTINUOUS EXPOSURE
G = GOOD FOR INTERMITTENT EXPOSURE
F = USE ONLY WHERE LIMITED LIFE IS ACCEPTABLE
X = DO NOT USE

Chemical	%	Jacket Material PVC	TPR	TPU
M				
Methyl Ethyl Ketone		X	E	X
Methyl Glycol				X
Methyl Isobutyl Ketone		X		
Mineral Oil		E		G
Monochlorobenzene		X		
Motor Fuels				
Motor Oil 20W				G
Muriatic Acid (See Hydrochloric Acid)				
N				
Naphtha		F		E
Naphthalene		X		
Natural Gas				
Nickel Salts				
Nitric Acid		X		X
Nitric Acid	70	F		X
Nitric Acid	35	G		X
Nitric Acid	10	E		X
Nitrobenzene		X	E	
Nitrogen				
Nitromethane				
Nitropropane		X		
N-Methyl Pyrrolidone				X
O				
Octane				
Oil of Turpentine				
Oleic Acid		E		
Oleum		X		
Oxalic Acid		E		
Oxygen				
Oxygen - Liquid				
Ozone				
P				
Paint		X		
Paint Thinners		X		
Palmitic Acid		E		
Paper Chemicals				
Paraffin Oil				G
Pentachlorophenolin Oil		G		
Pentane		F		
Perchloric Acid	70	X		
Perchloric Acid	10	E		
Perchloroethylene		X		X
Petroleum				G
Petroleum Ether		F		
Petroleum Spirits				
Phenol		G		

Chemical	%	Jacket Material PVC	TPR	TPU
P				
Phenyl Ethyl Alcohol				
Phosphoric Acid	85	E		X
Phosphoric Acid	50	E		X
Phosphoric Acid	10	E		X
Photographic Developer		E		
Phthalates		X		
Pitch		G		
Plasticizers (Phthalates,Phosphates)				
Polyester Resin with Styrene				
Potash				
Potassium Bromide				
Potassium Chlorate				
Potassium Chloride	40			G
Potassium Cyanide				
Potassium Hydroxide	50	E		G
Potassium Hydroxide	10	E	E	G
Potassium Iodide				
Potassium Nitrate				
Potassium Permanganate	5			X
Potassium Salts				
Potassium Sulfate				
Power Steering Fluid		X		
Propane		E		
Propanol			E	
Propyl Alcohol		G		
Propylene Glycol		E		
Pydraul		X		
Pydraul Oil			G	
Pyridine			E	X
R				
Resorcinol				
Ritchfield "A" Weed Killer		F		
S				
SEA No. 10 Oil				
Salicylic Acid				
Salt				
Seawater		E	E	E
Silicic Acid				
Silicone Oil		E		
Silver Nitrate		F		
Silver Salts				
Skydrol Oil - Type B		X	E	X
Soap				
Soap Solution				
Sodium Acetate				
Sodium Bicarbonate				

Chemical Resistance Guide

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X = DO NOT USE

Chemical	%	Jacket Material PVC	TPR	TPU
S				
Sodium Bisulfite				
Sodium Borate				
Sodium Bromide				
Sodium Carbonate				
Sodium Carbonate				
Sodium Chlorate				
Sodium Chloride	15		E	G
Sodium Chlorite				
Sodium Cyanide		E		
Sodium Dichromate				
Sodium Ferrocyanide				
Sodium Fluride				
Sodium Hydrosulfite				
Sodium Hydroxide		G		X
Sodium Hydroxide	50	E	E	X
Sodium Hydroxide	10	E	E	G
Sodium Hypochlorite	PH13	G		E
Sodium Nitrate				
Sodium Nitrate				
Sodium Nitrite				
Sodium Perborate				
Sodium Phosphate				
Sodium Silicate				
Sodium Sulfate				
Sodium Sulfide				
Sodium Sulfite				
Sodium Thiosulfite				
Solvent Naphtha				
Solvesso		X		
Soybean Oil		F		
Stoddard Solvent		X		
Styrene		X		
Sulfur				
Sulfur Dioxide				
Sulfur Dioxide (Liquid)		X		
Sulfuric Acid		X	E	X
Sulfuric Acid	75	F	E	X
Sulfuric Acid	60	G	E	X
Sulfuric Acid	40	E	E	X
Sulfuric Acid	25	E	E	F
Sulfuric Acid	10	E	E	G
Sulfurous Acid	40	G		
T				
Tall Oil		X		
Tallow				
Tannic Acid		E		

Chemical	%	Jacket Material PVC	TPR	TPU
T				
Tar				
Tartaric Acid				
Tea				
Tetra Ethyl Lead		X		
Tetra Hydro Furan		X		X
Tetrachloroethlene				X
Tetraline				
Thionyl Chloride				
Tin Salts				
Titanium Salts				
Toluene		X		X
Toluol		X		
Transformer Oil				
Transmission Oil			F	
Trichlorethane		X		
Trichlorethylene		X	X	X
Trichloroacctic Acid				
Tricresyl Phosphate				
Tricresyl Phosphate (Skydrol)		X		X
Triethanol Amine		F		
Trisodium Phosphate		E		
Tung Oil		F		
Turpentine		F	F	G
U				
Urea				
V				
Varnish				
Varsol		X		
Vaseline				
Vegetable Oils and Juices		E		
Vinegar		E		
Vinyl Chloride		X		
W				
Water		E	E	
Water 23º C				
Water 70º C				
Wax				
Wood Preservatives		X		
X				
Xylene		X	F	X
Xylols		X		
Z				
Zinc Chloride		E	E	
Zinc Sulfate		E		

AFC Fittings is Your Best Connection

From connectors for Type MC, AC and HCF cables, to flexible metal conduit and liquid-tight flexible conduits (metallic and non-metallic) or steel EMT, Set Screw and Compression Fittings, AFC has just about any type of terminating means you require.

Armored Cable and Flexible Metal Conduit Connectors
- AFC Steel Box Connectors are design coordinated with AC & MC Cable and Flex from AFC Cable Systems.

Parking Deck and Parking Lot Cable
- Reasonably priced connectors that are appropriate for use with PVC Jacket MC cable (Parking Deck/Lot Cable™)

Malleable Liquidtight Insulated and Uninsulated Fittings
- Designed and engineered to ensure excellent performance thanks to it's heavy-duty, impact resistant construction.

Non-Metallic Liquidtight Connectors
- Available in one-piece or traditional multi-piece configurations

Snap-Lok Flexible Metal Conduit Connectors
- Quality spring steel construction for maximum reliability and vibration resistance making it ideal for machine-fed installations.

Steel Setscrew Connectors and Couplings
- Durable one-piece assembly available with or without insulated throats

Steel Compression Connectors and Couplings
- Strong steel construction available with or without insulated throats

Raintight Compression Fittings
- Inner sealing gland prevents moisture from entering the conduit

Get the New AFC fittings catalog at www.afcweb.com, or call 800-757-6996

Connector Cross-Reference Guide

LIQUID-TUFF™ Metallic Conduits

Trade Size	Internal Dia. inch (min/max)	External Dia. Over Conduit inch (min/max)	External Dia. Over Jacket inch (min/max)	AFC	Arlington	Bridgeport	Madison	OZ – Gedney	Neer	Regal	T&B
3/8	0.484/0.504	0.594/0.614	0.690/0.710	LS38	LT38	429-LT2	MSTR-38	4Q-38	LMM-01	5800	5231
1/2	0.622/0.642	0.732/0.765	0.820/0.840	LS50	LT50	430-LT2	MSTR-50	4Q-50	LMM-11	5801	5232
3/4	0.820/0.840	0.930/0.960	1.030/1.050	LS75	LT75	431-LT2	MSTR-75	4Q-75	LMM-21	5802	5233
1	1.041/1.066	1.201/1.226	1.290/1.315	LS100	LT100	432-LT2	MSTR-100	4Q-100	LMM-31	5803	5234
1¼	1.380/1.410	1.540/1.570	1.630/1.660	LS125	LT125	433-LT2	MSTR-125	4Q-125	LMM-41	5804	5235
1½	1.575/1.600	1.735/1.770	1.865/1.900	LS150	LT150	434-LT2	MSTR-150	4Q-150	LMM-51	5805	5236
2	2.020/2.045	2.180/2.215	2.340/2.375	LS200	LT200	435-LT2	MSTR-200	4Q-200	LMM-61	5806	5237
2½	2.480/2.505	2.640/2.675	2.840/2.875	LS250	LT250	436-LT2	MSTR-250-B	4Q-250	LMM-71	–	5238
3	3.070/3.100	3.295/3.335	3.460/3.500	LS300	LT300	437-LT2	MSTR-300-B	4Q-300	LMM-81	–	5239
3½	3.500/3.540	3.720/3.789	3.960/4.000	LS350	LT350	438-LT2	MSTR-350-B	4Q-350	LMM-85	–	LT-209*
4	4.000/4.040	4.220/4.280	4.460/4.500	LS400	LT400	439-LT2	MSTR-400-B	4Q-400	LMM-91	–	5240

LIQUID-TUFF™ Non-Metallic Conduits

Trade Size	Internal Dia. inch (min/max)	External Dia. inch (min/max)	AFC	Arlington	Bridgeport	Madison	Neer	Regal	T&B
3/8	0.484/0.504	0.690/0.710	0901-22-00	NMLT38	429-NMLT	NMLQ-1038	LMM-01	–	LT38P
1/2	0.622/0.642	0.820/0.840	0902-22-00	NMLT50	430-NMLT	NMLQ-1050	LMM-11	–	LT50P
3/4	0.820/0.840	1.030/1.050	0903-10-00	NMLT75	431-NMLT	NMLQ-1075	LMM-21	–	LT75P
1	1.041/1.066	1.290/1.315	0904-05-00	NMLT100	432-NMLT	NMLQ-1100	LMM-31	–	LT100P
1¼	1.380/1.410	1.630/1.660	0905-05-00	NMLT125	433-NMLT	NMLQ-1125	LMM-41	–	LT125P
1½	1.575/1.600	1.865/1.900	0906-02-00	NMLT150	434-NMLT	NMLQ-1150	LMM-51	–	LT150P
2	2.020/2.045	2.340/2.375	0907-02-00	NMLT200	435-NMLT	NMLQ-1200	LMM-61	–	LT200P

Flexible Metal Conduits — Full Wall, Reduced Wall, and Type EF Steel/Aluminum Flexible Conduits

Trade Size	Internal Dia. inch (min/max)	External Dia. inch (min/max)	AFC	Arlington	Bridgeport	Electroline/ Steel City	OZ – Gedney	Neer	Regal	T&B
5/16	0.312/0.327	0.470/0.510	–	–	–	–	–	–	–	252
3/8	0.375/0.393	0.560/0.610	AFC-50,52**	L42	403-DC2	L42/XC-269	C-5	SC-38	730	–
1/2	0.625/0.645	0.860/0.920	AFC-75**, 5075†	L421	407-DC2	L42-1/XC-270	C-8	SC-50	731	302
3/4	0.812/0.835	1.045/1.105	–	L422	408-DC2	L42-2/XC-272	24-34	SC-75	732	304
1	1.000/1.040	1.300/1.380	–	L423	410-DC2	L42-3/XC-273	24-100	SC-100	733	306
1¼	1.250/1.300	1.550/1.630	–	L424	412-DC2	L42-4/XC-274	24-125	SC-125	734	308
1½	1.500/1.575	1.850/1.950	–	L425	414-DC2	L42-5/XC-275	24-150	SC-150	735	310
2	2.000/2.080	2.350/2.450	–	L426	416-DC2	L42-6/XC-276	24-200	SC-200	736	312
2½	2.5	2.860/3.060	–	L427	417-DC2	L42-7/XC-277	24-250	SC-250	737	314
3	3	3.360/3.560	–	L428	418-DC2	L42-8/XC-278	24-300	SC-300	738	316
3½	3.5	3.860/4.060	–	L429	419-DC2	L42-9/XC-278A	KC–350	SC-350	739	–
4	4	4.360/4.560	–	L4210	420-DC2	L42-10/XC-2710	KC-400	SC-400	740	–

* Denotes manufactured by Steel City
** For RW Flexible Metal Conduit
† For RW Flexible Metal Conduit in steel only

The connector cross-reference guide is provided as a service to our customers.
The information contained herein is based on manufacturer published literature.
Consult appropriate manufacturer for more information.

Product Comparison Chart

Brand	Product	Halogen Free	Oil Resistant	Acid Resistant	Sun Resistant	Direct Burial	Size Range	Working Temperature	Listings	
General Purpose Listed Products										
AFC	UL LFMC		X	X	X	X	3/8" - 4."	-30C/80C Dry - 70C Oil	UL/CSA	Direct burial all sizes
AFC	UL Computer Blue		X	X	X	X	3/8" - 4."	-20C/80 Dry - 70C Oil	UL/CSA	Direct burial all sizes
AFC	CSA LFMC		X	X	X	X	3/8" - 4."	-20C/75C Dry - 60C Oil	CSA	Direct burial all sizes, No Bond Wire
Electri-Flex	LA		X	X	X	X	3/8" - 4."	-20C/60C Dry - 60C Oil	UL/CSA	
Electri-Flex	CSA		X	X	X		3/8" - 4."	-40C/75C Dry - NL Oil	CSA	No Bond wire
Electri-Flex	LA/Blu		X	X	X	X	3/8" - 4."	-20C/60C Dry - 60C Oil	UL/CSA	
Anamet	UA		X	X	X	X	3/8" - 4."	-20C/60C Dry - 60C Oil	UL/CSA	Direct burial approval to 2.0"
Southwire	UL		X	X	X	X	3/8" - 4."	-30C/80C Dry - 60C Oil	UL/CSA	
Southwire	CB		X	X	X	X	3/8" - 4."	-30C/80C Dry - 60C Oil	UL/CSA	
All Temperature Products										
AFC	Hi-Lo Temp		X	X	X	X	3/8" - 4."	-55C/105C Dry - 70C Oil	UL	Direct Burial All Sizes
Electri-Flex	ATLA		X	X	X	X	3/8" - 4."	-55C/105C Dry - 70C Oil	UL/CSA	
Anamet	HTUA		X	X	Not Listed	Not Listed	3/8" - 4."	-46/105C Dry - NL Oil	UL	
Southwire	HC		X	X	X	X	3/8" - 4."	-40C/105C Dry - NL Oil		
Low Smoke Zero Halogen Products										
AFC	LSZH	X	X		X	X	3/8" - 2.5"	-30C/80C Dry - 70C Oil		
AFC	UL LSZH	X	X		X	X	3/8" - 2.5"	-30C/80C Dry - 70C Oil	UL	
Electri-Flex	ZHLA	X	X		X	X	3/8" - 4."	-40C/80C Dry - 70C Oil	UL	
Anamet	ZHUA	X	X		Not Listed	X	3/8" - 4."	-30C/80C Dry - 70C Oil	UL	
Southwire	NH	X	X	X	X		3/8" - 4."	-10C/80C Dry - 60C Oil		
Oil Resistant Products										
AFC	HighTemp/OR		X	X	X	X	3/8" - 4."	-26/C105 Dry -70C Oil		PVC
Electri-Flex	LOR		X	X	Not Listed	Not Listed	3/8" - 6."	-20C/60C Dry - NL Oil		PVC
Anamet	OR		X	X	X	Not Listed	3/8" - 6."	-23C/105C Dry - NL Oil		PVC
Extra Flexible Products										
AFC	Non-UL LFMC		X	X	X		3/8" - 4."	-20C/60C Dry - 60C Oil		
Electri-Flex	LT		X	X	Not Listed		5/16" - 6."	-20C/80C Dry - NL Oil		
Electri-Flex	EF		X	X	Not Listed		3/8" - 2."	-20C/80C Dry - 60C Oil		
Anamet	EFST		X	X	X		3/8" - 6."	-20C/60C Dry - 60C Oil		
Anamet	LD/EF		X	X	X		3/8" - 2."	-20C/60C Dry - 60C Oil		
Anamet	EF		X	X	X		3/8" - 2."	-20C/60C Dry - 60C Oil		
Southwire	EF		X	X	X		3/8" - 4."	-10C/60C Dry - 60C Oil		
Additional Non-Listed Products										
AFC	LSZH	X	X		X	X	3/8" - 2.5"	-30C/80C Dry - 70C Oil		TPU
AFC	Extreme Temp	X	X		Not Listed	Not Listed	3/8" - 4.0"	-60C/150C Dry - NL Oil		TPR
Electri-Flex	ATX	X	X		Not Listed	Not Listed	3/8" - 3.5"	-60C/150C Dry - NL Oil		TPR
Electri-Flex	CEA	X	X		Not Listed	Not Listed	3/8" - 6."	-20C/100C Dry - NL Oil		TPU

KAF-TECH Notes

Electrical & Support Brands

Conduit Systems

Steel Conduit
- Rigid (GRC)
- IMC

Aluminum Conduit
- Rigid
- Aluminum Elbows
- Aluminum Couplings

Steel EMT
- True Color™ EMT
- Fire Alarm™ & Blue EMT
- E-Z Pull™ EMT

Kwik Products
- Kwik-Fit™ EMT (built-in set-screw coupling)
- Kwik-Couple™ IMC/GRC (built-in 3 piece rotating coupling)
- Kwik-Fit™ Compression EMT (built-in compression fitting)

PVC
- Rigid PVC
- Schedule - 40 & 80 Products
- EB/DB Duct
- Fittings, Spacers & Accessories

Columbia-MBF™

Cable Systems

AC & MC Cable
- MC TUFF™ Lightweight Steel (MC) Cable
- MC TUFF™ IG (MC) Cable with Isolated Ground
- MC Lite™ Metal Clad Aluminum (MC) Cable
- MC-Quik™ (MC) Cable
- MC-Stat™ (MC) Cable
- MC-Plus™ (MC) Cable
- HCF-90™ & HCF-Lite™
- AC-90™ & AC-Lite™
- Fire Alarm™ Cable
- Home Run Cable™
- Parking Deck/Lot Cable™
- Super Neutral Cable™

Flexible Conduit
- LIQUID-TUFF™ Liquid-Tight Flexible Conduit
- Full and Reduced Wall Flexible Metal Conduit

Framing Systems

Channel
- Steel Channel
- Aluminum Channel
- Stainless Steel Channel
- Fiberglass Channel
- Junior Channel

Fittings & Accessories
- Channel Brackets
- Channel Fittings
- Pipe Clamps
- Threaded Rods
- Fiberglass Fittings
- Junior Channel Fittings
- Concrete Inserts
- Slotted Angles

Finishes
- Pre-Galvanized Channel
- Green Channel
- Hot-Dip Galv. Channel
- Gold Channel

Solar Products

UNISTRUT®

Cable Tray Systems

Aluminum Tray
- Aluminum Ladder Tray
- Aluminum Hat Tray
- Aluminum Trof Tray
- Aluminum Channel
- Aluminum Fittings

Steel Tray
- Steel Ladder Tray
- Steel Hat Tray
- Steel Trof Tray
- Steel Channel
- Steel Fittings

I-Beam™ Cable Tray
- I-BEAM™ Aluminum Tray
- I-BEAM™ Accessories

Fiberglass Tray
- Cope-glas™ Fiberglass Tray
- Fiberglass Fittings

Center Hung Tray
- Centipede™ Tray
- Centipede™ Accessories

Other Cope Products
- Cable Channel

ACROBA

Conduit Systems Canada

All items listed above, **except** for the following:
- IMC
- Kwik-Couple IMC
- PVC

Framing Systems

All items listed above, **plus** the following:

Gratings
Roof Walks
Solar Products
Telestrut® Telescoping Strut System
UniPier® Rooftop Supports

Basket Tray Systems

Acroba Wire Basket
- Wire Basket Tray
- Wire Basket Accessories

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