

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

Description

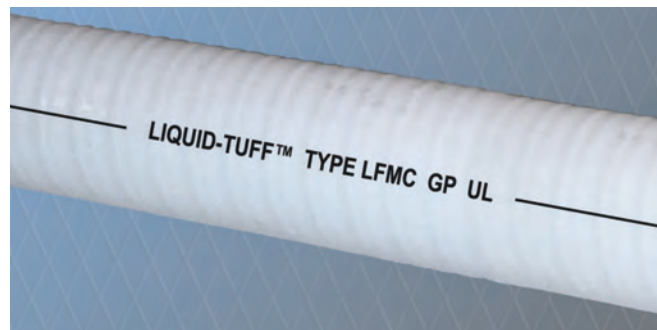
- UL bonded strip 3/8" – 1¼" for grounding
- UL Liquidtight all sizes
- Sunlight resistant
- Flame retardant PVC jacket
- Hot dipped zinc galvanized low carbon steel core
- Available in Grey, Black, Red, Orange, Yellow or Green

Temperature Rating

- 80°C/176°F to -30°C/-22°F Dry
- 60°C/140°F Wet
- 70°C/158°F 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® 501.10(B)(2)(4), 502.10(A)(2)(3), 502.10(B)(1)(1), 502.10(B)(2), 503.10(A)(3)(3), 503.10(B), 504.20
- Raised computer room floors per NEC® 645.5(E)(2)
- 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, 350, 390, 501.10(B)(2)(3), 502.10(A)(2)(2), 502.10(B)(2)(2), 503.10(A)(3)(2), 503.10(B), 504.20, 553.7(B), 600.31(A), 600.32(A)(1), 610.11(C), 620.21 (A)(1)(c)(2), 620.21(A)(2)(a), 620.21(A)(2)(d)(2), 620.21(A)(3)(a), 620.21(A)(3)(a), 620.21(A)(4)(2), 620.21(B)(1), 620.21(C)(1), 645.5(E)(2), 680.42(A)(1), 682.13, 690.31(A), 695.6(D) and 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(E)(2)
- Made in USA of US and/or imported materials

Ordering Information

| 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 Jacket (min/max) | | | |
| 6201-30-BK | 3/8 | 12 | 100' | — | 24 | 0.690/0.710 | | 0.484/0.504 | 2 |
| 6202-30-BK | 1/2 | 16 | 100' | — | 31 | 0.820/0.840 | | 0.622/0.642 | 3.25 |
| 6202-45-BK | 1/2 | 16 | — | 500' | 31 | 0.820/0.840 | | 0.622/0.642 | 3.25 |
| 6202-60-BK | 1/2 | 16 | — | 1000' | 31 | 0.820/0.840 | | 0.622/0.642 | 3.25 |
| 6203-30-BK | 3/4 | 21 | 100' | — | 49 | 1.030/1.050 | | 0.820/0.840 | 4.25 |
| 6203-45-BK | 3/4 | 21 | — | 500' | 49 | 1.030/1.050 | | 0.820/0.840 | 4.25 |
| 6203-60-BK | 3/4 | 21 | — | 1000' | 49 | 1.030/1.050 | | 0.820/0.840 | 4.25 |
| 6204-30-BK | 1 | 27 | 100' | — | 79 | 1.290/1.315 | | 1.041/1.066 | 6.5 |
| 6204-80-BK | 1 | 27 | — | 400' | 79 | 1.290/1.315 | | 1.041/1.066 | 6.5 |
| 6205-24-BK | 1¼ | 35 | 50' | — | 103 | 1.630/1.660 | | 1.380/1.410 | 8 |
| 6205-40-BK | 1¼ | 35 | — | 200' | 103 | 1.630/1.660 | | 1.380/1.410 | 8 |
| ★6206-24-BK | 1½ | 41 | 50' | — | 109 | 1.865/1.900 | | 1.575/1.600 | 9 |
| ★6206-35-BK | 1½ | 41 | — | 150' | 109 | 1.865/1.900 | | 1.575/1.600 | 9 |
| ★6207-30-BK | 2 | 53 | — | 100' | 146 | 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 LPMC (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.
• Made in USA of US and/or imported materials

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

* 3/4" available on 1000' Reels, call for details

LIQUID-TUFF™

UL Liquidtight Flexible Steel Conduit, Type LFMC

Scope

This specification covers AFC Cable Systems, Inc. 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 Color: Gray, 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: | NEC® 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 | | Minimum Acceptable Average Thickness of Jacket, (inches) |
|---------------|-------------------|--|
| Trade Size | Metric Designator | |
| 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 | | 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 |
| 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 |