

Technical Specifications

LIQUID-TUFF™

UL Liquidtight Flexible Non-Metallic Conduit Type A Orange (Type LFNC-A)



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Scope

This specification covers Kaf-Tech's 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 Underwriters Laboratories Inc. Standard UL 1660. The product carries the UL Listing Mark.

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 Table 6.1 and 6.3 of UL 1660 which is summarized in Table 1.

Grounding

A separate Grounding conductor is required by both 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 LIQUID-TUFF™ Liquidtight Flexible Non-Metallic Conduit Type A shall meet all of the performance requirements contained in UL 1660 outlined in Appendix A.

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Reference Standards

UL 1660	Standard for Liquidtight Flexible Non-Metallic Conduit
UL File References	UL E123464
NEC® Articles:	250.102, 250.134(B), 356, 390.15, 501.4(B)(2), 502.4(A)(1)(e), 503.3(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)





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Table 1

Conduit Size		Inside Diameter, In.		Outside Diameter, In.		Min. Bend Radii, In.	Weight lbs/100ft	Min. Wall Thickness Inches
Trade Size, In.	Metric	Min.	Max.	Min.	Max.			
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