

Technical Specifications

LIQUID-TUFF™ Ultraflex Liquidtight




(1) Recognized Component (2) Non-UL Non-Metallic Conduit

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Scope

This specification covers AFC Cable Systems, Inc. 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: $\text{Percent Fill} = \frac{\text{Area of Enclosed Conductors} \times 100}{\text{Internal Area of Tubing Fill Factor}}$.
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.

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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.

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.





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LIQUID-TUFF™

Ultraflex Liquidtight

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- (2) Non-UL Non-Metallic Conduit

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Table 1

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