

Building Cables and Wires

Technical Catalogue



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UL THHN/THWN American Wires

600 V

Plain Copper Conductor, Thermoplastic & Nylon Jacket CU/PVC/Nylon

Technical Specifications:

Applications

THHN/THWN building wires are used for general purpose applications such as for supplying power and lighting in residential and commercial buildings. They are installed in ducts, conduits and raceways in wet and dry locations.

These building wires are designed to suit 105 °C dry and 75 °C wet locations with rated voltage up to 600V. They are also used for Appliance Wire Material (AWM) at 105 °C in dry locations and Machine Tool Wire (MTW) at 90 °C dry and 60 °C wet locations such as oil refineries, cement and chemical plants.

Standard

As per UL 83, UL 1581, UL 1063 & UL 62

Rated Voltage

Working Voltage up to 600 V

Conductor

Annealed solid or stranded copper wires

Insulation

Polyvinyl Chloride (PVC) Rated 105 °C

Jacket:

Nylon jacket is provided to protect PVC insulation against abrasions and scratches while pulling through conduits. It is also resistant to oil, gasoline and chemicals.

Packing

Available in standard length of 500, 300, 250 and 125 feet on coil

Other lengths available upon request



Technical Data:

Conductor		Maximum DC Conductor Resistance at 20 °C	Nominal Insulation Thickness	Normal Jacket Thickness	Approx. Overall Diameter	Approx. Net Weight	Item Code
Nominal Cross Section	No. x Dia						
AWG mm ²	No. x Dia	Ohms/km	mm	mm	mm	Kg/km	
14 2.08	1 x 1.63	8.45	0.38	0.10	2.7	24	C124AD10100NX00UXX
12 3.31	1 x 2.05	5.31	0.38	0.10	3.1	36	C125AD10100NX00UXX
10 5.26	1 x 2.59	3.343	0.51	0.10	3.9	58	C126AD10100NX00UXX
18* 0.82	19 x 0.235	21.9	0.38	0.10	2.16	11.5	C222AD10100NX00UXX
16* 1.31	19 x 0.296	13.7	0.38	0.10	2.5	17	C223AD10100NX00UXX
14 2.08	19 x 0.37	8.62	0.38	0.10	2.9	24	C224AD10100NX00UXX
12 3.31	19 x 0.47	5.43	0.38	0.10	3.4	37	C225AD10100NX00UXX
10 5.26	19 x 0.59	3.409	0.51	0.10	4.2	59	C226AD10100NX00UXX
8 8.37	19 x 0.75	2.144	0.76	0.13	5.5	97	C227AD10100NX00UXX
6 13.3	19 x 0.944	1.348	0.76	0.13	6.38	195	C228AD10100NX00UXX

*Listed as TFFN

Table 1

Other sizes available upon request.

The above data is approximate and subject to normal manufacturing tolerance.

X : Insulation color (see Coding Key on page 55 character 13)

XX : Packing type & cutting length (see Coding Key on page 55 character 17 & 18)

Definition:

THHN: Thermoplastic insulated, High Heat resistant, Nylon Jacketed cable, 105 °C dry locations

THWN: Thermoplastic insulated Heat and moisture resistant, Nylon jacketed cable, 75 °C Wet locations

Features:

- Wires are as per UL Standard, Type THHN/ THWN
- Meets UL 'VW-1' *Flame Test requirements
- Oil resistant and gasoline resistant
- Construction in smaller diameter to improve conduit-fill
- Can be used as:

THHN 105 °C dry locations, building wire

THWN 75 °C wet locations, building wire

MTW 90 °C dry and 60 °C wet locations, machine tool wire

AWM 105 °C dry locations, appliance wire material

TFFN 105 °C dry locations, flexible cord and fixture wire

Reference Standards:

- **UL 83** : Underwriters Laboratories
Thermoplastic Insulated
Wires and Cables
- **UL 1581:** Underwriters Laboratories
Electrical Wires, Cables and
Flexible Cords
- **UL 1063:** Underwriters Laboratories
Thermoplastic Insulated
Wires and Cables
- **UL 62** : Underwriters Laboratories
Flexible Cord and Fixture Wire



(* VW-1: Vertical Single Wire Flame Test)

Marking:

Wires are marked as:

alfanar # AWG THHN OR THWN, OIL AND GASOLINE RESISTANT, 600 V 105 °C K.S.A.