

Introduction



alfanar is equipped with state-of-the-art manufacturing facilities such as latest machineries, instrumentation, quality control and testing laboratory, etc., for the production of cables, indoor wires, coaxial cables, telephone cables, LAN cables, low-voltage power & control cables, MV cables and HV cables in accordance with IEC, BS and UL standards.

In order to make cables of the highest quality, we apply the most advance cable manufacturing technologies thanks to our collaboration with internationally renowned experts in the field of cable manufacturing.

In all our products, we use highest quality raw material, such as copper rods supplied to us by some of the leading international manufacturers and distributors.

Backed by **alfanar electric**'s decades-long experience in the field of electrical systems, we can confidently assure our customers that we are able to supply to them a whole range of wires and cables.

At **alfanar**, we always aim at expanding our existing range of products in order to meet our customers requirements.

With a highly-committed approach, **alfanar** always endeavors to fully satisfy its customers by providing them with high quality products, efficient delivery and prompt after-sales services.

Single Core Wires



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alfanar

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.



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.

Single Core Solid Conductors

300 / 500 V

Plain Copper Conductor, PVC Insulation CU/PVC Wires

Technical Specifications:

Applications

Used for indoor fixed installation in dry locations, distribution in conduits as well as in steel support brackets and equipment wiring.

Standard

As per BS 6004 & IEC 60227-3

Rated Voltage

Working voltage up to 300/500 V

Conductor

Annealed solid copper wire
Class 1 of BS EN 60228 & IEC 60228

Insulation

PVC insulation type TII temperature rating 70 °C as per BS 7655
(PVC rated 85 °C or 105 °C available on request)
Meet flame retardant part IEC 60332-1 and BSEN 60332-1

Packing

Available in standard length of 100 yards on coil
Other lengths available upon request



Technical Data:

Conductor		Maximum DC Conductor Resistance at 20 °C	Nominal Insulation Thickness	Approx. Overall Diameter	Approx. Net Weight	Item Code
Size	Cons.					
mm ²	No. x mm	Ohms/km	mm	mm	Kg/km	
0.5	1 x 0.80	36	0.6	2	8.47	C105PC101000X000XX
0.75	1 x 0.98	24.5	0.6	2.2	11.23	C106PC101000X000XX
1.0	1 x 1.13	18.1	0.6	2.3	13.9	C107PC101000X000XX

Table 2

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)

Single Core Solid Conductor

450 / 750 V

Plain Copper Conductor, PVC Insulation CU/PVC Wires

Technical Specifications:

Applications

Used for indoor fixed installation in dry locations, distribution in conduits as well as in steel support brackets and equipment wiring.

Standard

As per BS 6004 & IEC 60227-3

Rated Voltage

Working voltage up to 450/750 V

Conductor

Annealed solid copper wire
Class 1 of BS EN 60228 & IEC 60228

Insulation

PVC insulation type T11 temperature rating 70 °C as per BS 7655
(PVC rated 85 °C or 105 °C available on request)

Packing

Available in standard length of 100 yards on coil
Other lengths available upon request



Technical Data:

Conductor		Maximum DC Conductor Resistance at 20 °C	Nominal Insulation Thickness	Approx. Overall Diameter	Approx. Net Weight	Item Code
Size	Cons.					
mm ²	No. x mm	Ohms/km	mm	mm	Kg/km	
1.5	1 x 1.38	12.1	0.7	2.8	20.27	C108PB101000X000XX
2.5	1 x 1.78	7.41	0.8	3.4	32.4	C110PB101000X000XX
4	1 x 2.25	4.61	0.8	3.9	47.13	C112PB101000X000XX
6	1 x 2.76	3.08	0.8	4.4	67	C113PB101000X000XX
10	1 x 3.57	1.83	1.0	5.6	111.22	C114PB101000X000XX

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)

Table 3

Single Core Stranded Conductor

450 / 750 V

Plain Copper Conductor, PVC Insulation CU/PVC Wires

Technical Specifications:

Applications

Used for indoor fixed installation in dry locations, distribution in conduits as well as in steel support brackets and equipment wiring.

Standard

As per BS 6004 & IEC 60227-3

Rated Voltage

Working voltage up to 450/750 V

Conductor

Annealed solid copper wire
Class 2 of BS EN 60228 & IEC 60228

Insulation

PVC insulation type TII temperature rating 70 °C as per BS 7655
(PVC rated 85 °C or 105 °C available on request)

Packing

Available in standard length of 100 & 80 yards on coil
Other lengths available upon request



Technical Data:

Conductor		Maximum DC Conductor Resistance at 20 °C	Nominal Insulation Thickness	Approx. Overall Diameter	Approx. Net Weight	Item Code
Size	Cons.					
mm ²	No. x mm	Ohms/km	mm	mm	Kg/km	
1.5	7 x 0.52	12.1	0.7	3.0	21.22	C208PB101000X000XX
2.5	7 x 0.67	7.41	0.8	3.6	33.71	C210PB101000X000XX
4	7 x 0.85	4.61	0.8	4.2	49.92	C212PB101000X000XX
6	7 x 1.04	3.08	0.8	4.8	70.27	C213PB101000X000XX
10	7 x 1.34	1.83	1.0	6.0	116.63	C214PB101000X000XX
16	7 x 1.68	1.15	1.0	7.1	174.85	C215PB101000X000XX
25	7 x 2.14	0.727	1.2	8.9	271.93	C216PB101000X000XX
35	7 x 2.52	0.524	1.2	10.0	370.1	C217PB101000X000XX
50	19 x 1.78	0.387	1.4	11.8	505.7	C218PB101000X000XX
70	19 x 2.22	0.268	1.4	12.7	670	C319PB101000X000XX

Table 4

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)

Single Core Flexible Conductor

450 / 750 V

Plain Copper Conductor, PVC Insulation CU/PVC Wires

Technical Specifications:

Applications

Used for indoor fixed installation in dry locations for lighting fittings inside electrical panels and connections for apparatuses, switch gears and control gears.

Standard

Wires are made as per BS 6004 & IEC 60227-3

Rated Voltage

Working voltage up to 450/750 V

Conductor

Annealed flexible copper Class 5 of BS EN 60228 & IEC 60228; copper fine wires bunched together to circular conductor

Insulation

PVC insulation type TII temperature rating 70 °C as per BS 7655 (PVC rated 85 °C or 105 °C available on request)

Packing

Available in standard length of 100 yards on coil

Other lengths available upon request



Technical Data:

Conductor		Maximum DC Conductor Resistance at 20 °C	Nominal Insulation Thickness	Approx. Overall Diameter	Approx. Net Weight	Item Code
Size	Cons.					
mm ²	No. x mm	Ohms/km	mm	mm	Kg/km	
1.5	30 x 0.25	13.3	0.7	3.0	21.6	C508PB101000X000XX
2.5	50 x 0.25	7.98	0.8	3.7	34.0	C510PB101000X000XX
4	56 x 0.30	4.95	0.8	4.2	49.92	C512PB101000X000XX
6	84 x 0.30	3.3	0.8	4.8	70.83	C513PB101000X000XX
10	80 x 0.40	1.91	1.0	6.2	117.86	C514PB101000X000XX
16	126 x 0.40	1.21	1.0	7.34	176.24	C515PB101000X000XX
25	196 x 0.40	0.780	1.2	9.1	272.8	C516PB101000X000XX
35	273 x 0.40	0.554	1.2	10.3	371.93	C517PB101000X000XX
50	399 x 0.40	0.386	1.4	12.31	533.29	C518PB101000X000XX
70	551 x 0.40	0.272	1.4	14	718.5	C519PB101000X000XX

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)

Table 5

Single Core Flexible Conductor

Plain Copper Conductor, PVC Insulated Wires

600 / 1000 V

Technical Specifications:

Applications

Used for indoor fixed installation in dry locations for lighting fittings inside electrical panels and connections for apparatuses, switch gears and control gears.

Standard

As per BS 6231

Rated Voltage

Working voltage up to 600/1000 V

Conductor

Annealed flexible tinned copper wires Class 5 of BS EN 60228

Copper fine wires bunched together to circular conductor

Insulation

Type BK: Type T11 temperature rating 70 °C as per BS 7655

Type CK: Type T13 temperature rating 90 °C as per BS 7655

Type CK: PVC rated 105 °C available on request

Packing

Available in standard length of 100 yards on coil

Other lengths available upon request



Technical Data:

Conductor		Maximum DC Conductor Resistance at 20 °C	Nominal Insulation Thickness	Approx. Overall Diameter	Approx. Net Weight	Item Code
Size	Cons.					
mm ²	No. x mm	Ohms/km	mm	mm	Kg/km	
0.5	16 x 0.2	39	0.8	2.6	11.5	C505AA101000X00BXX
0.75	24 x 0.2	26	0.8	2.8	14.6	C506AA101000X00BXX
1	32 x 0.2	19.5	0.8	2.92	17.6	C507AA101000X00BXX
1.5	30 x 0.25	13.3	0.8	3.2	22.9	C508AA101000X00BXX
2.5	50 x 0.25	7.98	0.8	3.7	33.6	C510AA101000X00BXX
4	56 x 0.30	4.95	0.8	4.2	49.5	C512AA101000X00BXX
6	84 x 0.30	3.3	0.8	4.8	69.8	C513AA101000X00BXX
10	80 x 0.40	1.91	1.0	6.2	117.1	C514AA101000X00BXX
16	126 x 0.40	1.21	1.0	7.34	175.3	C515AA101000X00BXX
25	196 x 0.40	0.780	1.2	9.1	270.3	C516AA101000X00BXX
35	273 x 0.40	0.544	1.2	10.3	365.3	C517AA101000X00BXX
50	399 x 0.40	0.386	1.4	12.31	530.7	C518AA101000X00BXX
70	551 x 0.40	0.272	1.4	14	716.2	C519AA101000X00BXX

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)

Table 6

Single Core Flexible Conductor

Tinned Copper Conductor, PVC Insulated Wires

600 / 1000 V

Technical Specifications:

Applications

Used for indoor fixed installation in dry locations for lighting fittings inside electrical panels and connections for apparatuses, switch gears and control gears.

Standard

As per BS 6231

Rated Voltage

Working voltage up to 600/1000 V

Conductor

Annealed flexible tinned copper wires Class 5 of BS EN 60228
Tinned copper fine wires bunched together to circular conductor

Insulation

Type BK: Type T11 temperature rating 70 °C as per BS 7655

Type CK: Type T13 temperature rating 90 °C as per BS 7655

Type CK: PVC rated 105 °C available on request

Packing

Available in standard length of 100 yards on coil

Other lengths available upon request



Technical Data:

Conductor		Maximum DC Conductor Resistance at 20 °C	Nominal Insulation Thickness	Approx. Overall Diameter	Approx. Net Weight	Item Code
Size	Cons.					
mm ²	No. x mm	Ohms/km	mm	mm	Kg/km	
0.5	16 x 0.2	40.1	0.8	2.6	11.5	T505AA101000X00BXX
0.75	24 x 0.2	26.7	0.8	2.8	14.6	T506AA101000X00BXX
1	32 x 0.2	20	0.8	2.92	17.6	T507AA101000X00BXX
1.5	30 x 0.25	13.7	0.8	3.2	22.9	T508AA101000X00BXX
2.5	50 x 0.25	8.21	0.8	3.7	33.6	T510AA101000X00BXX
4	56 x 0.30	5.09	0.8	4.2	49.5	T512AA101000X00BXX
6	84 x 0.30	3.39	0.8	4.8	69.8	T513AA101000X00BXX
10	80 x 0.40	1.95	1.0	6.2	117.1	T514AA101000X00BXX
16	126 x 0.40	1.24	1.0	7.34	175.3	T515AA101000X00BXX
25	196 x 0.40	0.795	1.2	9.1	270.3	T516AA101000X00BXX
35	273 x 0.40	0.565	1.2	10.3	365.3	T517AA101000X00BXX
50	399 x 0.40	0.393	1.4	12.31	530.7	T518AA101000X00BXX
70	551 x 0.40	0.277	1.4	14	716.2	T519AA101000X00BXX

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)

Table 7