



family always comes first.

For more than 50 years, Phelps Dodge has been a part of families all over the world. Families who have put their trust in Phelps Dodge innovative products and high quality standards.

Now here's the newest member of our family, the new **THHN/THWN-2 Building Wire**: the same high-quality, lead-free building wire you trust, made even better.



one-time investment.
lifetime protection.

- Rated for temperatures of up to 90°C in both wet and dry conditions so it's safer
- Increased capacity so it can safely carry more electrical load

With Phelps Dodge, nothing is more important than your family's safety. It's the reason why we're always innovating, and the standard by which all our products are measured.

You know you can always trust Phelps Dodge.

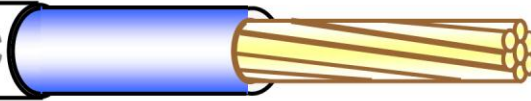
After all these years, we're like family too.

Call us today for more information: (632)8934996;8934989
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Lead Free Type THHN/THWN-2 600 Volts for 90°C Dry & Wet Locations

PERMALITE TYPE THHN /THWN-2 600V 90°C



APPLICATIONS

Type THHN/THWN-2 conductors are primarily used in conduit for services, feeder, and branch circuits in commercial or industrial applications as specified in the Philippine Electrical Code (PEC) & National Electrical Code (NEC).

When used as type THHN/THWN-2, conductors are suitable for use in wet or dry locations at temperatures not to exceed 90°C both dry and wet locations or not to exceed 75°C exposed to oil or coolant.

For 50mm² – 500mm², Cable tray (CT) rated THHN/THWN-2 can be installed in Cable Trays.

DESCRIPTION

Type THHN/THWN-2 is single insulated conductor of solid or stranded bare annealed high conductivity copper, with thermoplastic Lead free insulation of PVC (Polyvinyl Chloride) and protected by a nylon jacket; designed to operate up to 600 volts AC.

SPECIFICATIONS

The THHN/THWN-2 conductors are designed according to local and internationally recognized and accepted standards:

- ☒ ASTM: B3, B8
- ☒ Underwriters Laboratory: Listed under file # E-55448 for AWG Conductor sizes.
- ☒ UL: 83 Specification
- ☒ PNS: 35 Specification
- ☒ PEC 2000 Article 3.18 compliant for Cable tray
- ☒ NEC Article 318 compliant for Cable tray

CHARACTERISTICS AND SPECIAL FEATURES

- ☒ Designed to operate at a maximum conductor temperature of 90°C both for wet and dry locations.
- ☒ Higher cable ampacity.
- ☒ Available in six standard colors (red, black, white, green, yellow and blue).

PNS Size	Equivalent AWG size	Copper Conductor Diameter mm	Overall Cable Diameter mm	Approx Cable weight kgs/km	Cable Ampacity++ Dry and Wet Locations at 75°C/90°C Amperes	Effective Impedance+++ Ohm to neutral per 305 M 3 conductors in		Minimum Bending Radius 8 x Cable OD mm	Standard Packaging Scheme
						PVC Conduit	Steel Conduit		
1.6 mm Sol	14 AWG	1.6	2.6	22	25+	2.7	2.7	21	150m per box
2.0 mm Sol	12 AWG	2.0	3.0	33	30+	1.7	1.7	24	150m per box
2.6 mm Sol	10 AWG	2.6	3.8	55	40+	1.1	1.1	30	150m per box
3.2 mm Sol	8 AWG	3.2	5.1	88	55	0.69	0.7	41	100m per box
2.0 mm ² Str	14 AWG	1.8	2.8	24	25+	2.7	2.7	22	150m per box
3.5 mm ² Str	12 AWG	2.3	3.3	37	30+	1.7	1.7	26	150m per box
5.5 mm ² Str	10 AWG	2.9	4.1	58	40+	1.1	1.1	33	150m per box
8.0 mm ² Str	8 AWG	3.6	5.5	96	55	0.69	0.7	44	100m per box
14 mm ² Str	6 AWG	4.6	6.5	147	70	0.44	0.45	52	150m per coil
22 mm ² Str	4 AWG	5.7	8.1	232	90	0.29	0.3	64	150m per coil
30 mm ² Str	2 AWG	6.7	9.0	311	115	0.19	0.2	72	150m per coil
38 mm ² Str	1 AWG	7.8	10.8	414	130	0.16	0.16	86	300 m per reel
50 mm ² Str	1/0 AWG	8.8	11.8	514	150	0.13	0.13	94	300 m per reel
60 mm ² Str	2/0 AWG	9.8	12.7	625	170	0.11	0.11	102	300 m per reel
80 mm ² Str	3/0 AWG	11.2	14.2	813	205	0.088	0.094	114	300 m per reel
100 mm ² Str	4/0 AWG	12.7	15.7	1,026	225	0.074	0.08	125	300 m per reel
125 mm ² Str	250 MCM	14.3	17.8	1,298	265	0.066	0.073	142	300 m per reel
150 mm ² Str	300 MCM	15.7	19.3	1,556	295	0.059	0.065	155	300 m per reel
175 mm ² Str	350 MCM	17.0	20.8	1,741	325	0.054	0.06	166	300 m per reel
200 mm ² Str	400 MCM	17.8	21.4	1,967	355	0.049	0.056	171	300 m per reel
250 mm ² Str	500 MCM	20.2	23.8	2,519	400	0.045	0.05	191	300 m per reel
300 mm ² Str	600 MCM	22.3	26.9	2,964	447	0.042	0.048	215	300 m per reel
325 mm ² Str	650 MCM	22.9	26.9	3,218	470	0.04	0.047	215	300 m per reel
375 mm ² Str	750 MCM	25.0	29.6	3,677	500	0.037	0.044	237	300 m per reel
400 mm ² Str	800 MCM	25.5	29.7	3,974	515	0.036	0.043	237	300 m per reel
500 mm ² Str	1000 MCM	28.2	32.2	4,809	580	0.032	0.04	258	300 m per reel

+Unless otherwise specifically permitted the over current protection shall both exceed 15 amperes for 2.0mm² (1.6mm); 20 Amperes for 3.5mm² (2.0mm) and 25 Amperes for 5.5mm² as per PEC.

++Ampacity Based on 90°C not more than three current carrying conductors in conduit based on ambient temperature of 30°C as PEC 2000.

+++Effective Impedance for three conductors in conduit 60 HZ, 75°C and 600 Volts at P.F. Multiplying current by effective impedance gives a good approximation for line to neutral voltage drop.

- ☒ Jacketed with nylon for mechanical protection; greater resistance against abrasion, resistance to petroleum by-products, chemical agents and oils, and termite resistant.
- ☒ With sequential cable marker printed on the cable surface for sizes 50mm² up to 500mm² to indicate the length of the cable, act as cable usage reference and for inventory control.

INSTALLATION

THHN/THWN-2 conductors can be installed as follows: in conduit & raceways for 2.0mm² up to 500mm², or in cable trays for sizes 50mm² up to 500mm². It is important that the installation instructions indicated by the Philippine Electric Code, or National Electrical Code, be followed to safeguard the safety of people installing the product and eliminate damage to the product due to improper installation.

General Manager:

Andres Soriano Corporation
(ANSOR)