

THHN/THWN-2 (PVC/Nylon) 600 V Copper –Single Conductor



Power Your Environment

SCOPE / APPLICATION:

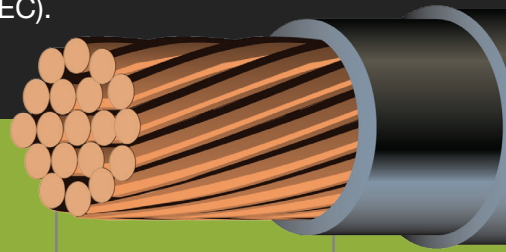
600V, copper conductor, thermoplastic insulation (PVC / Nylon) conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial and industrial applications per the National Electrical Code (NEC). Voltage for all applications is 600 volts.

INDUSTRY STANDARDS / COMPLIANCES:

- ICEA S-95-658 / NEMA WC70 – Power Cables Rated 2,000 Volts or Less for the Distribution of Electrical Energy
- UL 83 - Standard for Safety Thermoset-Insulated Wires and Cables
- UL 1581 – Reference Standard for Electrical Wires, Cables, and Flexible Cords
- ASTM B-3 – Standard Specification for Soft or Annealed Copper Wire
- ASTM B-8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
- NEC, NFPA 70 - National Electrical Code
- CSA C22.2 No. 75 – Thermoplastic-Insulated Wires and Cables

RATINGS / FEATURES:

- THHN — Indicates a single conductor having flame-retardant and heat-resistant thermoplastic insulation with a jacket of extruded nylon or equivalent material. The wire is rated 90°C dry only.
- THWN — Indicates a single conductor having flame-retardant, moisture- and heat-resistant thermoplastic insulation with a jacket of extruded nylon or equivalent material. The wire is rated 75°C wet or dry.
- THWN-2 — Same as THWN except that the wire is rated 90°C wet or dry.
- For THHN/THWN-2 applications, the conductor is appropriate for wet or dry locations not to exceed 90°C
- C(UL): T-90 NYLON — Indicates a single-conductor, thermoplastic-insulated, nylon-jacketed construction having a rating of 90°C dry.
- C(UL): TWN75 — Indicates a single-conductor, thermoplastic-insulated, nylon-jacketed construction having a rating of 75°C wet or dry.
- CT Rated: 1/0AWG & larger are rated for cable tray use
- Gasoline and Oil Resistant II
- Flame Retardant: VW-1 Rated
- Sun Resistant
- RoHS Compliant
- Smooth nylon jacket aids in easier installation.
- Resistant to abrasion, moisture, heat, oil, gasoline, chemicals and grease.



1

Conductor:
Fully annealed bare copper: Solid conductor per ASTM B3 Stranded conductor per ASTM B3 & ASTM B8

2

Insulation:
Extruded flame retardant, heat and moisture resistant Polyvinyl Chloride (PVC) compound.

3

Overall Jacket:
Extruded tough Polyamide (nylon) compound.



Conductor Size (AWG or kcmil)	Conductor Stranding Number of Strands	Insulation Thickness (mils)	Jacket Thickness (mils)	Nominal OD (Inch)	Approx Net Weight (lbs/1000 ft.)	Allowable Ampacities (1) @30°C Ambient	
						75°C	90°C
14	1	15	4	0.101	17	20	25
12	1	15	4	0.119	25	25	30
10	1	20	4	0.150	39	35	40
14	19	15	4	0.113	16	20	25
12	19	15	4	0.133	25	25	30
10	19	20	4	0.164	39	35	40
8	19	30	5	0.218	63	50	55
6	19	30	5	0.252	96	65	75
4	19	40	6	0.325	153	85	95
3	19	40	6	0.353	193	100	115
2	19	40	6	0.381	236	115	130
1	19	50	7	0.437	300	130	145
1/0	19	50	7	0.480	373	150	170
2/0	19	50	7	0.522	464	175	195
3/0	19	50	7	0.572	577	200	225
4/0	19	50	7	0.629	719	230	260
250	37	60	8	0.703	857	255	290
300	37	60	8	0.758	1019	285	320
350	37	60	8	0.808	1181	310	350
400	37	60	8	0.851	1342	335	380
500	37	60	8	0.937	1665	380	430
600	61	70	9	1.036	2002	420	475
750	61	70	9	1.134	2465	475	535
1000	61	70	9	1.273	3296	545	615

Dimensions and weights are nominal, subject to industry standards and manufacturing tolerances.

(1) Allowable ampacities shown are for general use as specified in the 2014 Edition of the National Electrical Code: Section 310.15 – Table 310.15(B)(16) and Section 240.4(D).