

Hook-Up Wire Data by Wire Type

Application		Electronics				Construction		Marine	Automotive					
Wire Type		UL1007	UL1015	MIL PVC (MIL-W-16878/1)	MIL PTFE (MIL-W-16878/4)	THHN		GPTM (UL1426)	GPT (SAE J1128)	SXL (SAE J1128)	GXL (SAE J1128)	TXL (SAE J1128)		
Voltage Rating		300 V	600 V	600 V	600 V	600 V		60 V	60 V	60 V	60 V	60 V		
Temperature Rating		105°C	105°C	105°C	200°C	90°C Dry, 75°C Wet		100°C Dry, 80°C Wet	85°C	125°C	125°C	125°C		
Conductor Material		Tinned Copper	Tinned Copper	Tinned Copper	Silver-Plated Copper	Bare Copper		Tinned Copper	Bare Copper	Bare Copper	Bare Copper	Bare Copper		
Insulation Material		PVC	PVC	PVC	PTFE	PVC with Nylon Jacket		PVC	PVC	XLPE	XLPE	XLPE		
STR/SLD ¹	Bare ²	STR	SLD	STR	STR	STR	STR	SLD	STR	STR	STR	STR	STR	
Overall Diameter (in) by AWG	8	0.1285	—	—	—	—	0.2130	—	0.2150	0.2150	0.2270	0.2180	0.1910	
	10	0.1019	0.1450	—	0.1940	—	0.1610	0.1500	0.1730	0.1750	0.1920	0.1740	0.1550	
	12	0.0808	0.1270	0.1140	0.1600	—	0.1140	0.1280	0.1190	0.1410	0.1420	0.1610	0.1410	0.1280
	14	0.0641	0.1050	0.0970	0.1410	0.0920	0.0950	0.1090	0.1020	0.1170	0.1170	0.1410	0.1140	0.1030
	16	0.0508	0.0940	0.0830	0.1240	0.0800	—	—	—	0.1030	0.1030	0.1180	0.1020	0.0880
	18	0.0403	0.0800	0.0730	0.1100	0.0680	—	—	—	0.0920	0.0920	0.1070	0.0910	0.0820
	20	0.0320	0.0700	0.0640	0.1000	0.0580	—	—	—	0.0840	0.0960	0.0840	—	0.0700
	22	0.0254	0.0620	0.0580	0.0950	0.0510	—	—	—	0.0760	—	—	—	0.0620
	24	0.0201	0.0560	0.0530	0.0880	0.0440	—	—	—	—	—	—	—	—
	26	0.0159	0.0500	0.0500	0.0830	0.0390	—	—	—	—	—	—	—	—
	28	0.0126	0.0460	0.0460	—	0.0350	—	—	—	—	—	—	—	—
	30	0.0100	0.0440	—	—	0.0310	—	—	—	—	—	—	—	—
	32	0.0080	—	—	—	0.0290	—	—	—	—	—	—	—	—

¹ Some hook-up wire types are available in stranded (STR) or solid (SLD) wire builds; see the *Stranded Wire or Solid Wire?* section below for information on choosing a build. We have provided dimensions for the typical stranded constructions, but please note that variations in the stranding can affect this diameter.

² These bare conductor dimensions are provided for reference. The actual bare diameter can slightly vary by the conductor material and stranding. See our product pages to determine nominal values.

Stranded Wire or Solid Wire?

Hook-Up Wire is often available in two constructions – stranded and solid. The conductor of a stranded wire consists of multiple strands of smaller-sized wire that are bundled together to create an equivalent to a larger-sized wire. A solid wire’s conductor is simply a single piece of larger-sized wire.

Typically, stranded wire is more flexible and can withstand repeated bends better than solid wire can. This makes stranded wire ideal for being used in a busy environment where it could often be bent or otherwise moved. On the other hand, solid wire is usually very rigid, especially as you increase the wire size. This allows for a durable wire that will readily hold a shape if needed. Additionally, the conductor diameter of a solid wire tends to be smaller than that of a stranded wire (and thus, the overall diameter is smaller as well). As such, applications where the hook-up wire’s diameter is critical or where a certain form is desired are perfect for solid wire.

However, any given wire build is designed to meet a hook-up wire’s standards and ratings. Therefore, stranded wire *and* solid wire will both deliver the performance you need to complete your project.

All values are nominal unless otherwise specified. Click any number in bold to view the webpage for that standard Remington Industries product.



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Copper Hook-Up Wire Ampacity by Insulation Temperature Rating

Single Conductor Ampacity						
AWG	Insulation Temperature Rating					
	80°C	90°C	105°C	125°C	150°C	200°C
0000 (4/0)	370	405	446	481	529	629
000 (3/0)	315	350	380	410	451	546
00 (2/0)	270	300	329	355	390	467
0 (1/0)	230	260	286	309	339	399
1	200	220	247	266	293	344
2	170	190	215	232	255	293
3	145	165	180	194	214	252
4	125	140	160	172	190	220
6	95	105	121	131	155	165
8	65	80	90	97	106	124
10	47	55	67	72	80	90
12	36	40	51	55	60	68
14	27	35	39	42	46	54
16	19	24	26	28	31	35
18	15	18	20	22	24	28
20	10	13	14	15	18	21
22	8.0	10	11	12	14	16
24	5.0	5.5	6.2	6.7	7.7	8.7
26	4.0	4.0	4.6	5.0	5.7	6.4
28	3.0	3.0	3.4	3.7	4.3	4.8
30	2.0	2.2	2.5	2.8	3.2	3.6
32	1.0	1.7	1.9	2.1	2.4	2.7
34	0.87	1.2	1.4	1.5	1.8	2.0
36	0.63	0.91	1.0	1.1	1.3	1.5
38	0.47	0.68	0.77	0.84	0.98	1.1
40	0.33	0.49	0.55	0.60	0.71	0.78

The current values (in amps) in this table are maximum ampacities for a **single conductor in free air**, with an **ambient temperature of 30°C (86°F)**. Multiply ampacities by the **Correction Factors by Ambient Temperature** table below to adjust for different ambient temperatures.

Two- or Three-Conductor Ampacity					
AWG	Insulation Temperature Rating				
	90°C	105°C	125°C	150°C	200°C
0000 (4/0)	260	301	325	332	346
000 (3/0)	225	263	284	288	297
00 (2/0)	195	229	247	251	260
0 (1/0)	170	193	208	215	229
1	150	168	181	186	197
2	130	143	154	160	171
3	110	129	139	143	152
4	95	109	118	120	125
6	75	81	87	96	110
8	55	64	69	76	83
10	40	46	50	55	60
12	30	36	39	43	45
14	25	29	31	34	36
16	18	19	20	22	25
18	14	15	16	17	20
20	8	9	10	13	15
22	6	7	8	9	10

The current values (in amps) in this table are maximum ampacities for **2 or 3 conductors** together in a **raceway, conduit, or cable**, with an **ambient temperature of 30°C (86°F)**. Multiply ampacities by the **Correction Factors by Number of Conductors** and the **Correction Factors by Ambient Temp.** tables below to adjust for different numbers of conductors & ambient temperatures, respectively.

Correction Factors by Number of Conductors			
4 to 6:	0.80	21 to 30:	0.45
7 to 9:	0.70	31 to 40:	0.40
10 to 20:	0.50	41 and above:	0.35

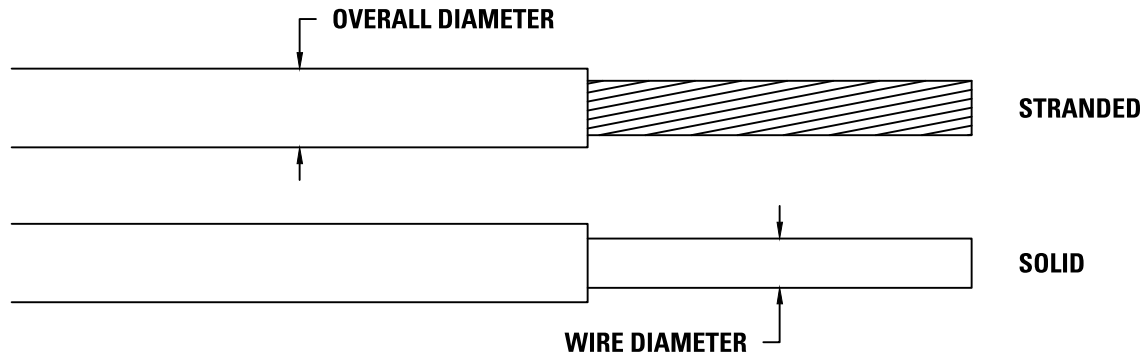
Correction Factors by Ambient Temperature					
Ambient Temp. (°C)	Insulation Temperature Rating				
	90°C	105°C	125°C	150°C	200°C
31 - 35	0.96	1.00	1.00	1.00	1.00
36 - 40	0.91	1.00	1.00	1.00	1.00
41 - 45	0.87	0.93	0.94	0.95	0.97
46 - 50	0.82	0.93	0.94	0.95	0.97
51 - 55	0.76	0.85	0.87	0.90	0.94
56 - 60	0.71	0.85	0.87	0.90	0.94
61 - 70	0.58	0.76	0.80	0.85	0.90
71 - 80	0.41	0.65	0.73	0.80	0.87
81 - 90	—	0.53	0.64	0.74	0.83
91 - 100	—	0.38	0.54	0.67	0.79
101 - 120	—	—	0.24	0.52	0.71
121 - 140	—	—	—	0.30	0.61
141 - 160	—	—	—	—	0.50
161 - 180	—	—	—	—	0.35

Hook Up Wire Reference			
Wire Type (Click to View)	Temperature Rating	Voltage Rating	Application
UL1007	105°C (221°F)	300 V	Electronics
UL1015	105°C (221°F)	600 V	Electronics
MIL-W-16878/1	105°C (221°F)	600 V	Electronics
PTFE	200°C (392°F)	600 V	Electronics
THHN	90°C (194°F) Dry	600 V	Construction
GPT	85°C (185°F)	60 V	Automotive
GXL	125°C (257°F)	60 V	Automotive
SXL	125°C (257°F)	60 V	Automotive
TXL	125°C (257°F)	60 V	Automotive
GPTM	80°C (176°F) Wet	60 V	Marine

This data is for reference only. When applicable, please consult your local electrical code to determine what wire constructions, temperatures, voltages, and current levels are legal.

Stranded or Solid THHN Hook Up Wire from Remington Industries is used primarily in conduit and raceway applications for branch circuits, services, and feeders in commercial and industrial designs as specified in the National Electrical Code 2. The single or multi conductor wire is made from bare copper that offers high quality performance for most electrical applications, and the PVC insulation with a nylon jacket offers heavy-duty protection against abrasion, chemicals, oils, and solvents. This wire is suitable for dry locations in temperatures under 90°C (194°F), or for wet and oil/coolant applications where temperatures are under 75°C (167°F). It conforms to UL certifications for 600-volt conductors. This hook up wire is available in two wire gauges (12 & 14 AWG). It is also available in several colors (see below) to allow for easy circuit identification, as well as numerous spool sizes (see below) for your convenience.

- Conductor Material: Bare Copper
- Insulation Material: PVC with Nylon Jacket
- Type: THHN Building Wire, Stranded or Solid
- Voltage Rating: 600 V
- Temperature Rating: 90°C (194°F) Dry / 75°C (167°F) Wet
- Colors Available: Black, Green, Red, White
- Spool Sizes Available: 25 ft, 50 ft, 100 ft, 250 ft, 500 ft
- Also available in pre-built kits (4 different colors / 25 ft or 50 ft per spool)



PART NUMBER	WIRE GAUGE	STRANDING	WIRE DIAMETER	OVERALL DIAMETER
12STRTHHN	12 AWG	19/25	0.090"	0.128"
12SLDTHHN		Solid	0.080"	0.119"
14STRTHHN	14 AWG	19/27	0.071"	0.102"
14SLDTHHN		Solid	0.064"	0.102"

THHN Hook Up Wire Stranded or Solid Data Sheet

Remington Industries is proud to offer our Custom Wire Services

Our exclusive inventory of in-stock wire and ability to procure wire of all kinds makes us the perfect partner for wire purchasing and custom wire services. We are proud to provide essential, high quality wire for engineering projects, educational science projects, coil winding, and electronics applications.

Some of our many wire services include the following:

- Wire Re-Packaging
- Bifilar & Trifilar Windings
- Wire Processing
- Coil Winding
- Wire Procurement Services

If you have any questions or need any information about our [Wire Services](#), feel free to contact us! It only takes one call to get experienced assistance.

Contact us by phone:
[\(815\) 385-1987](tel:8153851987)

Contact us by email:
sales@remingtonindustries.com

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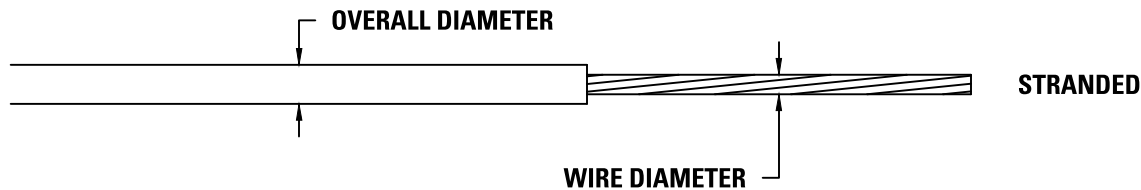
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PTFE-Coated, Stranded Hook Up Wire from Remington Industries is utilized in a variety of general-purpose electrical applications. The multi conductor wire is made from silver-plated copper that offers high quality performance and excellent electrical conductivity. The extruded PTFE insulation (short for Polytetrafluoroethylene -- also known as Teflon) allows for use in high temperature electronic applications, while also protecting the wire against abrasion, chemicals, oils, and solvents. The insulation is also highly resistant to thermal aging, solder damage, flame, and moisture. The wire conforms to MIL-spec specifications and provides great uniformity for processing, stripping, and terminating. This hook up wire is available in many wire gauges (from 16 to 30 AWG) to meet your specific requirements. It is also available in a variety of colors (see below) to allow for easy circuit identification, as well as numerous spool sizes (see below) for your convenience.

- Conductor Material: Silver-Plated Copper
- Insulation Material: PTFE (Teflon)
- Type: MIL-W-16878/4 Type E, Stranded Wire
- Voltage Rating: 600 V
- Temperature Rating: 200°C (392°F)
- Colors Available: Black, Blue, Brown, Gray, Green, Orange, Red, Violet, White, Yellow
- Spool Sizes Available: 25 ft, 100 ft, 250 ft, 500 ft, 1000 ft, 2500 ft, 5000 ft
- Also available in pre-built kits (6 or 10 different colors / 25 ft or 100 ft per spool)



PART NUMBER	WIRE GAUGE	STRANDING	WIRE DIAMETER	OVERALL DIAMETER
16PTFESTR	16 AWG	19/29	0.0508"	0.080"
18PTFESTR	18 AWG	19/30	0.0403"	0.069"
20PTFESTR	20 AWG	19/32	0.0320"	0.058"
22PTFESTR	22 AWG	19/34	0.0253"	0.051"
24PTFESTR	24 AWG	19/36	0.0201"	0.045"
26PTFESTR	26 AWG	7/34	0.0190"	0.039"
28PTFESTR	28 AWG	7/36	0.0126"	0.035"
30PTFESTR	30 AWG	7/38	0.0100"	0.032"

PTFE Hook Up Wire Stranded Data Sheet

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