

KS-24194™ Power Wire

The economical KS-24194 non-halogenated copper wire is flame-retardant, low smokeemitting, and recommended for use in 600 V RHH* telecommunication power plant applications.



ABB Critical Power KS-24194 Power Wire is a rugged, RHH wire rated for 600 V and is available in several colors.

This non-halogenated wire offers advanced safety characteristics that are critical during a fire.

KS-24194 is offered in three versions:

- List 2: Class I, unbraided cover
- List 3: Class B, braided cover
- List 4: Class I, braided cover

Added Safeguards

KS-24194 Power Wire has excellent fire-retardant properties, plus a number of protective characteristics vital to sensitive electronic circuitry. Corrosive smoke during a fire is a major cause of damage to circuitry embedded in electronics equipment. Upon combustion, KS-24194 insulation produces only low levels of smoke, corrosive gases, and smoke toxicity.

Rugged Construction

KS-24194 Power Wire has stranded, tin-coated copper conductors. An optional flame-retardant cotton braid exhibits high cut-through resistance.

Applications

KS-24194 Power Wire is ideally suited for use in telecommunication plants and for power distribution of ac and dc power in conduit or cable trays.

* RHH is a National Electrical Code designation assigned to qualified flame-retardant thermoset insulation for dry and damp locations.

† UL is a registered trademark of Underwriters Laboratories, Inc.

‡ National Electrical Code is a registered trademark of the National Fire Protection Association.

§ Now Telcordia.

Benefits

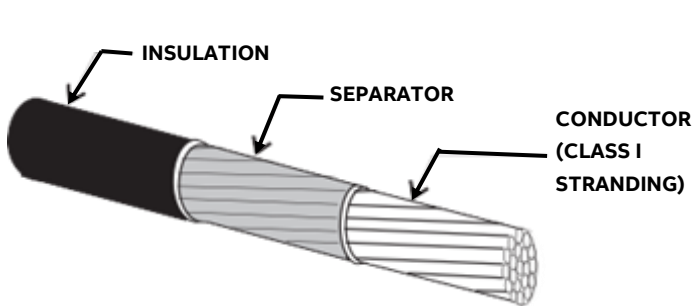
- Safe, Reliable, and Versatile
 - Meets a variety of UL[†] National Electric Code[‡], and Bellcore[§] wire classifications and ratings
- Protect Life and Equipment
 - Lead-free and silicon-free, RoHS compliant
 - Controlled emissions produce low smoke, low corrosive gases, and low toxicity upon combustion.
- Use in a Variety of Conditions
 - Damp and dry locations
 - Insulation is heat, moisture, and sun resistant for most colors
 - Optional flame-retardant cotton-braided cover features high cut-through resistance
- Compliant to RoHS Directive 2011/65/EU and amended Directive (EU) 2015/863.
- Compliant to REACH Directive (EC) No 1907/2006

KS-24194 Class B Stranded Conductor Specifications, List 3

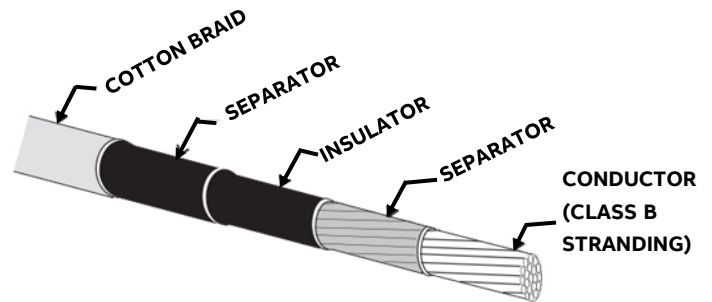
Wire Size AWG or kCMil	Area (CMil) (Nom.)	Current Capacity (Amps) ¹	Cond. Dia. (in)	Max dc Resistance ²	Min Bend Radius (in) ³	No. of Strands	Dia. of Strand Const. ⁴	Avg. Insul. Thickness (in)	List 3 Dim- eter (in)	List 3 Weight / 1000 ft (lb)	MaxShip Length per Reel
14	4110	25	0.073	2.730	1	7	0.071	0.045	0.197	30	20,000
12	6530	30	0.092	1.720	1	7	0.089	0.045	0.216	43	20,000
10	10,380	40	0.116	1.080	1-1/4	7	0.113	0.045	0.247	58	15,000
8	16,510	55	0.146	0.678	1-1/2	7	0.142	0.060	0.308	91	10,000
6	26,250	75	0.184	0.427	1-3/4	7	0.178	0.060	0.346	130	6000
4	41,740	95	0.232	0.269	2	7	0.225	0.060	0.394	189	4500
2	66,360	130	0.292	0.169	2-1/4	7	0.283	0.060	0.454	279	3000
1/0	105,500	170	0.373	0.106	2-7/8	19	0.362	0.080	0.577	438	2000
2/0	133,100	195	0.419	0.084	3-1/8	19	0.405	0.080	0.622	534	1500
4/0	211,600	260	0.528	0.052	3-5/8	19	0.512	0.080	0.730	806	1000
350	350000	350	0.681	0.032	4-5/8	37	0.661	0.095	0.922	1301	700
500	500,000	430	0.813	0.022	5-3/8	37	0.789	0.095	1.052	1804	500
750	750,000	535	0.998	0.0148	6-3/8	61	0.968	0.110	1.265	2669	350

1. Ampacities shown here are based on not more than three single, insulated conductors in a raceway with a 30 °C ambient temperature. (Follow the National Electrical Code Article 310 Type RHH Correction Factors.)
2. In Ohms/1000 ft. at 20 °C.
3. Minimum bend radius is equal to five times the overall wire diameter.
4. Minimum diameter compressed stranded construction.

Outline Drawings



Typical KS-24194 List 2 Power Wire



Typical KS-24194 List 3 Power Wire

Features

- Stranded, tin-coated, copper conductors.
- Primary wire insulation is across-linked ethylene vinyl acetate (EVA) copolymer thermosetting material.
- Available in a variety of colors.

Wire Classifications and Ratings

- UL Listed 600 V RHH; complies with UL44 requirements for building wire for cable tray (1/0 and larger) and raceway applications in National Electrical Code-defined dry and damp locations.
- UL Listed per UL1581 vertical tray flame test (1/0 and larger) UL Listed as RHH wire per UL44 at 90 °C with or without cotton braid.
- Listed by UL as Telephone Central Office Power Cable rated 105 °C without cotton braid and 90 °C with cotton braid under Wires, Miscellaneous Subject 805.
- Listed by UL as Telephone Central Office Power

Cable rated 60 °C for wet locations underwires, Miscellaneous Subject 805.

- UL Listed UL1685, FT4/IEEE † 1202 Vertical Tray Fire Propagation and Smoke Release Test, which classifies the wire as LS (Limited Smoke).
- RHH is defined in the National Electrical Code Section 310-13.
- Meets Telcordia GR-347-CORE, Issue 2.
- Oxygen index exceeds 28%.
- CSA ‡ Certified as Appliance Wiring Materials (AWM) at 105 °C I B FT4, per CSA Standard C22.2 No. 210.2 with/without cotton braid cover.
- UL recognized as AWM at 105°C (without cotton-braid cover) per UL Subject 758 (style 3578).
- Directive 2002/95/EC compliant (RoHS).

* To obtain a National Electrical Code RHW rating, an RHH wire would also require a 75°C wet rating.

† IEEE is a registered trademark of the Institute of Electrical and Electronics Engineers, Inc.

‡ CSA is a registered trademark of Canadian Standards Association.

KS-24194 Power Wire Product Offering

zProduct	Stranding ¹	Covering	Gauges	Colors
KS-24194 List 2	Class I (Extra Flexible)	None	8 AWG - 750 kCMil	Blue and Blue Tracer ^{2,3} , Black, Gray, Red, and Red Tracer ^{2,3}
KS-24194 List 3	Class B (Non-Flexible)	Cotton Braid	14 AWG - 750 kCMil	Black ⁴ , Blue, and Blue Tracer ^{2,5} Green, Gray, Ted, and Red Tracer ^{2,5}
KS-24194 List 4	Class I	Cotton Braid	1/0 AWG - 750 kCMil	Gray, Red ⁶ , and Blue ⁶

1. Class I Stranding is per ASTM B-172; Class B Stranding is per ASTM B-8.
2. Tracer power wire has a special marking, similar to lines, running parallel on two sides of the wires.
3. Available in 4/0 AWG and 350 kCMil only.
4. Available in 10 AWG, 8 AWG, 6 AWG, and 2/0 AWG only.
5. Available in 4/0 AWG, 350 kCMil, 500 kCMil, and 750 kCMil.
6. Available in 750 kCMil.

KS-24194 Class I Stranded Conductor Specifications, List 2 and List 4

Wire Size AWG or kCMil	Area (CMil)	Current Capacity (Amps) ¹	Cond.dia.(in) (Amps) ¹	Max dc. Resistance ²	Min Bend Radius (in) ³	No. of Strands	Diameter (in)				Weight/1000 ft (lb)	Max ship Length per Reel
							List 2	List 4	List 2	List 4		
8	16,5	55	0.156	0.6790	1-1/2	41	0.2	—	82	—	10,000	
6	26,2	75	0.186	0.4360	1-5/8	65	0.3	—	116	—	6000	
4	41,7	95	0.263	0.2740	2	105	0.4	—	188	—	4500	
2	66,3	130	0.319	0.1720	2-3/8	161	0.4	—	279	—	3000	
1/0	105,	170	0.441	0.1090	3-1/8	266	0.6	0.66	452	479	2000	
2/0	133,1	195	0.500	0.0868	3-3/8	342	0.6	0.72	563	593	1500	
4/0	211,6	260	0.613	0.0546	4	532	0.8	0.84	835	870	1000	
350	350,	350	0.750	0.0334	4-7/8	855	0.9	1.02	1337	1378	700	
500	500,	430	0.941	0.0234	5-7/8	1221	1.17	1.22	1830	1906	500	
750	750,	535	1.100	0.0157	6-5/8	1850	1.34	1.40	2734	2792	350	

- Ampacities shown here are based on not more than three single, insulated conductors in a raceway with a 30 °C ambient temperature. (Follow the National Electrical Code Article 310 Type RHH Correction Factors.)
- In Ohms/1000 ft. at 20 °C.
- Minimum bend radius is equal to five times the overall wire diameter.

KS-24194 Power Wire Ordering Information

Ks-24194 List 2: Class I, Unbraided

8 AWG		2 AWG (continued)		350kCMil	
Black	407399567	Red Tracer	CC408619927	Black	407403336
Gray	407399575	Blue Tracer	CC408619935	Gray	407403351
Red	408507861	Blue	CC408619893	Red	407403369
6 AWG		1/0 AWG		Blue	
Black	407403203	Black	407403260	Red Tracer	407403385
Gray	407403211	Gray	407403278	Blue Tracer	407403377
Red	407834258	Red	408507903	500 kCMil	
Blue	407834266	2/0 AWG		Black	407403393
Red Tracer	407833037	Black	407403302	Gray	407403401
Blue Tracker	407833045	Gray	407403294	Red	CC408618103
4 AWG		Red	408507879	Blue	CC408618094
Black	407403229	4/0 AWG		Red Tracer	CC408618111
Gray	407403237	Black	407399526	Blue Tracer	CC408618128
Red	408507887	Gray	407399534	750 kCMil	
2 AWG		Red	407399542	Black	407403427
Black	407403245	Blue	407399500	Gray	407403419
Gray	407403252	Red Tracer	407399518	Red	CC408619885
Red	408507895	Blue Tracer	407399559	Blue	CC408619877
Green	408513703			Red Tracer	CC408619902
Gray tracker	408694602			Blue Tracer	CC408619910

KS-24194 List 3: Class B, Cotton Braid

14 AWG		4 AWG		4/0 AWG	
Gray	407405489	Black	408135887	Gray	407405885
Red	407405505	Gray	407405711	Red	407405901
Blue	407405471	Red	407405737	Blue	407405877
Green	407405497	Blue	407405703	Green	407405893
12 AWG		Green	407405729	Red Tracer	407614122
Gray	407405521	Red Tracer	408693752	Blue Tracer	407614106
Red	407405547	Blue Tracer	408693705	Gray Tracer	408869701
Blue	407405513	Gray Tracer	408694743	350 kCMil	
Green	407405539	2 AWG		Gray	407405935
10 AWG		Black	407870468	Red	407405919
Black	407405679	Gray	407405760	Blue	407405943
Gray	407576636	Red	407405745	Green	407405927
Red	407405588	Blue	407405752	Red Tracer	407614130
Blue	407405554	Green	407405778	Blue Tracer	407614155
Green	407405570	Red Tracer	407709419	Gray Tracer	408694693
8 AWG		Blue Tracer	407709427	500 kCMil	
Black	407405687	Gray Tracer	408694735	Gray	407405968
Gray	407405604	1/0 AWG		Red	407405984
Red	407405620	Black	407870450	Blue	407405950
Blue	407405596	Gray	407405794	Green	407405976
Green	407405612	Red	407405810	Red Tracer	407614080
Red Tracer	408693778	Blue	407405786	Blue Tracer	407614072
Blue Tracker	408693687	Green	407405802	Gray Tracer	408694985
Gray Tracer	408694768	Red Tracer	408693745	750 kCMil	
6 AWG		Blue Tracer	408693711	Gray	407406016
Black	407405695	Gray Tracer	408694727	Red	407405992
Gray	407405646	2/0 AWG		Blue	407406024
Red	407405661	Black	407405869	Green	407406008
Blue	407405638	Gray	407405844	Red Tracer	407614064
Green	407405653	Red	407405828	Blue Tracer	407614056
Red Tracker	408693760	Blue	407405851	Gray Tracer	408694677
Blue Tracer	408693695	Green	407405836		
Gray Tracer	408694750	Red Tracer	408693737		
		Blue Tracer	408693729		
		Gray Tracer	408694719		

KS-24194 Power Wire Ordering Information (continued)

KS-24194 List 4: Class J, Cotton Braid

2AWG		4/0 AWG		500 kCMil	
Gray	408537963	Black	408513117	Gray	408012847
1/0 AWG		Gray	408012813	750 kCMil	
Gray	408012797	Red	408513125	Gray	408012839
Red	CC848764852	350 kCMil		Red	408567052
2/0 AWG		Gray	408012821	Blue	408567060
Gray	408012805	Gray T	CC408637458	Red T	CC408634463
				Blue T	CC408634471
				Gray T	CC408637532

Change History (excludes grammar & clarifications)

Version	Date	Description of the change
3.3	09/24/2021	Updated as per template and upgraded RoHS standard



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