DATASHEET

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.



OmniOn 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.

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 coverfeatures 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

* 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.

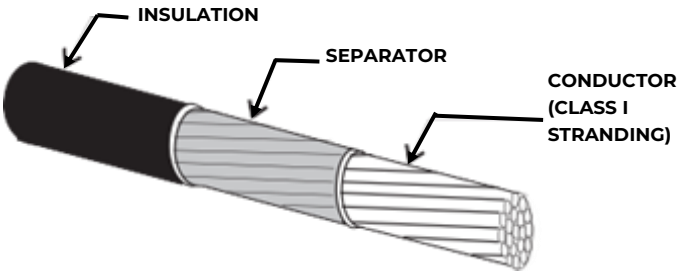
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KS-24194 Class B Stranded Conductor Specifications, List 3

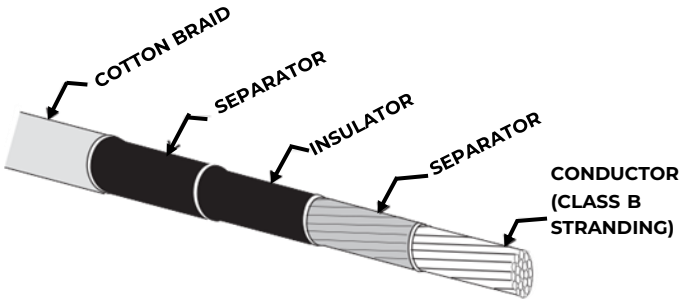
Wire Size AWG or kCMil	Area (CMil) (Nom.)	Current Capacity (Amps)[1]	Cond. Dia. (in)	Max dc Rsistance[2]	Min Bend Radius (in)[3]	No. of Strands	Dia. of Strand Const.[4]	Avg. Insul. Thickness (in)	List 3 Dimeter (in)	List 3 Weight / 1000 ft (lb)	Max Ship Length per Reel
14	4110	25	0.073	2.730	1	7	0.071	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

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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 ListedUL1685, 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.

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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	16,510	55	0.156	0.6790	1-1/2	41	0.290	—	82	—	10,000
6	26,250	75	0.186	0.4360	1-5/8	65	0.320	—	116	—	6000
4	41,740	95	0.263	0.2740	2	105	0.405	—	188	—	4500
2	66,360	130	0.319	0.1720	2-3/8	161	0.465	—	279	—	3000
1/0	105,500	170	0.441	0.1090	3-1/8	266	0.625	0.665	452	479	2000
2/0	133,100	195	0.500	0.0868	3-3/8	342	0.685	0.725	563	593	1500
4/0	211,600	260	0.613	0.0546	4	532	0.800	0.840	835	870	1000
350	350,000	350	0.750	0.0334	4-7/8	855	0.965	1.020	1337	1378	700
500	500,000	430	0.941	0.0234	5-7/8	1221	1.170	1.225	1830	1906	500
750	750,000	535	1.100	0.0157	6-5/8	1850	1.345	1.400	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.

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KS-24194 Power Wire Ordering Information

Ks-24194 List 2: Class |, Unbraided

8 AWG	
Black	407399567
Gray	407399575
Red	408507861
6 AWG	
Black	407403203
Gray	407403211
Red	407834258
Blue	407834266
Red racer	407833037
Blue Tracer	407833045
4 AWG	
Black	407403229
Gray	407403237
Red	408507887
2 AWG	
Black	407403245
Gray	407403252
Red	408507895
Green	408513703
Gray acker	408694602

2 AWG (continued)	
Red Tracer	CC408619927
Blue racer	CC408619935
Blue	CC408619893
1/0 AWG	
Black	407403260
Gray	407403278
Red	408507903
2/0 AWG	
Black	07403302
Gray	407403294
Red	408507879
4/0 AWG	
Black	407399526
Gray	407399534
Red	407399542
Blue	407399500
Red racer	407399518
Blue Tracer	407399559

350kCMil	
Black	407403336
Gray	407403351
Red	407403369
Blue	407403344
Red racer	407403385
Blue Tracer	407403377
500 kCMil	
Black	407403393
Gray	407403401
Red	CC408618103
Blue	CC408618094
Red Tracer	CC408618111
Blue Tracer	CC408618128
750 kCMil	
Black	407403427
Gray	407403419
Red	CC408619885
Blue	CC408619877
Red racer	CC408619902
Blue Tracer	CC408619910

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KS-24194 List 3: Class B, Cotton Braid

14 AWG	
Gray	407405489
Red	407405505
Blue	407405471
Green	407405497
12 AWG	
Gray	407405521
Red	407405547
Blue	407405513
Green	407405539
10 AWG	
Black	407405679
Gray	407576636
Red	407405588
Blue	407405554
Green	407405570
8 AWG	
Black	407405687
Gray	407405604
Red	407405620
Blue	407405596
Green	407405612
Red Tracer	408693778
Blue Tracker	408693687
Gray Tracer	408694768
6 AWG	
Black	407405695
Gray	407405646
Red	407405661
Blue	407405638
Green	407405653
Red Tracker	408693760
Blue Tracer	408693695
Gray Tracer	408694750

4 AWG	
Black	408135887
Gray	407405711
Red	407405737
Blue	407405703
Green	407405729
Red Tracer	408693752
Blue Tracer	408693705
Gray Tracer	408694743
2 AWG	
Black	407870468
Gray	407405760
Red	407405745
Blue	407405752
Green	407405778
Red Tracer	407709419
Blue Tracer	407709427
Gray Tracer	408694735
1/0 AWG	
Black	407870450
Gray	407405794
Red	407405810
Blue	407405786
Green	407405802
Red Tracer	408693745
Blue Tracer	408693711
Gray Tracer	408694727
2/0 AWG	
Black	407405869
Gray	407405844
Red	407405828
Blue	407405851
Green	407405836
Red Tracer	408693737
Blue Tracer	408693729
Gray Tracer	408694719

4/0 AWG	
Gray	407405885
Red	407405901
Blue	407405877
Green	407405893
Red Tracer	407614122
Blue Tracer	407614106
Gray Tracer	408869701
350 kCMil	
Gray	407405935
Red	407405919
Blue	407405943
Green	407405927
Red Tracer	407614130
Blue Tracer	407614155
Gray Tracer	408694693
500 kCMil	
Gray	407405968
Red	407405984
Blue	407405950
Green	407405976
Red Tracer	407614080
Blue Tracer	407614072
Gray Tracer	408694985
750 kCMil	
Gray	407406016
Red	407405992
Blue	407406024
Green	407406008
Red Tracer	407614064
Blue Tracer	407614056
Gray Tracer	408694677

KS-24194 Power Wire Ordering Information (continued)

KS-24194 List 4: Class |, Cotton Braid

2AWG	
Gray	408537963
1/0 AWG	
Gray	408012797
Red	CC848764852
2/0 AWG	
Gray	408012805

4/0 AWG	
Black	408513117
Gray	408012813
Red	408513125
350 kCMil	
Gray	408012821
Gray T	CC408637458

500 kCMil	
Gray	408012847
750 kCMil	
Gray	408012839
Red	408567052
Blue	408567060
Red T	CC408634463
Blue T	CC408634471
Gray T	CC408637532

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Change History (excludes grammar & clarifications)

Revision	Date	Description of the change
3.3	09/24/2021	Updated as per template and upgraded RoHS standard
3.4	06/21/2023	Corrected hidden dimensions in KS-24194 on page - 4
3.5	10/20/2023	Updated as per OmniOn template

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