



## Percon® HS-95 Copper Alloy Conductor Wire

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### Introduction

Percon® HS-95 is a high strength alloy optimally suited for fine and ultra-fine single end wire and stranded constructions. The alloy is engineered and so named to provide a minimum tensile strength of 95,000 psi in soft temper. This provides more than half the conductor break strength specified in ASTM B 624 or, conversely, the same conductor strength but at two AWG wire sizes smaller.

### Key Attributes

- Very high strength alloy conductor.
- Resists thermal softening when exposed to elevated temperatures.
- Excellent resistance to corrosive environments.
- Has identical chemical, mechanical, and electrical properties to CS-95.

Percon HS-95 is available plated with silver or nickel. To learn more please contact our [sales department](#).

# Percon®HS-95 Copper Alloy Conductor Wire

## Specifications

AS29606

SAE 29606

W-29606

## Physical Properties

### SOFT

Available Platings	Ag, Ni
Elongation	6%
Tensile	95 ksi
Electrical Conductivity	63% IACS @ 68 °F
Electrical Resistivity	16.5 Ω-cmil/ft @ 68 °F
Density	0.317 lb/in <sup>3</sup>
Coefficient of Thermal Resistance	0.0011 per °F
Melting Point (Solidus)	1,885 °F
Melting Point (Liquidus)	1,955 °F

### HARD

Available Platings	Ag, Ni, Sn
Elongation	1%
Tensile	130 ksi
Electrical Conductivity	40% IACS @ 68 °F
Electrical Resistivity	25.9 Ω-cmil/ft @ 68 °F
Density	0.317 lb/in <sup>3</sup>
Coefficient of Thermal Resistance	0.0011 per °F
Melting Point (Solidus)	1,885 °F
Melting Point (Liquidus)	1,955 °F

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## 19-Strand

SILVER PLATED PERCON HS-95 - SOFT (40 MICRO-INCH SILVER THICKNESS)								
AWG	CONST	STANDARD PLATE (%)	DIAMETER (inch)			RESIST (Ω/mft) Max	WEIGHT (lb/mft) Max	BREAK STRG (lb) Min
			Nom	Min	Max			
18	19/30	2	0.0472	0.0467	0.0477	9.08	5.90	138
20	19/32	2.5	0.0378	0.0372	0.0383	14.2	3.80	88.4
22	19/34	3	0.0298	0.0292	0.0303	23.0	2.37	54.4
24	19/36	4	0.0236	0.0231	0.0241	36.6	1.51	34.0
26	19/38	5	0.0189	0.0184	0.0194	57.8	0.978	21.5
28	19/40	6.1	0.0147	0.0141	0.0152	97.6	0.597	12.7
30	19/42	8	0.0118	0.0113	0.0123	152	0.396	8.16
32 <sup>(1)</sup>	19/44	10	0.00970	0.00896	0.0105	245	0.259	5.11
34 <sup>(1)</sup>	19/46	12	0.00770	0.00708	0.00840	409	0.165	3.06

(1) True Concentric

## 7-Strand

SILVER PLATED PERCON HS-95 - SOFT (40 MICRO-INCH SILVER THICKNESS)								
AWG	CONST	STANDARD PLATE (%)	DIAMETER (inch)			RESIST (Ω/mft) Max	WEIGHT (lb/mft) Max	BREAK STRG (lb) Min
			Nom	Min	Max			
22	7/30	2	0.0300	0.0297	0.0303	24.7	2.20	51.1
24	7/32	2.5	0.0240	0.0237	0.0243	38.4	1.41	32.5
26	7/34	3	0.0189	0.0186	0.0192	61.9	0.879	20.0
28	7/36	4	0.0150	0.0147	0.0153	99.2	0.558	12.5
30	7/38	5	0.0120	0.0117	0.0123	157	0.361	7.94
32	7/40	6.1	0.00930	0.00900	0.00960	265	0.221	4.70
34	7/42	8	0.00750	0.00720	0.00780	413	0.147	3.00

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			Nom	Min	Max			
36	7/44	10	0.00600	0.00570	0.00630	660	0.0953	1.88
38	7/46	12	0.00470	0.00440	0.00500	1,102	0.0602	1.12
40	7/48	15	0.00370	0.00340	0.00400	1,833	0.0388	0.679
42 <sup>(1)</sup>	7/50	15	0.00300	0.00270	0.00330	3,008	0.0257	0.414
44 <sup>(1)</sup>	7/52	15	0.00230	0.00219	0.00250	4,460	0.0150	0.278
46 <sup>(1)</sup>	7/54	15	0.00190	0.00170	0.00201	7,320	0.00970	0.169

(1) These single end sizes will not have 40 micro-inches of silver

## Single End

SILVER PLATED PERCON HS-95 - SOFT (40 MICRO-INCH SILVER THICKNESS)								
AWG	CONST	STANDARD PLATE (%)	DIAMETER (inch)			RESIST (Ω/mft) Max	WEIGHT (lb/mft) Max	BREAK STRG (lb) Min
			Nom	Min	Max			
30	SE	2	0.0100	0.00990	0.0101	171	0.310	7.31
31	SE	2.5	0.00890	0.00880	0.00900	215	0.243	5.77
32	SE	2.5	0.00800	0.00790	0.00810	266	0.197	4.65
33	SE	3	0.00710	0.00700	0.00720	338	0.156	3.65
34	SE	3	0.00630	0.00620	0.00640	429	0.123	2.86
35	SE	4	0.00560	0.00550	0.00570	545	0.0980	2.25
36	SE	4	0.00500	0.00490	0.00510	686	0.0780	1.79
37	SE	5	0.00450	0.00435	0.00460	870	0.0640	1.41
38	SE	5	0.00400	0.00390	0.00410	1,090	0.0510	1.12
39	SE	6.1	0.00350	0.00340	0.00363	1,400	0.0397	0.863

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AWG	CONST	STANDARD PLATE (%)	DIAMETER (inch)			RESIST (Ω/mft) Max	WEIGHT (lb/mft) Max	BREAK STRG (lb) Min
			Nom	Min	Max			
40	SE	6.1	0.00310	0.00300	0.00320	1,830	0.0310	0.671
41	SE	8	0.00280	0.00270	0.00290	2,260	0.0260	0.543
42	SE	8	0.00250	0.00240	0.00260	2,860	0.0205	0.429
43	SE	10	0.00220	0.00210	0.00232	3,670	0.0163	0.329
44	SE	10	0.00200	0.00190	0.00210	4,570	0.0134	0.269
45 <sup>(1)</sup>	SE	12	0.00180	0.00166	0.00186	10,800	0.0105	0.281
46 <sup>(1)</sup>	SE	12	0.00160	0.00147	0.00167	13,200	0.00900	0.173
47 <sup>(1)</sup>	SE	15	0.00140	0.00130	0.00150	16,900	0.00700	0.161
48 <sup>(1)</sup>	SE	15	0.00130	0.00118	0.00134	21,300	0.00600	0.133
49 <sup>(1,2)</sup>	SE	15	0.00110	0.00101	0.00121	26,900	0.00500	0.104
50 <sup>(1,2)</sup>	SE	15	0.00100	0.000890	0.00109	33,600	0.00400	0.0810
51 <sup>(1,2)</sup>	SE	15	0.000900	0.000810	0.00960	43,300	0.00300	0.0660
52 <sup>(1,2)</sup>	SE	15	0.000800	0.000710	0.000860	55,700	0.00210	0.0510
53 <sup>(1,2)</sup>	SE	15	0.000700	0.000650	0.000750	70,800	0.00170	0.0427
54 <sup>(1,2)</sup>	SE	15	0.000600	0.000570	0.000670	91,300	0.00137	0.0330

(1) These single end sizes will be hard temper

(2) These single end sizes will not have 40 micro-inches of silver