Conductor Alloys

Percon® HS-95

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 again the conductor break strength specified in ASTM B 624 or conversely, the same conductor strength but at two AWG wire sizes smaller.

PERCON HS-95 is a very high strength alloy conductor.

PERCON HS-95 resists thermal softening when exposed to elevated temperatures.

PERCON HS-95 has excellent resistance to corrosive environments.

PERCON HS-95 is available plated with silver or nickel.

PERCON HS-95 has identical chemical, mechanical and electrical properties to CS-95®.

	SOFT TEMPER	HARD DRAWN
Tensile	95,000 psi (655 MPa)	1300,000 psi (896 MPa)
Elongation	6%	1%
Electrical Conductivity	63% IACS	40% IACS
Electrical Resistivity	16.46 Ω-cmil/ft (2.74 μΩ-cm)	25.93 Ω-cmil/ft (4.31 μΩ-cm)
Density	0.317 lbs/in^3 (8.77 g/cm^3)	0.317 lbs/in^3 (8.77 g/cm^3)
Thermal Coefficient of Resistance	0.00198/°C	0.00198/°C

Single End - Silver Plated PERCON® HS-95 - Soft Temper

AWG	Diameter inch nom	inch min	inch max	mm min	mm max	Resistance max Ω/mft	Ω/km	Weight max lb/mft	kg/km	Break Strength min lb	N
30	0.0100	0.0099	0.0101	0.251	0.257	168.0	551.1	0.306	0.455	7.31	32.5
31	0.0089	0.0088	0.0090	0.224	0.229	212.6	697.4	0.243	0.362	5.78	25.7
32	0.0080	0.0079	0.0081	0.201	0.206	263.8	865.4	0.197	0.293	4.66	20.7
33	0.0071	0.0070	0.0072	0.178	0.183	336.0	1,102	0.156	0.232	3.66	16.3
34	0.0063	0.0062	0.0064	0.157	0.163	428.2	1,405	0.123	0.183	2.87	12.8
35	0.0056	0.0055	0.0057	0.140	0.145	544.2	1,785	0.0978	0.146	2.26	10.0
36	0.0050	0.0049	0.0051	0.124	0.130	685.6	2,249	0.0783	0.117	1.79	7.97
37	0.0045	0.0044	0.0046	0.112	0.117	850.3	2,790	0.0638	0.0950	1.44	6.43
38	0.0040	0.0039	0.0041	0.099	0.104	1,082	3,551	0.0507	0.0755	1.13	5.05
39	0.0035	0.0034	0.0036	0.086	0.091	1,424	4,672	0.0392	0.0583	0.863	3.84
40	0.0031	0.0030	0.0032	0.076	0.081	1,829	6,001	0.0310	0.0461	0.672	2.99
41	0.0028	0.0027	0.0029	0.069	0.074	2,258	7,409	0.0255	0.0380	0.544	2.42
42	0.0025	0.0024	0.0026	0.061	0.066	2,858	9,377	0.0205	0.0305	0.430	1.91
43	0.0022	0.0021	0.0023	0.053	0.058	3,733	12,247	0.0161	0.0240	0.329	1.46
44	0.0020	0.0019	0.0021	0.048	0.053	4,560	14,961	0.0134	0.0200	0.269	1.20
45•	0.00176	0.00166	0.00186	0.042	0.047	5,974	19,600	0.0105	0.0157	0.206	0.915
46•	0.00157	0.00147	0.00167	0.037	0.042	7,618	24,994	0.0085	0.0126	0.161	0.717
47*•	0.00140	0.00130	0.00150	0.033	0.038	15,342	50,334	0.0069	0.0102	0.173	0.768
48*•	0.00124	0.00114	0.00134	0.029	0.034	19,950	65,454	0.0055	0.0081	0.133	0.590
49*•	0.00111	0.00101	0.00121	0.026	0.031	25,417	83,388	0.0045	0.0066	0.104	0.463
50*•	0.00099	0.00089	0.00109	0.023	0.028	32,733	107,390	0.0036	0.0054	0.081	0.360
51*•	0.00088	0.00081	0.00096	0.020	0.024	40,010	131,267	0.0028	0.0041	0.066	0.294
52*•	0.00078	0.00071	0.00086	0.018	0.022	52,165	171,146	0.0022	0.0033	0.051	0.226

* These single end sizes will be sizes will be hard temper. • These single sizes will have 10% silver plate.

Custom constructions are available, please contact the sales department.

The information provided on this page is for reference purposes only.

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7 Strand Construction - Silver Plated PERCON® HS-95 - Soft Temper

AWG	Diameter inch nom	Diameter inch min	Diameter inch max	Diameter mm min	Diameter mm max	Resistance max Ω/mft	Resistance max Ω/km	Weight max lb/mft	Weight max kg/km	Break Strength min lb	Break Strength min N
22	7/30	0.0297	0.0303	0.754	0.770	24.3	79.7	2.17	3.23	51.2	228
24	7/32	0.0237	0.0243	0.602	0.617	38.2	125.2	1.40	2.08	32.6	145.0
26	7/34	0.0186	0.0192	0.472	0.488	62.0	203.3	0.873	1.30	20.1	89.3
28	7/36	0.0147	0.0153	0.373	0.389	99.2	325.5	0.555	0.827	12.5	55.8
30	7/38	0.0117	0.0123	0.297	0.312	156.6	513.9	0.360	0.535	7.94	35.3
32	7/40	0.0090	0.0096	0.229	0.244	264.7	868.4	0.220	0.327	4.70	20.9
34	7/42	0.0072	0.0078	0.183	0.198	413.6	1,357	0.145	0.216	3.01	13.4
36*	7/44	0.0057	0.0063	0.145	0.160	659.9	2,165	0.0953	0.142	1.89	8.39
38*	7/46	0.0044	0.0050	0.112	0.127	1,102	3,617	0.0602	0.0896	1.129	5.02
40*	7/48	0.0034	0.0040	0.087	0.102	1,833	6,014	0.0388	0.0577	0.679	3.02
42*	7/50	0.0027	0.0033	0.068	0.083	3,008	9,867	0.0257	0.0382	0.414	1.84
44*	7/52	0.0022	0.0025	0.056	0.063	4,470	14,666	0.0149	0.0221	0.278	1.24
46*	7/54	0.0017	0.0020	0.043	0.051	7,332	24,056	0.0097	0.0144	0.170	0.755

* These constructions will have 10% silver plate.

19 Strand Construction - Silver Plated PERCON® HS-95 - Soft Temper

AWG	Const.	Diameter inch min	Diameter inch max	Diameter mm min	Diameter mm max	Resistance max Ω/mft	Resistance max Ω/km	Weight max lb/mft	Weight max kg/km	Break Strength min lb	Break Strength min N
18	19/30	0.0467	0.0476	1.186	1.210	9.25	30.3	5.73	8.52	138.9	618
20	19/32	0.0373	0.0382	0.947	0.971	14.5	47.7	3.69	5.48	88.5	394
22	19/34	0.0293	0.0302	0.743	0.767	23.6	77.4	2.30	3.43	54.5	242
24	19/36	0.0231	0.0241	0.587	0.611	37.8	123.9	1.47	2.18	34.0	151
26	19/38	0.0184	0.0193	0.467	0.491	59.6	195.6	0.949	1.41	21.6	95.9
28	19/40	0.0142	0.0151	0.359	0.383	100.7	330.5	0.579	0.862	12.8	56.8
30	19/42	0.0113	0.0123	0.288	0.312	157.4	516.4	0.384	0.571	8.17	36.3
32*	19/44**	0.0095	0.0105	0.241	0.267	244.8	803.2	0.260	0.387	5.12	22.8
34*	19/46**	0.0074	0.0084	0.187	0.212	409.0	1,342	0.165	0.245	3.06	13.6

* These constructions will have 10% silver plate. ** True Concentric construction.

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