Conductor Alloys

Percon® 11

PERCON 11 is a copper-zirconium alloy benefiting from advances in casting technologies. Those benefits facilitate fine wire drawing and result in an alloy conductor with high mechanical strength, excellent resistance to softening at elevated temperatures, with only a small increase in electrical resistance as compared to copper.

PERCON 11 has excellent resistance to corrosive environments.

PERCON 11 does not contain any cadmium or environmentally hazardous elements. PERCON 11 scrap can be mixed directly with copper scrap.

PERCON 11 is available bare or plated with silver, nickel or tin, and hard or soft temper.

	HARD DRAWN	
Tensile	80,000 psi (552 MPa)	
Elongation	1%	
Electrical Conductivity	90% IACS	Reference Specs
Electrical Resistivity	11.52 Ω-cmil/ft (1.91 μΩ-cm)	ASTM B 888
Density	0.323 lbs/in³ (8.94 g/cm³)	
Thermal Coefficient of Resistance	0.00354/°C	

Single End - Bare PERCON® 11 - Hard Drawn

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
30	0.0100	0.0099	0.0101	0.251	0.257	117.5	385.6	0.310	0.462	6.16	27.4
31	0.0089	0.0088	0.0090	0.224	0.229	148.8	488.1	0.247	0.367	4.87	21.6
32	0.0080	0.0079	0.0081	0.201	0.206	184.6	605.6	0.200	0.297	3.92	17.4
33	0.0071	0.0070	0.0072	0.178	0.183	235.2	771.5	0.158	0.235	3.08	13.7
34	0.0063	0.0062	0.0064	0.157	0.163	299.7	983.2	0.125	0.186	2.42	10.7
35	0.0056	0.0055	0.0057	0.140	0.145	380.8	1,249	0.0989	0.147	1.90	8.45
36	0.0050	0.0049	0.0051	0.124	0.130	479.8	1,574	0.0792	0.118	1.51	6.71
37	0.0045	0.0044	0.0046	0.112	0.117	595.0	1,952	0.0644	0.0959	1.22	5.41
38	0.0040	0.0039	0.0041	0.099	0.104	757.4	2,485	0.0512	0.0762	0.956	4.25
39	0.0035	0.0034	0.0036	0.086	0.091	996.5	3,269	0.0395	0.0587	0.726	3.23
40	0.0031	0.0030	0.0032	0.076	0.081	1,280	4,199	0.0312	0.0464	0.565	2.52

7-Strand Constructions - Bare PERCON® 11 - Hard Drawn

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
22	7/30	0.0297	0.0303	0.754	0.770	17.0	55.9	2.21	3.28	43.1	192
24	7/32	0.0237	0.0243	0.602	0.617	26.6	87.4	1.41	2.10	27.4	122.1
26	7/34	0.0186	0.0192	0.472	0.488	43.3	142.0	0.882	1.31	16.9	75.2
28	7/36	0.0147	0.0153	0.373	0.389	69.3	227.3	0.560	0.834	10.5	47.0
30	7/38	0.0117	0.0123	0.297	0.312	109.0	357.6	0.361	0.537	6.69	29.8
32	7/40	0.0090	0.0096	0.229	0.244	184.8	606.3	0.221	0.328	3.96	17.6

Custom constructions are available, please contact the sales department.

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

Fisk Alloy Conductors, Inc. • P.O. Box 26 • 10 Thomas Road • Hawthorne, NJ 07507 • U.S.A.
Phone (973) 427-7550 • Fax (973) 427-4585 • E-mail:sales@fiskalloy.com

19-Strand Unilay Constructions - Bare PERCON® 11 - Hard Drawn

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	0.0466	1.184	0.0476	1.209	6.46	21.2	5.81	8.64	117	520
20	19/32	0.0372	0.945	0.0382	0.970	10.1	33.3	3.73	5.56	74.5	331
22	19/34	0.0292	0.742	0.0302	0.767	16.6	54.4	2.34	3.49	45.9	204
24	19/36	0.0231	0.587	0.0240	0.610	26.3	86.4	1.48	2.20	28.7	128
26	19/38	0.0184	0.467	0.0193	0.490	41.7	136.7	0.957	1.42	18.2	80.8
28	19/40	0.0141	0.358	0.0151	0.384	70.3	230.8	0.583	0.868	10.7	47.8

19-Strand Concentric Constructions - Bare PERCON® 11 - Hard Drawn

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	0.0495	0.0505	1.257	1.283	6.30	20.7	6.00	8.93	117	520
20	19/32	0.0395	0.0405	1.003	1.029	9.87	32.4	3.86	5.74	74.5	331
22	19/34	0.0310	0.0320	0.787	0.813	16.0	52.4	2.40	3.57	45.9	204
24	19/36	0.0245	0.0255	0.622	0.648	25.6	84.1	1.53	2.27	28.7	128
26	19/38	0.0195	0.0205	0.495	0.521	40.5	132.8	0.988	1.47	18.2	80.8
28	19/40	0.0150	0.0160	0.381	0.406	68.4	224.5	0.602	0.896	10.7	47.8

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