Percon®17 Copper Alloy Conductor Wire

Introduction

Percon® 17 was developed to replace cadmium copper C162, specifically soft temper cadmium copper. This alloy is also available in hard temper.

Key Attributes

- Is not engineered for Conductors specifying ASTM B624 [see Percon 24 and Percon 28]
- Does not contain any cadmium or environmentally hazardous elements.
- Has excellent resistance to corrosive environments.

Percon 17 is available in bare, or plated with silver, nickel, or tin. To learn more please contact our sales department.

Fisk Alloy Wire Inc.
P.O. Box 26
10 Thomas Road N.
Hawthorne, NJ 07506 U.S.A.

Phone: (973) 825-8500
Fax: (973) 427-4585
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Percon®17 Copper Alloy Conductor Wire

Specifications
ASTM B441
ASTM B888

Physical Properties

SOFT	
Available Platings	Ag, Ni
Elongation	6%
Tensile	58 ksi
Electrical Conductivity	85% IACS @ 68 °F
Electrical Resistivity	12.2 Ω-cmil/ft @ 68 ºF
Density	0.319 lb/in³
Coefficient of Thermal Resistance	0.00179 per °F
Melting Point (Solidus)	1,956 °F
Melting Point (Liquidus)	1,986 °F

HARD	
Available Platings	Ag, Ni, Sn
Elongation	1%
Tensile	95 ksi
Electrical Conductivity	80% IACS @ 68 °F
Electrical Resistivity	13 Ω-cmil/ft @ 68 ºF
Density	0.319 lb/in³
Coefficient of Thermal Resistance	0.00179 per °F
Melting Point (Solidus)	1,956 °F
Melting Point (Liquidus)	1,986 °F

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19-Strand

BARE PERCON 17 - HARD TEMPER							
AWG	CONST	DIAMETER (inch)			RESIST (Ω/mft)	WEIGHT (lb/mft)	BREAK STRG (lb)
		Nom	Min	Max	Max	Max	Min
18	19/30	0.0472	0.0467	0.0477	7.27	5.74	138
20	19/32	0.0378	0.0372	0.0383	11.4	3.69	88.4
22	19/34	0.0298	0.0292	0.0303	18.6	2.32	54.4
24	19/36	0.0236	0.0231	0.0241	29.6	1.46	34.0
26	19/38	0.0189	0.0184	0.0194	46.9	0.946	21.5
28	19/40	0.0147	0.0141	0.0152	79.1	0.576	12.7
30	19/42	0.0118	0.0113	0.0123	124	0.383	8.16
32	19/44(1)	0.0100	0.00950	0.0105	193	0.259	5.11
34	19/46(1)	0.00790	0.00740	0.00840	323	0.162	3.06
(1) True Concentric							

BARE PERCON 17 - SOFT TEMPER							
AWG	CONST	DIAMETER (inch)			RESIST (Ω/mft)	WEIGHT (lb/mft)	BREAK STRG (lb)
		Nom	Min	Max	Max	Max	Min
18	19/30	0.0472	0.0467	0.0477	6.84	5.91	84.8
20	19/32	0.0378	0.0372	0.0383	10.7	3.80	54.0
22	19/34	0.0298	0.0292	0.0303	17.5	2.38	33.2
24	19/36	0.0236	0.0231	0.0241	27.9	1.51	20.7
26	19/38	0.0189	0.0184	0.0194	44.1	0.974	13.1
28	19/40	0.0147	0.0141	0.0152	74.5	0.593	7.78
30	19/42	0.0118	0.0113	0.0123	116	0.390	4.98
32	19/44(1)	0.0100	0.00950	0.0105	182	0.257	3.12
34	19/46(1)	0.00790	0.00740	0.00840	304	0.162	1.87
(1) True Concentric							

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7-Strand

BARE PERCON 17 - HARD TEMPER							
AWG	CONST	DIAMETER (inch)			RESIST (Ω/mft)	WEIGHT (lb/mft)	BREAK STRG (lb)
		Nom	Min	Max	Max	Max	Min
22	7/30	0.0300	0.0297	0.0303	19.2	2.21	51.1
24	7/32	0.0240	0.0237	0.0243	30.0	1.41	32.5
26	7/34	0.0189	0.0186	0.0192	48.7	0.880	20.0
28	7/36	0.0150	0.0147	0.0153	77.9	0.559	12.5
30	7/38	0.0120	0.0117	0.0123	123	0.360	7.94
32	7/40	0.00930	0.00900	0.00960	208	0.220	4.70
34	7/42	0.00750	0.00720	0.00780	325	0.146	3.00
36	7/44	0.00600	0.00570	0.00630	517	0.0940	1.88
38	7/46	0.00470	0.00440	0.00492	832	0.0594	1.13

BARE PERCON 17 - SOFT TEMPER							
AWG	CONST	DIAMETER (inch)			RESIST (Ω/mft)	WEIGHT (lb/mft)	BREAK STRG (lb)
		Nom	Min	Max	Max	Max	Min
22	7/30	0.0300	0.0297	0.0303	18.1	2.18	31.2
24	7/32	0.0240	0.0237	0.0243	28.2	1.40	19.9
26	7/34	0.0189	0.0186	0.0192	45.9	0.872	12.2
28	7/36	0.0150	0.0147	0.0153	73.3	0.553	7.65
30	7/38	0.0120	0.0117	0.0123	116	0.357	4.85
32	7/40	0.00930	0.00900	0.00960	196	0.218	2.86
34	7/42	0.00750	0.00720	0.00780	306	0.144	1.83
36	7/44	0.00600	0.00570	0.00630	487	0.0940	1.15
38	7/46	0.00470	0.00435	0.00500	816	0.0594	0.689

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Single End

BARE PERCON 17 - HARD TEMPER							
AWG	CONST	DIAMETER (inch)			RESIST (Ω/mft)	WEIGHT (lb/mft)	BREAK STRG (lb)
		Nom	Min	Max	Max	Max	Min
30	SE	0.0100	0.00990	0.0101	133	0.307	7.31
31	SE	0.00890	0.00880	0.00900	168	0.244	5.77
32	SE	0.00800	0.00790	0.00810	208	0.198	4.65
33	SE	0.00710	0.00690	0.00720	273	0.156	3.55
34	SE	0.00630	0.00620	0.00640	338	0.124	2.86
35	SE	0.00560	0.00550	0.00570	429	0.0978	2.25
36	SE	0.00500	0.00490	0.00510	540	0.0783	1.79
37	SE	0.00450	0.00435	0.00460	686	0.0637	1.41
38	SE	0.00400	0.00390	0.00410	853	0.0510	1.12
39	SE	0.00350	0.00340	0.00363	1,121	0.0397	0.863
40	SE	0.00310	0.00300	0.00320	1,450	0.0308	0.671
41	SE	0.00280	0.00270	0.00290	1,848	0.0253	0.543
42	SE	0.00250	0.00240	0.00260	2,339	0.0204	0.429
43	SE	0.00220	0.00210	0.00232	3,054	0.0162	0.329
44	SE	0.00200	0.00190	0.00210	3,731	0.0133	0.269
45	SE	0.00180	0.00166	0.00190	4,888	0.0105	0.205
46	SE	0.00160	0.00147	0.00167	6,234	0.00840	0.161
47	SE	0.00140	0.00130	0.00150	8,094	0.00670	0.124
48	SE	0.00120	0.00110	0.00130	10,365	0.00540	0.0970
49	SE	0.00110	0.00100	0.00120	13,205	0.00440	0.0670
50	SE	0.00100	0.000890	0.00109	17,159	0.00350	0.0590

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BARE PERCON 17 - SOFT TEMPER							
AWG	CONST	DIAMETER (inch)			RESIST (Ω/mft)	WEIGHT (lb/mft)	BREAK STRG (lb)
		Nom	Min	Max	Max	Max	Min
30	SE	0.0100	0.00990	0.0101	125	0.310	4.46
31	SE	0.00890	0.00880	0.00900	158	0.240	3.52
32	SE	0.00800	0.00790	0.00810	196	0.198	2.84
33	SE	0.00710	0.00690	0.00720	250	0.156	2.23
34	SE	0.00630	0.00620	0.00640	318	0.124	1.75
35	SE	0.00560	0.00550	0.00570	404	0.0978	1.37
36	SE	0.00500	0.00490	0.00510	509	0.0783	1.09
37	SE	0.00450	0.00435	0.00460	645	0.0637	0.861
38	SE	0.00400	0.00390	0.00410	803	0.0510	0.692
39	SE	0.00350	0.00340	0.00363	1,055	0.0397	0.527
40	SE	0.00310	0.00300	0.00320	1,360	0.0308	0.409
41	SE	0.00280	0.00270	0.00290	1,680	0.0253	0.332
42	SE	0.00250	0.00240	0.00260	2,120	0.0204	0.262
43	SE	0.00220	0.00210	0.00232	2,767	0.0162	0.204
44	SE	0.00200	0.00190	0.00210	3,380	0.0133	0.164

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