



Percon®28 Copper Alloy Conductor Wire

Introduction

Percon®28 is engineered to have 33% greater minimum break strength with the same electrical conductivity of ASTM B 624 conductors. This alloy allows wire and cable system designers performance improvements in strength and flex life and the ability to reduce finish cable gauge sizes, saving weight while sustaining the cable break strength of a larger gauge size.

Key Attributes

- RoHS compliant; does not contain cadmium or any environmentally hazardous elements.
- Exceptional flex life.
- Highly resistant to thermal softening from high operating or fluoropolymer insulating temperatures.
- Exhibits the nobility inherent in all high copper alloys and is therefore resistant to corrosive environments.

Percon 28 is available in bare, silver or nickel plated and in light weight constructions. Custom constructions are available. To learn more please contact our [sales department](#).

Percon[®]28 Copper Alloy Conductor Wire

Specifications

AS22759

AS29606

ASTM B624

MIL-DTL-25038

NEMA WC67

Physical Properties

SOFT

Available Platings	Ag, Ni
Elongation	6%
Tensile	80 ksi
Electrical Conductivity	85% IACS @ 68 °F
Electrical Resistivity	12.2 Ω-cmil/ft @ 68 °F
Density	0.323 lb/in ³
Coefficient of Thermal Resistance	0.0019 per °F
Melting Point (Solidus)	1,965 °F
Melting Point (Liquidus)	1,985 °F

Percon®28 Copper Alloy Conductor Wire

19-Strand

NICKEL PLATED PERCON 28 (50 MICRO-INCH NICKEL THICKNESS)								
AWG	CONST	STANDARD PLATE (%)	DIAMETER (inch)			RESIST (Ω/mft) Max	WEIGHT (lb/mft) Max	BREAK STRG (lb) Min
			Nom	Min	Max			
16	19/29	2	0.0538	0.0528	0.0548	5.16	7.76	147
18	19/30	2	0.0477	0.0467	0.0487	6.79	6.10	117
20	19/32	4	0.0378	0.0373	0.0383	11.4	3.74	74.5
22	19/34	4	0.0298	0.0293	0.0302	18.6	2.41	45.9
24	19/36	4	0.0243	0.0231	0.0254	30.1	1.48	28.7
26	19/38	7	0.0189	0.0184	0.0194	47.9	0.957	18.2
28	19/40	7	0.0146	0.0141	0.0151	81.1	0.583	10.8

SILVER PLATED PERCON 28 (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			
16	19/29	2	0.0538	0.0528	0.0548	5.06	7.79	147
18	19/30	2	0.0477	0.0467	0.0487	6.43	6.13	117
20	19/32	2.5	0.0378	0.0373	0.0383	10.7	3.75	74.5
22	19/34	3	0.0298	0.0293	0.0302	17.1	2.35	45.9
24	19/36	4	0.0236	0.0231	0.0241	27.1	1.50	28.7
26	19/38	5	0.0189	0.0184	0.0194	42.8	0.965	18.2
28	19/40	6.1	0.0147	0.0142	0.0151	72.3	0.589	10.8
30	19/42	8	0.0118	0.0113	0.0123	113	0.389	6.88
32	19/44 ⁽¹⁾	10	0.0100	0.00950	0.0105	182	0.268	4.31
34	19/46 ^(1,2)	10	0.00741	0.00708	0.00774	290	0.156	2.69

(1) True Concentric

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

Percon®28 Copper Alloy Conductor Wire

7-Strand

NICKEL PLATED PERCON 28 (50 MICRO-INCH NICKEL 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	0.0302	0.0297	0.0306	18.9	2.25	43.1
24	7/32	4	0.0240	0.0235	0.0245	30.0	1.43	27.1
26	7/34	4	0.0189	0.0186	0.0192	49.0	0.883	16.9
28	7/36	4	0.0150	0.0147	0.0153	79.0	0.568	10.6
30	7/38	7	0.0120	0.0117	0.0123	129	0.363	6.69
32	7/40	7	0.00930	0.00900	0.00960	220	0.221	3.96

SILVER PLATED PERCON 28 (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	0.0302	0.0297	0.0306	18.4	2.26	43.1
24	7/32	2.5	0.0240	0.0235	0.0245	28.6	1.44	27.1
26	7/34	3	0.0189	0.0186	0.0192	45.9	0.888	16.9
28	7/36	4	0.0150	0.0147	0.0153	74.4	0.565	10.6
30	7/38	5	0.0120	0.0117	0.0123	116	0.364	6.69
32	7/40	6.1	0.00930	0.00900	0.00960	196	0.223	3.96
34	7/42	8	0.00750	0.00720	0.00780	306	0.148	2.53
36	7/44	10	0.00600	0.00570	0.00630	486	0.0960	1.58
38	7/46 ⁽¹⁾	10	0.00470	0.00450	0.00492	783	0.0590	0.990
40	7/48 ⁽¹⁾	10	0.00370	0.00354	0.00390	1,265	0.0370	0.612
42	7/50 ⁽¹⁾	10	0.00300	0.00282	0.00312	1,986	0.0237	0.388
44	7/52 ⁽¹⁾	10	0.00230	0.00219	0.00249	3,315	0.0151	0.232
46	7/54 ⁽¹⁾	10	0.00190	0.00170	0.00201	5,419	0.00980	0.142

(1) These constructions will have 10% silver plate

Percon®28 Copper Alloy Conductor Wire

SILVER PLATED PERCON 28 (40 MICRO-INCH SILVER THICKNESS)								
AWG	CONST	STANDARD PLATE (%)	DIAMETER (inch)			RESIST (Ω /mft)	WEIGHT (lb/mft)	BREAK STRG (lb)
			Nom	Min	Max	Max	Max	Min