

Conductor Alloys



Percon[®] 19

PERCON[®] 19 is a cadmium free copper alloy developed to replace cadmium copper C162.

PERCON[®] 19 has been engineered to be Hard Drawn for high strength and high flex life exceeding the performance of cadmium copper.

PERCON[®] 19 has a greater and more uniform flex life than cadmium copper.

PERCON[®] 19 has excellent resistance to corrosive environments.

PERCON[®] 19 does not contain any cadmium or environmentally hazardous elements.

PERCON[®] 19 is available hard drawn bare or plated with silver, nickel or tin.

| | |
|-----------------------------------|---|
| Tensile | 110,000 psi (758 MPa) |
| Elongation | 1% |
| Electrical Conductivity | 73% IACS |
| Electrical Resistivity | 14.21 Ω -cmil/ft (2.362 $\mu\Omega$ -cm) |
| Density | 0.321 lbs/in ³ (8.89 g/cm ³) |
| Thermal Coefficient of Resistance | 0.00305 per °C |

Single End – Bare PERCON[®] 19 – Hard Drawn

| AWG | Diameter | | | | | Resistance | | Weight | | Break Strength | |
|-----|----------|----------|----------|--------|--------|-------------------|------------------|------------|-----------|----------------|-------|
| | nom | inch min | inch max | mm min | mm max | max Ω /mft | max Ω /km | max lb/mft | max kg/km | min lb | min N |
| 30 | 0.0100 | 0.0099 | 0.0101 | 0.251 | 0.257 | 145.0 | 475.6 | 0.309 | 0.459 | 8.47 | 37.7 |
| 31 | 0.0089 | 0.0088 | 0.0090 | 0.224 | 0.229 | 183.5 | 601.9 | 0.245 | 0.365 | 6.69 | 29.8 |
| 32 | 0.0080 | 0.0079 | 0.0081 | 0.201 | 0.206 | 227.6 | 746.8 | 0.198 | 0.295 | 5.39 | 24.0 |
| 33 | 0.0071 | 0.0070 | 0.0072 | 0.178 | 0.183 | 289.9 | 951.2 | 0.157 | 0.233 | 4.23 | 18.8 |
| 34 | 0.0063 | 0.0062 | 0.0064 | 0.157 | 0.163 | 369.6 | 1,213 | 0.124 | 0.184 | 3.32 | 14.8 |
| 35 | 0.0056 | 0.0055 | 0.0057 | 0.140 | 0.145 | 469.6 | 1,541 | 0.0983 | 0.146 | 2.61 | 11.6 |
| 36 | 0.0050 | 0.0049 | 0.0051 | 0.124 | 0.130 | 591.7 | 1,941 | 0.0787 | 0.117 | 2.07 | 9.23 |
| 37 | 0.0045 | 0.0044 | 0.0046 | 0.112 | 0.117 | 733.8 | 2,408 | 0.0640 | 0.0953 | 1.67 | 7.44 |
| 38 | 0.0040 | 0.0039 | 0.0041 | 0.099 | 0.104 | 934.0 | 3,064 | 0.0509 | 0.0757 | 1.31 | 5.85 |
| 39 | 0.0035 | 0.0034 | 0.0036 | 0.086 | 0.091 | 1,229 | 4,032 | 0.0392 | 0.0584 | 0.999 | 4.44 |
| 40 | 0.0031 | 0.0030 | 0.0032 | 0.076 | 0.081 | 1,579 | 5,179 | 0.0310 | 0.0461 | 0.778 | 3.46 |
| 41 | 0.0028 | 0.0027 | 0.0029 | 0.069 | 0.074 | 1,949 | 6,394 | 0.0254 | 0.0379 | 0.630 | 2.80 |
| 42 | 0.0025 | 0.0024 | 0.0026 | 0.061 | 0.066 | 2,466 | 8,092 | 0.0205 | 0.0304 | 0.498 | 2.21 |
| 43 | 0.0022 | 0.0021 | 0.0023 | 0.053 | 0.058 | 3,222 | 10,569 | 0.0160 | 0.0238 | 0.381 | 1.69 |
| 44 | 0.0020 | 0.0019 | 0.0021 | 0.048 | 0.053 | 3,935 | 12,911 | 0.0133 | 0.0199 | 0.312 | 1.39 |
| 45 | 0.00176 | 0.00166 | 0.00186 | 0.042 | 0.047 | 5,156 | 16,915 | 0.0105 | 0.0156 | 0.238 | 1.06 |
| 46 | 0.00157 | 0.00147 | 0.00167 | 0.037 | 0.042 | 6,575 | 21,570 | 0.00844 | 0.0126 | 0.187 | 0.830 |
| 47 | 0.00140 | 0.00130 | 0.00150 | 0.033 | 0.038 | 8,406 | 27,580 | 0.00681 | 0.0101 | 0.146 | 0.649 |
| 48 | 0.00124 | 0.00114 | 0.00134 | 0.029 | 0.034 | 10,932 | 35,865 | 0.00543 | 0.00808 | 0.112 | 0.499 |
| 49 | 0.00111 | 0.00101 | 0.00121 | 0.026 | 0.031 | 13,927 | 45,692 | 0.00443 | 0.00659 | 0.088 | 0.392 |
| 50 | 0.00099 | 0.00089 | 0.00109 | 0.023 | 0.028 | 17,936 | 58,844 | 0.00359 | 0.00535 | 0.068 | 0.304 |

PERCON[®] is a registered trademark of Fisk Alloy Wire, Inc.

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

7 – Strand Constructions – Bare **PERCON® 19** – Hard Drawn

| AWG | Const. | Diameter | | | | Resistance | | Weight | | Break Strength | |
|-----|--------|----------|--------|-------|-------|------------|-------|--------|--------|----------------|------|
| | | inch | | mm | | max | | max | | min | |
| | | min | max | min | max | Ω/mft | Ω/km | lb/mft | kg/km | lb | N |
| 22 | 7/30 | 0.0297 | 0.0303 | 0.754 | 0.770 | 21.0 | 68.8 | 2.19 | 3.26 | 59.3 | 264 |
| 24 | 7/32 | 0.0237 | 0.0243 | 0.602 | 0.617 | 32.9 | 108.1 | 1.41 | 2.09 | 37.7 | 168 |
| 26 | 7/34 | 0.0186 | 0.0192 | 0.472 | 0.488 | 53.5 | 175.5 | 0.879 | 1.31 | 23.2 | 103 |
| 28 | 7/36 | 0.0147 | 0.0153 | 0.373 | 0.389 | 85.6 | 280.9 | 0.558 | 0.830 | 14.5 | 64.6 |
| 30 | 7/38 | 0.0117 | 0.0123 | 0.297 | 0.312 | 135.2 | 443.5 | 0.361 | 0.537 | 9.20 | 40.9 |
| 32 | 7/40 | 0.0090 | 0.0096 | 0.229 | 0.244 | 228.4 | 749.5 | 0.220 | 0.327 | 5.44 | 24.2 |
| 34 | 7/42 | 0.0072 | 0.0078 | 0.183 | 0.198 | 356.9 | 1,171 | 0.145 | 0.216 | 3.48 | 15.5 |
| 36 | 7/44 | 0.0057 | 0.0063 | 0.145 | 0.160 | 569.5 | 1,868 | 0.0946 | 0.141 | 2.18 | 9.71 |
| 38 | 7/46 | 0.0044 | 0.0050 | 0.112 | 0.127 | 951.4 | 3,121 | 0.0598 | 0.0890 | 1.31 | 5.81 |
| 40 | 7/48 | 0.0034 | 0.0040 | 0.087 | 0.102 | 1,582 | 5,190 | 0.0385 | 0.0573 | 0.786 | 3.50 |
| 42 | 7/50 | 0.0027 | 0.0033 | 0.068 | 0.083 | 2,596 | 8,515 | 0.0255 | 0.0379 | 0.479 | 2.13 |

19 – Strand Unilay Constructions – Bare **PERCON® 19** – Hard Drawn

| AWG | Const. | Diameter | | | | Resistance | | Weight | | Break Strength | |
|-----|--------|----------|--------|-------|-------|------------|-------|--------|-------|----------------|------|
| | | inch | | mm | | max | | max | | min | |
| | | min | max | min | max | Ω/mft | Ω/km | lb/mft | kg/km | lb | N |
| 18 | 19/30 | 0.0467 | 0.0476 | 1.186 | 1.210 | 7.98 | 26.2 | 5.77 | 8.59 | 161 | 716 |
| 20 | 19/32 | 0.0373 | 0.0382 | 0.947 | 0.971 | 12.5 | 41.1 | 3.71 | 5.53 | 102 | 456 |
| 22 | 19/34 | .0293 | 0.0302 | 0.743 | 0.767 | 20.4 | 66.8 | 2.32 | 3.45 | 63.1 | 281 |
| 24 | 19/36 | 0.0231 | 0.0241 | 0.587 | 0.611 | 32.6 | 107 | 1.47 | 2.19 | 39.4 | 175 |
| 26 | 19/38 | 0.0184 | 0.0193 | 0.467 | 0.491 | 51.4 | 169 | 0.951 | 1.42 | 25.0 | 111 |
| 28 | 19/40 | 0.0142 | 0.0151 | 0.359 | 0.383 | 86.9 | 285 | 0.580 | 0.862 | 14.8 | 65.7 |
| 30 | 19/42 | 0.0113 | 0.0123 | 0.288 | 0.312 | 135.8 | 446 | 0.383 | 0.569 | 9.45 | 42.1 |
| 32 | 19/44* | 0.0095 | 0.0105 | 0.241 | 0.267 | 211.3 | 693 | 0.259 | 0.385 | 5.93 | 26.4 |
| 34 | 19/46* | 0.0074 | 0.0084 | 0.187 | 0.212 | 352.9 | 1,158 | 0.164 | 0.243 | 3.55 | 15.8 |

*True Concentric

Custom constructions are available, please contact the sales department.



PERCON® is a registered trademark of Fisk Alloy Wire, Inc.

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