## Thermocouple Wire **Duplex Insulated**







ANSI Color Code: Positive Wire, Yellow; Negative Wire, Red; Overall, Brown OMEGA Engineering does not use reprocessed PFA or PVC in manufacturing thermocouple wire

| Insulation  | AWG<br>No.                                   | Model Number  | Туре  | Insulation  |  | Max.   | Temp   |  | Wt.† kg/300 m  |
|---|--|---|---|---|--|--|--|--|--|
|   |  |   | Wire  | Conductor   | Overall                                | °C   | °F   | mm (inch)  | (lb/1000')   |
| Ceramic*  | 14<br>20<br>20<br>20<br>24<br>24<br>24       | XC-K-14<br>XC-K-20<br>XT-K-20<br>XL-K-20<br>XC-K-24<br>XT-K-24<br>XL-K-24                     | Solid<br>Solid<br>Solid<br>Solid<br>Solid<br>Solid<br>Solid             | Nextel Ceramic  | Nextel Ceramic                         | 1090<br>980<br>980<br>980<br>870<br>870<br>870       | 1800<br>1600<br>1600                                 | 3.6 x 5.0 (0.140 x 0.200)<br>3.4 x 4.8 (0.135 x 0.190)<br>2.7 x 3.9 (0.105 x 0.155)<br>2.4 x 3.4 (0.095 x 0.135)<br>2.9 x 4.4 (0.115 x 0.175)<br>2.2 x 3.4 (0.088 x 0.132)<br>2.0 x 3.0 (0.078 x 0.116)                              | 18 (38)<br>8 (16)<br>7 (15)<br>7 (14)<br>6 (12)<br>5 (11)<br>5 (10)    |
| Vitreous Silica*  | 20   | XR-K-20   | Solid   | Refrasil  | Refrasil                               | 870  | 1600   | 2.9 x 4.6 (0.115 x 0.180)  | 6 (14)   |
| Silica*   | 14<br>20<br>24                               | XS-K-14<br>XS-K-20<br>XS-K-24   | Solid<br>Solid<br>Solid   | Silica  | Silica                                 | 1090<br>980<br>870                                   | 2000<br>1800<br>1600                                 | 3.6 x 5.0 (0.140 x 0.200)<br>2.7 x 3.9 (0.105 x 0.155)<br>2.2 x 3.4 (0.088 x 0.132)  | 16 (35)<br>6 (12)<br>5 (10)  |
| High Temp.<br>Glass**                                     | 20<br>24                                     | HH-K-20<br>HH-K-24  | Solid<br>Solid  | High<br>Temp Glass  | High<br>Temp Glass                     | 704<br>704   | 1300<br>1300   | 1.5 x 2.7 (0.060 x 0.105)<br>1.4 x 2.3 (0.055 x 0.090)   | 4 (9)<br>3 (5)   |
| Glass   | 20<br>20S<br>24                              | GG-K-20<br>GG-K-20S<br>GG-K-24  | Solid<br>7 x 28<br>Solid  | Glass Braid<br>Glass Braid<br>Glass Braid                           |  | 482<br>482<br>482                                    | 900<br>900<br>900                                    | 1.5 x 2.1 (0.060 x 0.095)<br>1.5 x 2.5 (0.060 x 0.100)<br>1.3 x 2.0 (0.050 x 0.080)  | 4 (9)<br>4 (9)<br>3 (5)  |
|   | 24S<br>26<br>28<br>30<br>36                  | GG-K-24S<br>GG-K-26<br>GG-K-28<br>GG-K-30<br>GG-K-36  | 7 x 32<br>Solid<br>Solid<br>Solid<br>Solid                              | Glass Braid<br>Glass Wrap<br>Glass Wrap<br>Glass Wrap<br>Glass Wrap | Glass Braid                            | 482<br>482<br>482<br>482<br>482                      | 900<br>900<br>900<br>900<br>900                      | 1.3 x 2.2 (0.050 x 0.085)<br>1.1 x 1.9 (0.045 x 0.075)<br>1.0 x 1.4 (0.040 x 0.055)<br>0.9 x 1.3 (0.037 x 0.050)<br>0.8 x 1.1 (0.033 x 0.045)  | 3 (5)<br>2 (4)<br>2 (3)<br>2 (3)<br>1 (2)                              |
| Glass with<br>Stainless<br>Steel<br>Overbraid             | 20<br>20S<br>24<br>24S                       | GG-K-20-SB<br>GG-K-20S-SB<br>GG-K-24-SB<br>GG-K-24S-SB  | Solid<br>7 x 28<br>Solid<br>7 x 32                                      | Glass   | Stainless Steel<br>Braid over<br>Glass | 482<br>482<br>482<br>482                             | 900<br>900<br>900<br>900                             | 2.3 x 3.0 (0.090 x 0.120)<br>2.3 x 3.2 (0.090 x 0.127)<br>2.2 x 3.0 (0.085 x 0.117)<br>2.0 x 2.8 (0.080 x 0.110)   | 6 (14)<br>7 (15)<br>5 (11)<br>5 (11)                                   |
| Kapton<br>Fused<br>Polymide<br>Tape                       | 24   | KK-K-20<br>KK-K-20S<br>KK-K-24<br>KK-K-24S<br>KK-K-30   | Solid<br>7 x 28<br>Solid<br>7 x 32<br>Solid                             | Fused<br>Polymide<br>Tape   | Fused<br>Polymide<br>Tape              | 260<br>260<br>260<br>260<br>260                      | 500<br>500<br>500<br>500<br>500                      | 1.5 x 2.5 (0.060 x 0.100)<br>1.5 x 2.7 (0.060 x 0.105)<br>1.3 x 1.9 (0.050 x 0.075)<br>1.3 x 2.2 (0.050 x 0.085)<br>1.0 x 1.4 (0.040 x 0.055)  | 5 (11)<br>5 (11)<br>3 (6)<br>3 (6)<br>3 (5)                            |
| PFA<br>Glass  | 30<br>36<br>40                               | TG-K-30<br>TG-K-36<br>TG-K-40   | Solid<br>Solid<br>Solid   | PFA   | Glass Braid                            | 260<br>260<br>260                                    | 500<br>500<br>500                                    | 0.9 x 1.2 (0.034 x 0.047)<br>0.7 x 1.0 (0.028 x 0.038)<br>0.7 x 0.9 (0.026 x 0.035)  | 1 (2)<br>1 (2)<br>1 (2)  |
| Neoflon<br>PFA<br>(High<br>Performance)                   | 20<br>20<br>22<br>24<br>24<br>30<br>36<br>40 | TT-K-20<br>TT-K-20S<br>TT-K-22S<br>TT-K-24<br>TT-K-24S<br>TT-K-30††<br>TT-K-36††<br>TT-K-40†† | Solid<br>7 x 28<br>7 x 30<br>Solid<br>7 x 32<br>Solid<br>Solid<br>Solid | PFA   | PFA                                    | 260<br>260<br>260<br>260<br>260<br>260<br>260<br>260 | 500<br>500<br>500<br>500<br>500<br>500<br>500<br>500 | 1.7 x 3.0 (0.068 x 0.116)<br>1.9 x 3.2 (0.073 x 0.126)<br>1.7 x 3.4 (0.065 x 0.133)<br>1.4 x 2.4 (0.065 x 0.093)<br>1.6 x 2.6 (0.063 x 0.102)<br>0.6 x 1.0 (0.024 x 0.040)<br>0.5 x 0.8 (0.019 x 0.030)<br>0.4 x 0.7 (0.017 x 0.026) | 5 (11)<br>5 (11)<br>4 (9)<br>3 (6)<br>3 (6)<br>1 (2)<br>1 (2)<br>1 (2) |
| PFA<br>Polymer<br>w/Twisted<br>and Shielded<br>Conductors | 20<br>20S<br>24<br>24S                       | TT-K-20-TWSH<br>TT-K-20S-TWSH<br>TT-K-24-TWSH<br>TT-K-24S-TWSH                                | Solid<br>7 x 28<br>Solid<br>7 x 32                                      | PFA Polymer   | PFA Polymer<br>and Shielding           | 260<br>260<br>260<br>260                             | 500<br>500<br>500<br>500                             | 3.7 (0.15)<br>3.8 (0.15)<br>2.7 (0.11)<br>2.9 (0.12)   | 9 (20)<br>9 (20)<br>4 (9)<br>4 (9)                                     |
| Neoflon FEP   | 20<br>24                                     | FF-K-20<br>FF-K-24  | Solid<br>Solid  | FEP   | FEP                                    | 200<br>200   | 392<br>392   | 1.7 x 3.0 (0.068 x 0.116)<br>1.7 x 3.0 (0.056 x 0.092)   | 5 (11)<br>3 (6)  |
| FEP<br>Polymer<br>w/Twisted<br>and Shielded<br>Conductors | 24   | FF-K-20-TWSH<br>FF-K-20S-TWSH<br>FF-K-24-TWSH<br>FF-K-24S-TWSH                                | Solid<br>7 x 28<br>Solid<br>7 x 32                                      | FEP Polymer   | FEP Polymer<br>and Shielding           | 200<br>200<br>200<br>200                             | 392<br>392<br>392<br>392                             | 3.7 (0.15)<br>3.8 (0.15)<br>2.7 (0.11)<br>2.9 (0.12)   | 9 (20)<br>9 (20)<br>4 (9)<br>4 (9)                                     |
| TFE Tape<br>Polymer                                       | 20<br>20S<br>24<br>24S                       | TFE-K-20<br>TFE-K-20S<br>TFE-K-24<br>TFE-K-24S  | Solid<br>7 x 28<br>Solid<br>7 x 32                                      | TFE Tape<br>Polymer   | Fused<br>TFE Tape<br>Polymer           | 260<br>260<br>260<br>260                             | 500<br>500<br>500<br>500                             | 1.5 x 2.5 (0.060 x 0.100)<br>1.5 x 2.7 (0.060 x 0.105)<br>1.3 x 1.9 (0.050 x 0.075)<br>1.3 x 2.2 (0.050 x 0.085)   | 5 (11)<br>5 (11)<br>3 (6)<br>3 (6)                                     |
| Polyvinyl   | 24<br>24                                     | PR-K-24<br>PP-K-24S   | Solid<br>7 x 32   | Polyvinyl   | (Rip Cord)***<br>(Polyvinyl)           | 105<br>105   | 221<br>221   | 1.4 x 2.3 (0.050 x 0.086)<br>2.0 x 3.4 (0.082 x 0.134)   | 3 (5)<br>3 (5)   |

<sup>†</sup> Weight of spool and wire rounded to the next highest kg (lb) (does not include packing material). †† Overall color clear.
††† To order special limits of error wire, add "-SLE" to model number before spool length. \* Has color tracers on jacket and conductors.

\*\* HH Wire has trace thread in positive leg, negative leg is red, overall has trace thread. \*\*\* Two insulated leads bonded together, but with no overwrap. Additional Type K insulated wires are available. See Fused Tape Insulated TFE-K and KK-K Series.

Ordering Example: XC-K-20-SLE-1000, 1000' (300 m) of Type K duplex insulated special limits of error thermocouple wire.