

# SiliFlex Wire & Cable

## SiliFlex Hookup and Multiconductor Cables

### FEATURES:

- Resistant to temperature extremes
- Excellent electrical characteristics
- Easily stripped
- Lightweight
- Corona resistant
- High radiation resistance

### GENERAL DESCRIPTION

SiliFlex is distinguished by its extreme limpness and flexibility. It is the most limber of all the High Flex Products offered by Calmont. Silicone rubber insulation compounds are inherently soft and pliable and resists the plastic flow that characterizes many insulation systems. Silicone compounds can be tailored to meet a variety of demands such as extreme high and low temperature requirements, flame resistance, flexibility, radiation resistance, strength and purity.

### APPLICATIONS

SiliFlex is used extensively for robotic, aerospace and medical applications.

### MULTICONDUCTOR JACKET OPTIONS

- Silicone • FEP • TPE

## General Specifications

### ELECTRICAL PROPERTIES

|  |                      |
|--|----------------------|
| D.C. Volume Resistivity (ohm - CM)     | 1 x 10 <sup>15</sup> |
| Dielectric Strength (VPM on .075 slab) | 550 - 700            |
| Dielectric Constant                    | 1000                 |
| at 60 Hz                               | 2.9 - 3.5            |
| Power Factor at 60 Hz                  | .002 - .004          |
| Radiation Resistant (Roentgens)        | 1 x 10 <sup>8</sup>  |

### PHYSICAL PROPERTIES

|                          |             |
|--------------------------|-------------|
| Specific Gravity         | 1.20 - 1.45 |
| Elongation (%)           | 125 (min.)  |
| Shore Hardness (A Scale) | 65 (avg.)   |
| Tensile Strength (PSI)   | 800 - 1100  |

### THERMAL PROPERTIES

|                                   |                   |
|-----------------------------------|-------------------|
| Temperature Rating                | -100°F to 400 ° F |
| Estimated Useful Life - at -80 °F | Indefinite        |
| - at 250 °F                       | 10 years          |
| - at 300 °F                       | 5 years           |
| - at 400 °F                       | 2 years           |
| - at 500 °F                       | 3 months          |

### FLAME RESISTANCE

Siliflex is available with a self-extinguishing silicone rubber insulation that will pass the Underwriters' Laboratories' VW-1 flame test and the 45° angle flame test of MIL-W-16878.

### MEDICAL USAGE

Siliflex can be manufactured with medical grade silicone compounded under clean room conditions. This can be used for medical implantation. To maintain the highest level of purity, the insulation is available nonpigmented (translucent).

## Calmont SiliFlex Hookup Wire

| Part Number           | Bare Copper Conductor <sup>1</sup> |                                  |                          |                              |                               |                                       | Finished Wire                                  |                           |                                 |                               |
|-----------------------|------------------------------------|----------------------------------|--------------------------|------------------------------|-------------------------------|---------------------------------------|--|---------------------------|---------------------------------|-------------------------------|
|                       | AWG SIZE                           | (No. of Strands/<br>Strand Size) | Strand Diameter (inches) | Conductor Diameter (Nominal) | Conductor Area (CM) (Nominal) | Conductor Resistance (OHMS/1000' NOM) | Current Carrying Capacity @80 °C (approximate) | Outside Diameter (± .003) | Weight (lbs./1000') approximate | Stiffness Comparison (pounds) |
| 3006-028-20-1-C-CCC-S | 20                                 | 105/40                           | .0031                    | .039                         | 1038.00                       | 10.00                                 | 4.00   | .064                      | 4.94                            | .1400                         |
| 3006-028-22-1-C-CCC-S | 22                                 | 65/40                            | .0031                    | .031                         | 642.00                        | 16.10                                 | 2.50   | .056                      | 3.34                            | .0500                         |
| 3006-028-24-1-C-CCC-S | 24                                 | 41/40                            | .0031                    | .023                         | 405.00                        | 25.60                                 | 1.60   | .047                      | 2.25                            | .0200                         |
| 3006-028-26-1-C-CCC-S | 26                                 | 66/44                            | .0020                    | .019                         | 258.00                        | 40.20                                 | 1.00   | .042                      | 1.61                            | .0090                         |
| 3006-028-28-1-C-CCC-S | 28                                 | 41/44                            | .0020                    | .015                         | 160.00                        | 64.70                                 | .60  | .038                      | 1.17                            | .0056                         |
| 3006-028-29-1-C-CCC-S | 29                                 | 51/46                            | .0016                    | .014                         | 125.00                        | 82.70                                 | .50  | .030                      | .79                             | .0040                         |
| 3006-028-30-1-C-CCC-S | 30                                 | 41/46                            | .0016                    | .012                         | 100.00                        | 102.80                                | .40  | .028                      | .67                             | .0020                         |
| 3006-028-32-1-C-CCC-S | 32                                 | 27/46                            | .0010                    | .008                         | 38.00                         | 266.50                                | .16  | .022                      | .35                             | .0015                         |
| 3006-028-34-1-C-CCC-S | 34                                 | 40/50                            | .0010                    | .006                         | 24.00                         | 426.40                                | .10  | .020                      | .27                             | .0012                         |
| 3006-028-36-1-C-CCC-S | 36                                 | 25/50                            | .0010                    | .005                         | 16.00                         | 666.20                                | .60  | .019                      | .22                             | .0009                         |
| 3006-028-38-1-C-CCC-S | 38                                 | 16/50                            | .0010                    | .005                         | 15.57                         | 666.20                                | .06  | .019                      | .22                             | .0039                         |
| 3006-028-40-1-C-CCC-S | 40                                 | 12/50                            | .0010                    | .003                         | 12.00                         | 888.30                                | .04  | .018                      | .19                             | .0008                         |

<sup>1</sup>Contact Calmont for additional conductor options