
Section A

Bare Copper and Building Wire

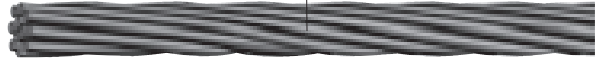
| <u>Description</u> | <u>Insulation/Jacket</u> | <u>Specification</u> | <u>Page</u> |
|-------------------------------|--|----------------------|-------------|
| Bare Copper | N/A | HW000 | 2 |
| Power and Control Cable | THHN/THWN, PVC/Nylon | HW001 | 3 |
| Power and Control Cable | XHHW-2, FR-XLP | HW002 | 4 |
| Power and Control Cable | RHW-2 or RHH or USE-2, FR-XLP | HW003 | 5 |
| Power and Control Cable | RHW-2 or RHH or USE-2, FR-EP | HW004 | 6 |
| Power and Control Cable | RHW-2 or RHH or USE-2, EPR / Hypalon® .. | HW005 | 7 |
| Cathodic Protection | HMWPE | HW006 | 8 |
| Power Cable | LSZH | HW020 | 9 |

**Specification
HW000**

BARE COPPER

**Soft Drawn
Solid or Stranded**

soft drawn bare copper



| Catalog No. | Size AWG/kcmil | Cross Sectional Area Circular Mils | No. of Strands | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|--|-------------------|-----------------------------|--------------------------|
|-------------|-------------------|--|-------------------|-----------------------------|--------------------------|

Soft Drawn Bare Copper - Solid

| | | | | | |
|-------------|---|-------|-------|-----|-----|
| HW000 0801S | 8 | 16510 | Solid | .12 | 50 |
| HW000 0601S | 6 | 26240 | Solid | .16 | 79 |
| HW000 0401S | 4 | 41740 | Solid | .20 | 126 |
| HW000 0201S | 2 | 66360 | Solid | .25 | 201 |

Soft Drawn Bare Copper - Stranded

| | | | | | |
|-------------|------|---------|----|------|------|
| HW000 01401 | 14 | 4110 | 7 | .07 | 13 |
| HW000 01201 | 12 | 6530 | 7 | .09 | 20 |
| HW000 01001 | 10 | 10380 | 7 | .11 | 32 |
| HW000 00801 | 8 | 16510 | 7 | .14 | 51 |
| HW000 00601 | 6 | 26240 | 7 | .18 | 81 |
| HW000 00401 | 4 | 41740 | 7 | .23 | 129 |
| HW000 00201 | 2 | 66360 | 7 | .29 | 205 |
| HW000 00101 | 1 | 83690 | 19 | .33 | 258 |
| HW000 10101 | 1/0 | 105600 | 19 | .37 | 326 |
| HW000 20101 | 2/0 | 133100 | 19 | .41 | 411 |
| HW000 30101 | 3/0 | 167800 | 19 | .47 | 518 |
| HW000 40101 | 4/0 | 211600 | 19 | .52 | 653 |
| HW000 25001 | 250 | 250000 | 37 | .57 | 772 |
| HW000 35001 | 350 | 350000 | 37 | .68 | 1081 |
| HW000 50001 | 500 | 500000 | 37 | .81 | 1544 |
| HW000 75001 | 750 | 750000 | 61 | .99 | 2316 |
| HW000 10001 | 1000 | 1000000 | 61 | 1.15 | 3088 |

Application:

For use on insulators for overhead distribution circuits or for grounding conductors.

Additional Standards:

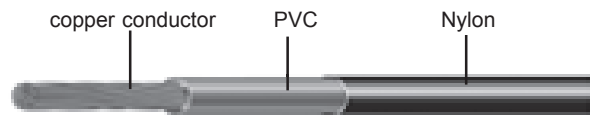
Federal Specification CID A-A-59551 (non-insulated)

Conductor:

Soft bare annealed copper per ASTM B-3, Class B stranding per ASTM B-8. Tin-coated soft, medium-hard, or hard drawn copper wire also available upon request.

BUILDING WIRE

**600 Volt UL 90°C
THHN/THWN Insulation
Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | PVC Insulation Thickness Mils | Nylon Jacket Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|--|--------------------------------------|-----------------------------|--------------------------|
| HW001 01401 | 14 | 7 | 15 | 4 | .12 | 16 |
| HW001 01201 | 12 | 7 | 15 | 4 | .14 | 25 |
| HW001 01001 | 10 | 7 | 20 | 4 | .17 | 39 |
| HW001 00801 | 8 | 7 | 30 | 4 | .23 | 66 |
| HW001 00601 | 6 | 7 | 30 | 5 | .25 | 98 |
| HW001 00401 | 4 | 7 | 40 | 6 | .33 | 155 |
| HW001 00301 | 3 | 7 | 40 | 6 | .36 | 190 |
| HW001 00201 | 2 | 7 | 40 | 6 | .39 | 235 |
| HW001 00101 | 1 | 19 | 50 | 7 | .45 | 300 |
| HW001 10101 | 1/0 | 19 | 50 | 7 | .50 | 370 |
| HW001 20101 | 2/0 | 19 | 50 | 7 | .54 | 460 |
| HW001 30101 | 3/0 | 19 | 50 | 7 | .60 | 570 |
| HW001 40101 | 4/0 | 19 | 50 | 7 | .66 | 710 |
| HW001 25001 | 250 | 37 | 60 | 8 | .72 | 845 |
| HW001 35001 | 350 | 37 | 60 | 8 | .83 | 1165 |
| HW001 50001 | 500 | 37 | 60 | 8 | .96 | 1640 |
| HW001 75001 | 750 | 61 | 70 | 9 | 1.17 | 2480 |
| HW001 10001 | 1000 | 61 | 70 | 9 | 1.32 | 3300 |

Application:

For use in general wiring applications for lighting and power in conduits, ducts, or other approved raceways with maximum conductor temperature of 90°C in dry locations and 75°C in wet locations. Chemical, gasoline and oil resistant.

Conductor:

Soft bare annealed copper per ASTM B-3, Class B stranding per ASTM B-8.

Insulation:

Heat and moisture resistant PVC per UL Standard 83.

Jacket:

Clear Nylon per UL Standard 62.

Flame Test:

UL VW-1

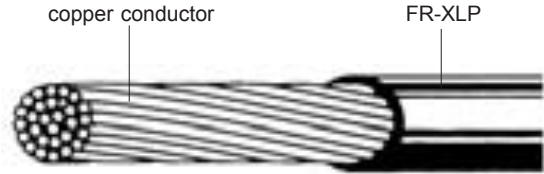
Additional Standards:

- Federal Specification CID A-A-55543
- UL 1063 (Type MTW for stranded items)
- UL 758 (Type AWM 105°C dry, 80°C in oil)

Specification
HW002

BUILDING WIRE

**600 Volt UL 90°C
FR-XLP VW-1 XHHW-2 Insulation
Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | Insulation Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|---------------------------------|-----------------------------|--------------------------|
| HW002 01401 | 14 | 7 | 30 | .14 | 18 |
| HW002 01201 | 12 | 7 | 30 | .16 | 27 |
| HW002 01001 | 10 | 7 | 30 | .18 | 40 |
| HW002 00801 | 8 | 7 | 45 | .24 | 66 |
| HW002 00601 | 6 | 7 | 45 | .28 | 97 |
| HW002 00401 | 4 | 7 | 45 | .32 | 145 |
| HW002 00201 | 2 | 7 | 45 | .38 | 225 |
| HW002 00101 | 1 | 19 | 55 | .44 | 290 |
| HW002 10101 | 1/0 | 19 | 55 | .48 | 360 |
| HW002 20101 | 2/0 | 19 | 55 | .52 | 450 |
| HW002 30101 | 3/0 | 19 | 55 | .58 | 565 |
| HW002 40101 | 4/0 | 19 | 55 | .63 | 705 |
| HW002 25001 | 250 | 37 | 65 | .70 | 835 |
| HW002 35001 | 350 | 37 | 65 | .80 | 1155 |
| HW002 50001 | 500 | 37 | 65 | .93 | 1630 |
| HW002 75001 | 750 | 61 | 80 | 1.14 | 2445 |
| HW002 10001 | 1000 | 61 | 80 | 1.29 | 3230 |

Application:

For use in harsh environments for general wiring applications for lighting and power in conduits, ducts, cable tray when CT rated, or other approved raceways with maximum conductor temperature of 90°C in wet or dry locations. Chemical, gasoline and oil resistant.

Conductor:

Soft bare annealed copper per ASTM B-3, Class B stranding per ASTM B-8.

Insulation:

Flame-retardant cross-linked polyethylene (FR-XLP) per ICEA S-95-658 and UL Standard 44 for Type XHHW-2, VW-1 conductors.

Flame Test:

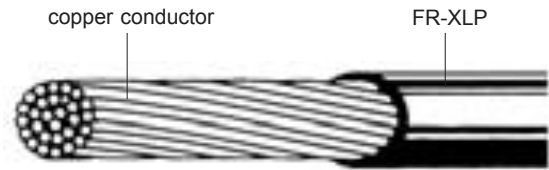
- UL and IEEE 383 70,000 BTU/hr flame test – for CT listed sizes 1/0 AWG and larger.
- UL VW-1

Additional Standards:

- NEMA WC-70
- Federal Spec J-C-30B

BUILDING WIRE

**600 Volt UL 90°C
RHW-2 or RHH or USE-2
FR-XLP VW-1 Insulation
Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | Insulation Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|---------------------------------|-----------------------------|--------------------------|
| HW003 01401 | 14 | 7 | 45 | .17 | 22 |
| HW003 01201 | 12 | 7 | 45 | .19 | 32 |
| HW003 01001 | 10 | 7 | 45 | .21 | 47 |
| HW003 00801 | 8 | 7 | 60 | .27 | 71 |
| HW003 00601 | 6 | 7 | 60 | .37 | 105 |
| HW003 00401 | 4 | 7 | 60 | .36 | 155 |
| HW003 00201 | 2 | 7 | 60 | .42 | 240 |
| HW003 00101 | 1 | 19 | 80 | .49 | 310 |
| HW003 10101 | 1/0 | 19 | 80 | .53 | 380 |
| HW003 20101 | 2/0 | 19 | 80 | .58 | 470 |
| HW003 30101 | 3/0 | 19 | 80 | .63 | 585 |
| HW003 40101 | 4/0 | 19 | 80 | .69 | 730 |
| HW003 25001 | 250 | 37 | 95 | .76 | 870 |
| HW003 35001 | 350 | 37 | 95 | .86 | 1190 |
| HW003 50001 | 500 | 37 | 95 | .99 | 1670 |
| HW003 75001 | 750 | 61 | 110 | 1.20 | 2500 |
| HW003 10001 | 1000 | 61 | 110 | 1.35 | 3290 |

Application:

For use in harsh environments for general wiring applications for lighting and power in conduits, ducts, cable tray when CT rated, direct burial or other approved raceways with maximum conductor temperature of 90°C in wet or dry locations. Chemical, gasoline and oil resistant.

Conductor:

Soft bare annealed copper per ASTM B-3, Class B stranding per ASTM B-8.

Insulation:

Flame-retardant cross-linked polyethylene (FR-XLP) per ICEA S-95-658, UL Standard 854 for Type USE-2 and UL Standard 44 for Types RHH and RHW-2, VW-1 conductors.

Flame Tests:

- UL and IEEE 383 70,000BTU/hr flame test – for CT listed sizes 1/0 AWG and larger.
- UL VW-1

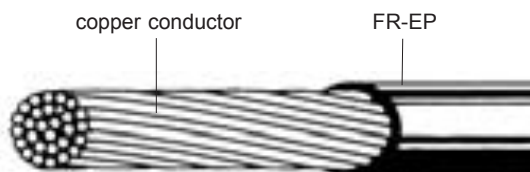
Additional Standards:

- NEMA WC-70
- Federal Specification J-C-30B

**Specification
HW004**

BUILDING WIRE

**600 Volt UL 90°C
RHW-2 or RHH or USE-2
FR-EP VW-1 Insulation
Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | Insulation Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|---------------------------------|-----------------------------|--------------------------|
| HW004 01401 | 14 | 7 | 45 | .17 | 25 |
| HW004 01201 | 12 | 7 | 45 | .19 | 34 |
| HW004 01001 | 10 | 7 | 45 | .21 | 48 |
| HW004 00801 | 8 | 7 | 60 | .27 | 78 |
| HW004 00601 | 6 | 7 | 60 | .31 | 114 |
| HW004 00401 | 4 | 7 | 60 | .36 | 169 |
| HW004 00201 | 2 | 7 | 60 | .42 | 254 |
| HW004 00101 | 1 | 19 | 80 | .49 | 327 |
| HW004 10101 | 1/0 | 19 | 80 | .53 | 402 |
| HW004 20101 | 2/0 | 19 | 80 | .58 | 495 |
| HW004 30101 | 3/0 | 19 | 80 | .63 | 613 |
| HW004 40101 | 4/0 | 19 | 80 | .69 | 759 |
| HW004 25001 | 250 | 37 | 95 | .77 | 905 |
| HW004 35001 | 350 | 37 | 95 | .87 | 1235 |
| HW004 50001 | 500 | 37 | 95 | 1.00 | 1663 |
| HW004 75001 | 750 | 61 | 110 | 1.22 | 2573 |
| HW004 10001 | 1000 | 61 | 110 | 1.37 | 3381 |

Application:

For use in harsh environments in a broad range of commercial, industrial and utility applications where reliability and maximum performance is required. Approved for installation in conduits, ducts, cable tray when CT rated, direct burial or other approved raceways with maximum conductor temperature of 90°C in wet or dry locations.

Conductor:

Soft bare annealed copper per ASTM B-3, Class B stranding per ASTM B-8.

Insulation:

Flame-retardant ethylene-propylene-rubber (FR-EP) per ICEA S-95-658, UL Standard 854 for Type USE-2 and UL Standard 44 for Types RHH and RHW-2, VW-1 conductors.

Flame Tests:

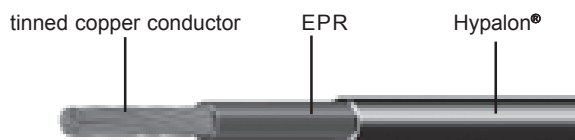
- UL and IEEE 383 70,000 BTU/hr flame test – for CT listed sizes 1/0 AWG and larger.
- UL VW-1

Additional Standards:

- NEMA WC-70
- Federal Spec J-C-30B

BUILDING WIRE

**600 Volt UL 90°C
RHW-2 or RHH or USE-2, VW-1
EPR Insulation
Hypalon® Jacket
Tinned Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | EPR Insulation Thickness Mils | Hypalon® Jacket Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|--|---|-----------------------------|--------------------------|
| HW005 01401 | 14 | 7 | 30 | 15 | .17 | 25 |
| HW005 01201 | 12 | 7 | 30 | 15 | .19 | 35 |
| HW005 01001 | 10 | 7 | 30 | 15 | .21 | 50 |
| HW005 00801 | 8 | 7 | 45 | 15 | .26 | 81 |
| HW005 00601 | 6 | 7 | 45 | 30 | .35 | 130 |
| HW005 00401 | 4 | 7 | 45 | 30 | .40 | 185 |
| HW005 00201 | 2 | 7 | 45 | 30 | .46 | 275 |
| HW005 00101 | 1 | 19 | 55 | 45 | .54 | 360 |
| HW005 10101 | 1/0 | 19 | 55 | 45 | .59 | 440 |
| HW005 20101 | 2/0 | 19 | 55 | 45 | .63 | 535 |
| HW005 30101 | 3/0 | 19 | 55 | 45 | .68 | 655 |
| HW005 40101 | 4/0 | 19 | 55 | 45 | .74 | 810 |
| HW005 25001 | 250 | 37 | 65 | 65 | .85 | 990 |
| HW005 35001 | 350 | 37 | 65 | 65 | .96 | 1335 |
| HW005 50001 | 500 | 37 | 65 | 65 | 1.10 | 1850 |
| HW005 75001 | 750 | 61 | 80 | 65 | 1.32 | 2720 |
| HW005 10001 | 1000 | 61 | 80 | 65 | 1.47 | 3560 |

Application:

For use in harsh environments in a broad range of commercial, industrial and utility applications where reliability and maximum performance is required. Approved for installation in conduits, ducts, cable tray when CT rated, direct burial or other approved raceways with maximum conductor temperature of 90°C in wet or dry locations.

Conductor:

Tin-coated, soft annealed copper per ASTM B-33, Class B stranding per ASTM B-8.

Insulation:

Ethylene propylene rubber (EPR) per ICEA S-95-658, UL Standard 854 for Type USE-2 and UL Standard 44 for Types RHH and RHW-2, VW-1 conductors.

Jacket:

Chlorosulfonated polyethylene (Hypalon®) per UL Standard 44. Sunlight resistant on sizes 1/0 AWG and larger.

Flame Tests:

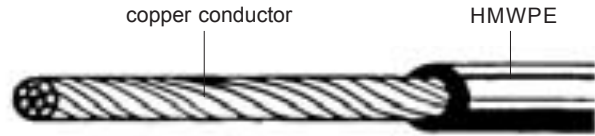
- UL and IEEE 383 70,000 BTU/hr flame test – for CT listed sizes 1/0 AWG and larger.
- UL VW-1

Additional Standards:

- NEMA WC-70
- Federal Spec J-C-30B

CATHODIC PROTECTION

**600 Volt 90°C
HMW Polyethylene Insulation
Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | Insulation Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|---------------------------------|-----------------------------|--------------------------|
| HW006 00801 | 8 | 7 | 110 | .38 | 92 |
| HW006 00601 | 6 | 7 | 110 | .41 | 128 |
| HW006 00401 | 4 | 7 | 110 | .46 | 185 |
| HW006 00201 | 2 | 7 | 110 | .52 | 272 |
| HW006 00101 | 1 | 19 | 125 | .59 | 340 |
| HW006 10101 | 1/0 | 19 | 125 | .63 | 415 |
| HW006 20101 | 2/0 | 19 | 125 | .67 | 509 |
| HW006 30101 | 3/0 | 19 | 125 | .72 | 624 |
| HW006 40101 | 4/0 | 19 | 125 | .78 | 771 |
| HW006 25001 | 250 | 37 | 155 | .89 | 925 |
| HW006 35001 | 350 | 37 | 155 | .99 | 1260 |
| HW006 50001 | 500 | 37 | 155 | 1.14 | 1770 |

Application:

For use to protect against electrolytic and galvanic corrosion in pipelines, storage tanks, steel pilings, well casings, and other buried or water-submerged metallic surfaces. The high molecular weight polyethylene (HMWPE) used in cathodic protection cable provides outstanding dielectric strength with excellent resistance against moisture, abrasion, and corrosive chemicals.

Conductor:

Soft bare annealed copper per ASTM B-3, Class B stranding per ASTM B-8.

Insulation:

High molecular weight polyethylene (HMWPE).

Flame Tests:

UL VW-1

Additional Standards:

ASTM D1248, Type 1, Class C, Category 5, Grades E-5 and J-1 (HMWPE).

POWER CABLE

**600 Volt UL 90°C
RHH or RHW/LS
Low Smoke Zero Halogen Insulation
Low Smoke Zero Halogen Jacket
Tinned Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | Insulation Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|---------------------------------|-----------------------------|--------------------------|
| HW020 01401 | 14 | 41 | 45 | .16 | 27 |
| HW020 01201 | 12 | 65 | 45 | .18 | 36 |
| HW020 01001 | 10 | 49 | 45 | .20 | 50 |
| HW020 00801 | 8 | 49 | 60 | .27 | 82 |
| HW020 00601 | 6 | 63 | 60 | .33 | 117 |
| HW020 00401 | 4 | 105 | 60 | .39 | 178 |
| HW020 00201 | 2 | 161 | 60 | .45 | 260 |

Application:

LifeGuard™ Low Smoke Zero Halogen cable is for use in harsh environments in a broad range of commercial, industrial and utility applications where reliability and maximum performance is required. It is highly flame-retardant, produces very small amounts of smoke when burned and contains no halogens. LifeGuard™ cable is ideal for applications where a high degree of safety and equipment protection is required.

It is rated for use at 75°C in wet locations and 90°C in dry locations and approved for installation in conduit, duct, cable tray when CT rated; or other approved raceways.

Conductor:

Tin coated soft annealed copper per ASTM B-33, Class K, G or I flexible stranding per ASTM B-8.

Insulation/Jacket:

Thermoset, sunlight-resistant and flame-retardant Low Smoke Zero Halogen polyolefin per ICEA S-95-658, UL Standard 44 and UL Standard 1685.

Product Features:

- Cable tray rated on sizes 1/0 AWG and larger
- Sunlight-resistant
- Tinned conductor provides ease of termination and added protection in caustic environments
- Very low smoke production when burned
- LifeGuard™ jacket produces zero halogens during fire – less toxic and corrosive
- LifeGuard™ jacket is environmentally safe – lead, sulfur and halogen free
- Highly chemical resistant
- Very flame retardant
- Burns to an ash – does not exhibit thermoplastic drip
- Excellent compression and impact resistance
- Superior tensile strength and abrasion resistance
- Flexible jacket with low coefficient of friction

Flame Tests:

- 8AWG – 750 MCM, IEEE 1202 70,000 BTU/hr flame test, UL VW-1
- 10AWG – 14AWG UL VW-1

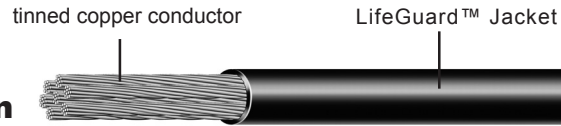
Additional Standards:

NEMA WC-70

**Specification
HW020**

POWER CABLE

**600 Volt UL 90°C
RHH or RHW/LS
Low Smoke Zero Halogen Insulation
Low Smoke Zero Halogen Jacket
Tinned Copper Conductor**



| Catalog No. | Size AWG/kcmil | No. of Strands | Insulation Thickness Mils | Overall Diameter Inch | Net Weight Lbs/Mft |
|-------------|-------------------|-------------------|---------------------------------|-----------------------------|--------------------------|
| HW020 10101 | 1/0 | 266 | 80 | .58 | 423 |
| HW020 20101 | 2/0 | 342 | 80 | .63 | 538 |
| HW020 40104 | 4/0 | 532 | 80 | .74 | 759 |
| HW020 35001 | 350 | 882 | 95 | .95 | 1302 |
| HW020 50001 | 500 | 1225 | 95 | 1.09 | 1831 |
| HW020 75001 | 750 | 1862 | 110 | 1.33 | 2752 |

Application:

LifeGuard™ Low Smoke Zero Halogen cable is for use in harsh environments in a broad range of commercial, industrial and utility applications where reliability and maximum performance is required. It is highly flame-retardant, produces very small amounts of smoke when burned and contains no halogens. LifeGuard™ cable is ideal for applications where a high degree of safety and equipment protection is required.

It is rated for use at 75°C in wet locations and 90°C in dry locations and approved for installation in conduit, duct, cable tray when CT rated; or other approved raceways.

Conductor:

Tin coated soft annealed copper per ASTM B-33, Class K, G or I flexible stranding per ASTM B-8.

Insulation/Jacket:

Thermoset, sunlight-resistant and flame-retardant Low Smoke Zero Halogen polyolefin per ICEA S-95-658, UL Standard 44 and UL Standard 1685.

Product Features:

- Cable tray rated on sizes 1/0 AWG and larger
- Sunlight-resistant
- Tinned conductor provides ease of termination and added protection in caustic environments
- Very low smoke production when burned
- LifeGuard™ jacket produces zero halogens during fire – less toxic and corrosive
- LifeGuard™ jacket is environmentally safe – lead, sulfur and halogen free
- Highly chemical resistant
- Very flame retardant
- Burns to an ash – does not exhibit thermoplastic drip
- Excellent compression and impact resistance
- Superior tensile strength and abrasion resistance
- Flexible jacket with low coefficient of friction

Flame Tests:

- 8AWG – 750 MCM, IEEE 1202 70,000 BTU/hr flame test, UL VW-1
- 10AWG – 14AWG UL VW-1

Additional Standards:

Nema WC-70