



# *Cable for Transit Infrastructure*

**EXANE<sup>®</sup>**

 **VITALink<sup>®</sup>**

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# Why RSCC Wire & Cable?



Since 1918, RSCC Wire & Cable continues to be recognized for providing dependable, high quality, unmatched performance in the harshest of environments. RSCC Exane® cables are specified and installed predominantly on Oil & Gas Land and Offshore Drilling Rigs, Drilling Service Equipment, Mineral Mining, Transit Cars and Locomotives, Transit Infrastructure, Nuclear Power Plants, and other commercial industrial applications.



# Transit Infrastructure Products

RSCC Wire & Cable products for infrastructure applications in the transit industry include an extensive scope of cables that deliver best in class performance in the most demanding applications. With the Firewall LSZH, Exane PC, VITALink and CircuitSAFE products, RSCC Wire & Cable LLC can offer the widest range of wire and cable for applications in tunnels, stations and ventilation systems.

The Exane family of products for transit infrastructure are designed and tested to meet the requirements of the following standards:

- UL 44
- UL 1569
- NFPA 130, 502, and 70
- UL 2196
- ASTM E662
- IEEE 383 & 1202
- LUL 1-085
- BS 6853
- Other applicable local standards

## Product Diversity

RSCC Wire & Cable's Exane® portfolio for Transit Infrastructure offers the widest range of products in a complete line of sizes (AWG and mm<sup>2</sup>) to meet all critical performance requirements.

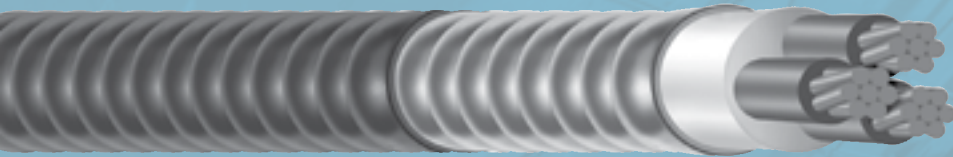
The RSCC Wire & Cable product family encompasses all aspects of cables required to keep passengers moving. The Exane® product offering includes:

- Single Core Power, Control and Instrumentation – 600V and 2KV
- Multi-Core Shielded and Unshielded Cables
- Full Wall and Reduced Diameter Designs
- High Temperature Cables
- Cat 5, Cat 5e, Cat 6
- WTB, MVB, and Coaxial Product
- Low Smoke Zero Halogen Insulation and Jackets

Exane® Cables can be designed to meet the needs of our customers and will provide consistent service for the life of the equipment.

The Exane® product portfolio features world class cables, designed with patented, high grade cross linked compounds, providing safe, dependable performance for the most punishing rolling stock and infrastructure applications around the world.

# VITALink<sup>®</sup>-MC Transit



## Features

- 2-hour fire rating
- Available as a VFD cable with segmented grounds
- Low smoke, halogen free design
- Simple to terminate with commercially available brass or stainless steel MC connectors
- Printed number coding allows for easy circuit identification
- Uses conventional tools for terminating
- Available in long lengths
- Welded armor forms an impervious barrier
- Armor is impact & crush resistant
- Fire-rated splice available (FHIT 120)

## Performance Standards

- UL listed, NEC Type MC in accordance with UL Standard 1569
- UL listed as 2-hour fire rated in accordance with ANSI/UL 2196, maximum 480 volts under fire conditions
- Electrical Circuit Integrity Systems (FHIT) — System No. 120 of the UL Fire Resistance Directory
- Meets and exceeds fire rated cable requirements in NFPA 130 for Transit applications and NFPA 502 for Highway Tunnel applications
- Rated FT-4 / IEEE 1202 Vertical Flame test; ST1, limited smoke
- For use in wet locations to 90°C
- Armored with copper sheath that exceeds the NEC requirement for equipment grounding conductor
- Complies with NFPA 130 and NFPA 502 for total smoke released and low toxicity

## Scope

VITALink<sup>®</sup> MC Transit is a 600 volt power cable with a 2-hour fire-rating when installed in accordance with the VITALink Installation Manual and Installation Guide. This cable meets the requirements of UL 2196 Fire Resistive Cable Standard as a 2-hour “Electrical Circuit Integrity System”. It was specifically designed to meet both the electrical and fire-resistive cable requirements of NFPA 130 and NFPA 502 for Emergency Communications, Emergency Lighting & Emergency Ventilation.

## Applications

### Emergency circuits:

- Ventilation
- Lighting
- Communications

## Construction

**Conductor:** Annealed copper, Class “B” strand per ASTM B-170 & B-8

**Insulation:** Thermoset, low smoke zero halogen silicone rubber

**Circuit Identification:** Printed numbers per ICEA Method 4

**Inner Jacket:** Thermoset, low smoke zero halogen silicone rubber

**Armor:** Continuously welded and corrugated copper

**Outer Jacket:** Black low smoke, zero halogen polyolefin (colors available on request)

# 2 Hour Fire Rated Power Cable

Consult factory for availability and minimum quantity requirements

Product Code	Size (AWG kcmil)	Number of Conductors	Nominal Core Diameter (In)	Nominal Armor Diameter (In)	Nominal Cable Diameter over Outer Jacket (In)	Approximate Net Weight (Lbs/1000 ft)
VM02014-200	14	2	0.49	0.82	0.92	490
VM03014-200	14	3	0.52	0.82	0.92	510
VM04014-200	14	4	0.57	0.89	0.99	580
VM02012-200	12	2	0.53	0.82	0.92	522
VM03012-200	12	3	0.56	0.89	0.99	599
VM04012-200	12	4	0.62	0.94	1.04	670
VM02010-200	10	2	0.58	0.89	0.99	604
VM03010-200	10	3	0.61	0.94	1.04	685
VM04010-200	10	4	0.67	1.00	1.10	767
VM03008-200	8	3	0.72	1.04	1.14	838
VM04008-200	8	4	0.80	1.16	1.26	977
VM03006-200	6	3	0.80	1.16	1.26	1,020
VM04006-200	6	4	0.89	1.22	1.32	1,158
VM03004-200	4	3	0.91	1.24	1.34	1,246
VM04004-200	4	4	1.01	1.35	1.45	1,510
VM03003-200	3	3	0.97	1.30	1.40	1,410
VM04003-200	3	4	1.07	1.41	1.51	1,700
VM03002-200	2	3	1.04	1.41	1.51	1,649
VM04002-200	2	4	1.15	1.50	1.60	1,940
VM03001-200	1	3	1.20	1.59	1.71	1,990
VM04001-200	1	4	1.33	1.73	1.85	2,550
VM011X0-200	1/0	1	0.65	1.00	1.10	920
VM031X0-200	1/0	3	1.29	1.67	1.79	2,350
VM041X0-200	1/0	4	1.43	1.82	1.94	2,750
VM012X0-200	2/0	1	0.70	1.04	1.14	1,030
VM032X0-200	2/0	3	1.38	1.80	1.92	2,757
VM042X0-200	2/0	4	1.54	1.95	2.07	3,320
VM013X0-200	3/0	1	0.75	1.08	1.18	1,189
VM033X0-200	3/0	3	1.50	1.92	2.04	3,321
VM043X0-200	3/0	4	1.68	2.13	2.25	3,950
VM014X0-200	4/0	1	0.80	1.16	1.26	1,360
VM034X0-200	4/0	3	1.62	2.04	2.16	4,007
VM044X0-200	4/0	4	1.82	2.26	2.38	4,680
VM01250-200	250	1	0.89	1.22	1.32	1,620
VM03250-200	250	3	1.81	2.26	2.38	4,380
VM04250-200	250	4	2.01	2.46	2.61	5,470
VM01350-200	350	1	0.99	1.35	1.45	2,000
VM03350-200	350	3	2.03	2.48	2.63	6,242
VM04350-200	350	4	2.26	2.71	2.86	7,050
VM01500-200	500	1	1.12	1.48	1.58	2,575
VM03500-200	500	3	2.31	2.82	2.97	7,721
VM04500-200	500	4	2.58	3.13	3.30	9,520
VM01750-200	750	1	1.33	1.73	1.85	3,455

Note: For other sizes and configurations not shown above please consult RSCC Customer Service Representative.

\* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

# Firewall<sup>®</sup> LSZH XHHW-2



## Scope

Firewall<sup>®</sup> LSZH XHHW-2 is a one conductor, unjacketed, power cable. Its tough thermoset construction allows for its use in demanding applications without additional jacketing protection. It is intended for low voltage power and lighting functions and may be installed in trays, ducts and conduits.

## Features

- Low Smoke Zero Halogen Design
- RoHS compliant insulation
- Thermoset insulation for enhanced thermal stability
- Specially formulated insulation for exceptional long term water resistance
- Superior flame retardance
- Excellent mechanical properties
- Tin-coated copper conductors for improved terminations and corrosion resistance
- Reduced size and weight for increased raceway capacity
- Easy strippability
- Low friction surface for reduced pulling tension
- Rated for CT use 1/0 and larger

## Performance Standards

- Insulation in accordance with ICEA and UL standards
- Passes IEEE 1202/FT4 vertical tray flame test and ICEA 70,000 BTU/hr vertical flame test
- Passes UL VW-1\*\*
- Passes vertical flame test Type A as defined in ICEA S-95-658 (6.8.2)
- UL listed as Type ST1 (Limited Smoke)
- UL approved 90° for both wet and dry locations
- UL listed for sunlight resistance (Black)
- UL Listed as gasoline and oil resistant
- Meets the requirements of NFPA 130 & 502 as applicable

## Construction

**Conductor:** Annealed, tin-coated copper, Class “B” strand per ASTM B-8 & B-33 (Available as solid conductors when required)

**Insulation:** Flame retardant low Smoke Zero Halogen crosslinked polyolefin

**Separator Tape:** Helically applied polyester (where required)

**Color:** Black (Available in pigmented colors or colored stripes)

# Power & Lighting Cable

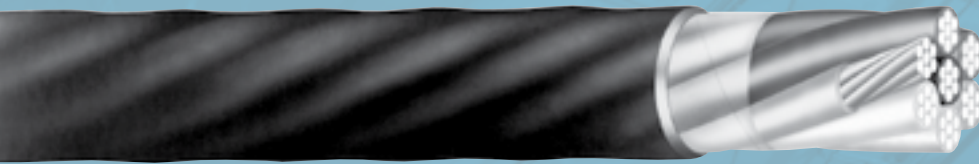
Product Code	Conductor Size	Number of Strands	Insulation Thickness		Nominal Overall Diameter		Approximate Net Weight
			(Inch)	(mm)	(Inch)	(mm)	(Lbs/M)
P46-2140	14 AWG	Solid	.030	.76	.13	3.2	18
P46-2120	12 AWG	Solid	.030	.76	.14	3.6	27
P46-2110	10 AWG	Solid	.030	.76	.16	4.2	39
P46-0140	14 AWG	7	.030	.76	.13	3.3	19
P46-0120	12 AWG	7	.030	.76	.15	3.8	28
P46-0110	10 AWG	7	.030	.76	.18	4.6	40
P46-0080	8 AWG	7	.045	1.14	.24	6.1	70
P46-0060	6 AWG	7	.045	1.14	.27	6.9	105
P46-0040	4 AWG	7	.045	1.14	.32	8.1	160
P46-0020	2 AWG	7	.045	1.14	.38	9.7	240
P46-0010	1 AWG	19	.055	1.40	.44	11.2	305
P46-0100	1/0 AWG	19	.055	1.40	.48	12.2	375
P46-0200	2/0 AWG	19	.055	1.40	.52	13.2	470
P46-0300	3/0 AWG	19	.055	1.40	.57	14.5	590
P46-0400	4/0 AWG	19	.055	1.40	.63	16.0	730
P46-0250	250 kcmil	37	.065	1.65	.70	17.8	870
P46-0350	350 kcmil	37	.065	1.65	.80	20.3	1200
P46-0500	500 kcmil	37	.065	1.65	.93	23.6	1680
P46-0600	600 kcmil	61	.080	2.03	1.05	26.7	2031
P46-0750	750 kcmil	61	.080	2.03	1.14	28.9	2499

\* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

\*\* #10 AWG and larger.



# Firewall<sup>®</sup> LSZH



## Scope

Firewall<sup>®</sup> LSZH is a totally low smoke, zero halogen cable comprised of both thermoset insulation and jacket material. It provides superior resistance to fire and moisture. It may be installed in wet and dry locations, indoors and outdoors, in metal trays, conduits, ducts, or in direct burial applications. It is ideal for applications in transit systems and tunnels to perform a variety of control and related functions.

## Features

- Low Smoke Zero Halogen Design
- RoHS compliant insulation and jacket
- Thermoset insulation for enhanced thermal stability
- Specially formulated insulation for exceptional long term water resistance
- Superior flame retardance
- Excellent mechanical properties
- Tin-coated copper conductors for improved terminations and corrosion resistance
- Reduced size and weight for increased raceway capacity
- Easy strippability
- Low friction jacket for reduced pulling tension

## Performance Standards

- Insulation in accordance with ICEA and UL standards
- Insulated conductors are UL Listed Type XHHW-2
- UL listed type TC (UL 1277) in accordance with NEC
- Passes IEEE 1202/FT4 vertical tray flame test and ICEA 70,000 BTU/hr vertical tray flame test (T-30-520)
- Single conductors pass vertical flame test Type A as defined in ICEA S-95-658 (6.8.2)
- UL listed Type LS (limited smoke) per UL 1277 and UL 1685
- UL approved 90°C for both wet and dry locations
- Jacket exceeds requirements for UL class XL/90°C and ICEA publication T-33-655, Type II
- UL listed for sunlight resistance
- UL listed as gasoline and oil resistance
- Meets the requirements of NFPA 130 & 502

## Construction

- Conductor:** Annealed, tin-coated copper, class “B” strand (ASTM B-8 & B-33)
- Insulation:** Flame retardant low Smoke Zero Halogen crosslinked polyolefin
- Circuit Identification:** Printed numbers per ICEA Method 4. (Alt. colors available upon request)
- Fillers:** (Where required)
- Binder tape:** Helically applied polyester
- Jacket:** Reduced wall, black, flame retardant crosslinked low smoke zero halogen polyolefin

# Type TC Control Cable

## 14 AWG, 7 Strand

Product Code	Number of Conductors	Insulation Thickness (Inch) (mm)		Insulated Conductor Diameter (Inch)	Overall Jacket Thickness (Mils)	Nominal Overall Diameter (Inch) (mm)		Approximate Net Weight (Lbs/M')
C530021	2	.030	.76	.13	35	.34	8.64	67
C530031	3	.030	.76	.13	35	.36	9.14	86
C530041	4	.030	.76	.13	35	.40	10.16	110
C530051	5	.030	.76	.13	35	.44	11.18	133
C530071	7	.030	.76	.13	35	.47	11.94	170
C530091	9	.030	.76	.13	45	.58	14.73	235
C530121	12	.030	.76	.13	45	.65	16.51	295
C530191	19	.030	.76	.13	45	.76	19.30	444
C530251	25	.030	.76	.13	65	.93	23.62	616
C530371	37	.030	.76	.13	65	1.07	26.42	870

## 12 AWG, 7 Strand

Product Code	Number of Conductors	Insulation Thickness (Inch) (mm)		Insulated Conductor Diameter (Inch)	Overall Jacket Thickness (Mils)	Nominal Overall Diameter (Inch) (mm)		Approximate Net Weight (Lbs/M')
C520021	2	.030	.76	.15	35	.38	9.65	90
C520031	3	.030	.76	.15	35	.40	10.16	118
C520041	4	.030	.76	.15	35	.44	11.18	151
C520051	5	.030	.76	.15	35	.49	12.45	184
C520071	7	.030	.76	.15	45	.55	13.97	250
C520091	9	.030	.76	.15	45	.65	16.51	324
C520121	12	.030	.76	.15	45	.73	18.54	411
C520191	19	.030	.76	.15	65	.90	22.86	662
C520251	25	.030	.76	.15	65	1.05	26.67	860
C520371	37	.030	.76	.15	65	1.20	30.48	1225

## 10 AWG, 7 Strand

Product Code	Number of Conductors	Insulation Thickness (Inch) (mm)		Insulated Conductor Diameter (Inch)	Overall Jacket Thickness (Mils)	Nominal Overall Diameter (Inch) (mm)		Approximate Net Weight (Lbs/M')
C510021	2	.030	.76	.18	35	.43	10.92	125
C510031	3	.030	.76	.18	35	.46	11.68	165
C510041	4	.030	.76	.18	45	.52	13.21	225
C510051	5	.030	.76	.18	45	.57	14.48	275
C510071	7	.030	.76	.18	45	.62	15.75	360
C510091	9	.030	.76	.18	45	.73	18.54	460
C510121	12	.030	.76	.18	65	.87	22.10	625
C510191	19	.030	.76	.18	65	1.02	25.91	950
C510251	25	.030	.76	.18	65	1.19	30.23	1235
C510371	37	.030	.76	.18	65	1.37	34.80	1770

\* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

# Firewall<sup>®</sup> LSZH



## Scope

Firewall<sup>®</sup> LSZH is a totally low smoke, zero halogen cable comprised of both thermoset insulation and jacket material. It provides superior resistance to fire and moisture. It may be installed in wet and dry locations, indoors and outdoors, in metal trays, conduits, ducts, or in direct burial applications. It is ideal for applications in transit systems and tunnels to perform a variety of control and related functions.

## Features

- Low Smoke Zero Halogen Design
- RoHS compliant insulation and jacket
- Thermoset insulation for enhanced thermal stability
- Specially formulated insulation for exceptional long term water resistance
- Superior flame retardance
- Excellent mechanical properties
- Tin-coated copper conductors for improved terminations and corrosion resistance
- Reduced size and weight for increased raceway capacity
- Easy strippability
- Low friction jacket for reduced pulling tension

## Performance Standards

- Insulation in accordance with ICEA and UL standards
- Insulated conductors are UL Listed Type XHHW-2
- UL listed type TC (UL 1277) in accordance with NEC
- Passes IEEE 1202/FT4 vertical tray flame test and ICEA 70,000 BTU/hr vertical tray flame test (T-30-520)
- Single conductors pass vertical flame test Type A as defined in ICEA S-95-658 (6.8.2)
- UL listed Type LS (limited smoke) per UL 1277 and UL 1685
- UL approved 90°C for both wet and dry locations
- Jacket exceeds requirements for UL class XL/90°C and ICEA publication T-33-655, Type II
- UL listed for sunlight resistance
- UL listed as gasoline and oil resistance
- Meets the requirements of NFPA 130 & 502

## Construction

- Conductor:** Annealed, tin-coated copper, class “B” strand (ASTM B-8 & B-33)
- Insulation:** Flame retardant low Smoke Zero Halogen crosslinked polyolefin
- Circuit Identification:** Printed numbers per ICEA Method 4. (Alt. colors available upon request)
- Fillers:** (Where required)
- Ground Wire(s):** Annealed copper class “B” to comply with NEC requirements
- Binder tape:** Helically applied polyester
- Jacket:** Reduced wall, black, flame retardant crosslinked low smoke zero halogen polyolefin

# Type TC Power Cable

## Three Conductors

Product Code	Conductor Size (AWG/kcmil)	Number of Strands	Insulation Thickness (Inch) (mm)		No. & Size of Ground Wires	Jacket Thickness (Mils)	Nominal Overall Diameter (Inch) (mm)		Approximate Net Weight (Lbs/M')
P62-3140	14	7	.030	.76	3-18 AWG	35	.36	9.14	105
P62-3120	12	7	.030	.76	3-16 AWG	35	.40	10.16	140
P62-3100	10	7	.030	.76	3-14 AWG	35	.45	11.43	205
P62-3080	8	7	.045	.76	3-14 AWG	45	.61	15.49	315
P62-3060	6	7	.045	.76	3-12 AWG	45	.69	17.53	455
P62-3040	4	7	.045	.76	3-12 AWG	45	.79	20.07	630
P62-3020	2	7	.045	.76	3-10 AWG	65	.96	24.38	980
P62-3001	1	19	.055	1.40	3-10 AWG	65	1.08	27.43	1200
P62-3110	1/0	19	.055	1.40	3-10 AWG	65	1.17	29.72	1440
P62-3210	2/0	19	.055	1.40	3-10 AWG	65	1.26	32.00	1740
P62-3311	3/0	19	.055	1.40	3-8 AWG	65	1.37	34.80	2170
P62-3410	4/0	19	.055	1.40	3-8 AWG	65	1.49	37.85	2627
P62-3250	250	37	.065	1.65	3-8 AWG	95	1.70	43.18	3200
P62-3350	350	37	.065	1.65	3-6 AWG	95	1.92	48.77	4350
P62-3500	500	37	.065	1.65	3-6 AWG	95	2.20	55.80	5925

## Four Conductors

Product Code	Conductor Size (AWG/kcmil)	Number of Strands	Insulation Thickness (Inch) (mm)		No. & Size of Ground Wires	Jacket Thickness (Mils)	Nominal Overall Diameter (Inch) (mm)		Approximate Net Weight (Lbs/M')
P62-4012	12	7	.030	.76	3-16 AWG	35	.44	11.18	195
P62-4010	10	7	.030	.76	3-14 AWG	35	.52	13.21	290
P62-4008	8	7	.045	.76	2-12 AWG	45	.67	17.02	410
P62-4006	6	7	.045	.76	2-10 AWG	45	.76	19.30	590
P62-4004	4	7	.045	.76	2-10 AWG	65	.91	23.11	870
P62-4002	2	7	.045	.76	2-8 AWG	65	1.05	26.67	1285
P62-4001	1	19	.055	1.40	2-8 AWG	65	1.19	30.23	1580
P62-4100	1/0	19	.055	1.40	2-8 AWG	65	1.29	32.77	1900
P62-4200	2/0	19	.055	1.40	2-8 AWG	65	1.40	35.56	2300
P62-4300	3/0	19	.055	1.40	2-7 AWG	65	1.52	38.61	2865
P62-4400	4/0	19	.055	1.40	2-7 AWG	95	1.72	43.69	3605
P62-4250	250	37	.065	1.65	2-6 AWG	95	1.90	48.26	4240
P62-4350	350	37	.065	1.65	2-6 AWG	95	2.13	54.10	5675
P62-4500	500	37	.065	1.65	2-6 AWG	95	2.44	61.98	7885

\* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

# Firewall® LSZH



## Features

- Low Smoke Zero Halogen Design
- RoHS compliant insulation and jacket
- Thermoset insulation for enhanced thermal stability
- Specially formulated insulation for exceptional long term water resistance
- Superior flame retardance
- Excellent mechanical properties
- Tin-coated copper conductors for improved terminations and corrosion resistance
- Reduced size and weight for increased raceway capacity
- Easy strippability
- Low friction jacket for reduced pulling tension

## Performance Standards

- Insulation in accordance with ICEA and UL standards
- Insulated conductors are UL Listed Type RFHH-2
- UL listed type TC (UL 1277) in accordance with NEC
- Passes IEEE 1202/FT4 vertical tray flame test and ICEA 70,000 BTU/hr vertical tray flame test (T-30-520)
- Single conductors pass vertical flame test Type A as defined in ICEA S-95-658 (6.8.2)
- UL listed Type LS (limited smoke) per UL 1277 and UL 1685
- UL approved 90°C for both wet and dry locations
- Jacket exceeds requirements for UL class XL/90°C and ICEA publication T-33-655, Type II
- UL listed for sunlight resistance
- UL listed as gasoline and oil resistance
- Meets the requirements of NFPA 130 & 502

## Construction

**Conductor:** Annealed, tin-coated copper, class “B” strand (ASTM B-8 & B-33)

**Insulation:** Flame retardant low Smoke Zero Halogen crosslinked polyolefin

**Circuit Identification:** Printed numbers per ICEA Method 4. (Alt. colors available upon request)

**Fillers:** (Where required)

**Shield system:** Helically applied aluminum/polyester laminated tape shield in continuous contact with flexible strand tin-coated copper drain wire

**Binder tape:** Helically applied polyester

**Jacket:** Reduced wall, black, flame retardant crosslinked low smoke zero halogen polyolefin

## Scope

Firewall® LSZH is a totally low smoke, zero halogen cable comprised of both thermoset insulation and jacket material. It provides superior resistance to fire and moisture. It may be installed in wet and dry locations, indoors and outdoors, in metal trays, conduits, ducts, or in direct burial applications. It is ideal for applications in transit systems and tunnels to perform a variety of control and related functions.

# Instrumentation Cable

## 16 AWG, 7 Strand

Product Code	Number of Pairs	Insulation Thickness		Insulated Cond. Diameter		Nominal OD		Approximate Cable Weight	
		(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(lbs/kft)	(kg/km)
I02-1601	1	.030	0.76	.120	3.00	.310	7.87	52	77.38
I02-1602	2	.030	0.76	.120	3.00	.544	13.82	122	181.56
I02-1603	3	.030	0.76	.120	3.00	.579	14.71	163	242.57
I02-1604	4	.030	0.76	.120	3.00	.637	16.18	206	306.56
I02-1605	5	.030	0.76	.120	3.00	.701	17.81	250	372.04
I02-1607	7	.030	0.76	.120	3.00	.769	19.53	332	494.07
I02-1608	8	.030	0.76	.120	3.00	.880	22.35	412	613.12
I02-1609	9	.030	0.76	.120	3.00	.949	24.10	459	683.07
I02-1612	12	.030	0.76	.120	3.00	1.069	27.15	589	876.53
I02-1615	15	.030	0.76	.120	3.00	1.192	30.28	719	1069.99
I02-1619	19	.030	0.76	.120	3.00	1.259	31.98	879	1308.10
I02-1637	37	.030	0.76	.120	3.00	1.770	44.96	1730	2574.52

## 18 AWG, 7 Strand

Product Code	Number of Pairs	Insulation Thickness		Insulated Cond. Diameter		Nominal OD		Approximate Cable Weight	
		(Inch)	(mm)	(Inch)	(mm)	(Inch)	(mm)	(lbs/kft)	(kg/km)
I02-1801	1	.030	0.76	.110	2.69	.290	7.37	42	62.50
I02-1802	2	.030	0.76	.110	2.69	.481	12.22	88	130.96
I02-1803	3	.030	0.76	.110	2.69	.533	13.54	128	190.49
I02-1804	4	.030	0.76	.110	2.69	.586	14.88	160	238.11
I02-1805	5	.030	0.76	.110	2.69	.644	16.36	193	287.22
I02-1807	7	.030	0.76	.110	2.69	.705	17.91	254	377.99
I02-1808	8	.030	0.76	.110	2.69	.768	19.51	287	427.10
I02-1809	9	.030	0.76	.110	2.69	.872	22.15	356	529.79
I02-1812	12	.030	0.76	.110	2.69	.981	24.92	453	674.14
I02-1815	15	.030	0.76	.110	2.69	1.092	27.74	551	819.98
I02-1819	19	.030	0.76	.110	2.69	1.153	29.29	669	995.58
I02-1837	37	.030	0.76	.110	2.69	1.560	39.62	1221	1817.05

\* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

# Firewall® LSZH RW90



## Scope

Firewall® LSZH RW90 is a one conductor, unjacketed, power cable. Its tough thermoset construction allows for its use in demanding applications without additional jacketing protection. It is intended for low voltage power and lighting functions and may be installed in trays, ducts and conduits.

## Features

- Low Smoke Zero Halogen Design
- ROHS compliant insulation
- Thermoset insulation for enhanced thermal stability
- Specially formulated insulation for exceptional long term water resistance
- Superior flame retardance
- Excellent mechanical properties
- Tin-coated copper conductors for improved terminations and corrosion resistance
- Reduced size and weight for increased raceway capacity
- Easy strippability
- Low friction surface for reduced pulling tension

## Performance Standards

- Insulation in accordance with ICEA and CEC standards
- CUL listed type RW90 (CSA 22.2 No.38) in accordance with CEC
- Passes IEEE 1202/FT4 vertical tray flame test and ICEA 70,000 BTU/hr vertical flame test
- Passes vertical flame test Type A as defined in ICEA S-95-658 (6.8.2)
- CUL listed as Type ST1 (limited smoke) per UL 2556
- CUL approved 90° for both wet and dry locations
- CUL Listed as gasoline and oil resistant
- Meets the requirements of NFPA 130 & 502
- Passes UL VW-1\*\*

## Construction

- Conductor:** Annealed, tin-coated copper, Class “B” strand per ASTM B-8 & B-33 (Available as solid conductors when required)
- Insulation:** Flame retardant low Smoke Zero Halogen crosslinked polyolefin
- Separator Tape:** Helically applied polyester (where required)
- Color:** Black (Available in pigmented colors or colored stripes)

# Power & Lighting Cable

## 600 Volt Class

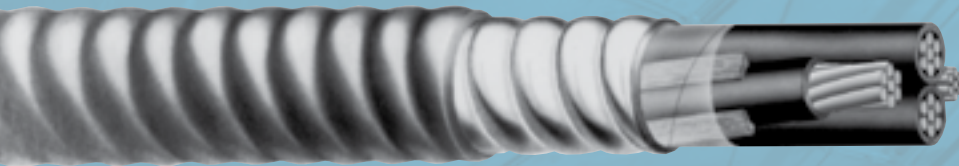
Product Code	Conductor Size	Number of Strands	Insulation Thickness		Nominal Overall Diameter		Approximate Net Weight (Lbs/M')
			(Inch)	(mm)	(Inch)	(mm)	
P46-2140	14AWG	Solid	.030	.76	.13	3.2	18
P46-2120	12AWG	Solid	.030	.76	.14	3.6	27
P46-2110	10AWG	Solid	.030	.76	.16	4.2	39
P46-0140	14AWG	7	.030	.76	.13	3.3	19
P46-0120	12AWG	7	.030	.76	.15	3.8	28
P46-0110	10AWG	7	.030	.76	.18	4.6	40
P46-0080	8AWG	7	.045	1.14	.24	6.1	70
P46-0060	6AWG	7	.045	1.14	.27	6.9	105
P46-0040	4AWG	7	.045	1.14	.32	8.1	160
P46-0020	2AWG	7	.045	1.14	.38	9.7	240
P46-0010	1AWG	19	.055	1.40	.44	11.2	305
P46-0100	1/0AWG	19	.055	1.40	.48	12.2	375
P46-0200	2/0AWG	19	.055	1.40	.52	13.2	470
P46-0300	3/0AWG	19	.055	1.40	.57	14.5	590
P46-0400	4/0AWG	19	.055	1.40	.63	16.0	730
P46-0250	250kcmil	37	.065	1.65	.70	17.8	870
P46-0350	350kcmil	37	.065	1.65	.80	20.3	1200
P46-0500	500kcmil	37	.065	1.65	.93	23.6	1680
P46-0600	600kcmil	61	.080	2.03	1.05	26.7	2031
P46-0750	750kcmil	61	.080	2.03	1.14	28.9	2499

\* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.

\*\*#10 AWG and larger



# Gardex<sup>®</sup> LSZH



## Features

- Low Smoke Zero Halogen Design
- RoHS compliant insulation and jacket
- Welded armor forms an impervious barrier
- Armor is impact and crush resistant
- Aluminum armor meets UL requirements as equipment grounding conductor
- Self contained conduit wiring system
- Thermoset insulation for enhanced thermal stability
- Superior insulation and jacket moisture resistance
- Superior flame retardance
- Tin-coated copper conductors for improved terminations and corrosion resistance

## Performance Standards

- Insulation in accordance with ICEA and UL standards
- Insulated conductors are UL Listed Type XHHW-2
- Passes IEEE 1202/FT4 vertical tray flame test and ICEA 70,000 BTU/hr vertical tray flame test (T-30-520)
- Single conductors pass vertical flame test Type A as defined in ICEA S-95-658 (6.8.2)
- UL listed Type LS (limited smoke) per UL 1277 and UL 1685
- UL approved 90°C for both wet and dry locations
- Jacket exceeds requirements for UL class XL/90°C and ICEA publication T-33-655, Type II
- UL listed for sunlight resistance
- UL listed as gasoline and oil resistance
- Meets the requirements of NFPA 130 & 502

## Scope

Gardex<sup>®</sup> LSZH is a totally low smoke, zero halogen cable comprised of both thermoset insulation and jacket material. It provides superior resistance to fire and moisture. It may be installed in wet and dry locations, indoors and outdoors, in metal trays, conduits, ducts, self-supported or in direct burial applications. It is ideal for applications in transit systems and tunnels to perform a variety of functions. Gardex<sup>®</sup> LSZH cable is a completely self-contained wiring system. It is designed for use in applications where resistance to mechanical and physical abuse is required. Gardex<sup>®</sup> LSZH is flexible and its impervious armor prevents the entrance of water, gas and corrosive elements into the electrical core.

## Construction

- Conductor:** Annealed, tin-coated copper, class "B" strand (ASTM B-8 & B-33)
- Insulation:** Flame retardant low Smoke Zero Halogen crosslinked polyolefin
- Circuit Identification:** Printed numbers per ICEA Method 4. (Alt. colors available upon request)
- Fillers:** (Where required)
- Binder tape:** Helically applied polyester
- Ground Wire(s):** Annealed copper class "B" to comply with NEC requirements
- Armor:** Continuously welded and corrugated aluminum
- Jacket:** Reduced wall, black, flame retardant crosslinked low smoke zero halogen polyolefin

# Armored Power Cable

Three Conductor Gardex® LSZH Power Cables With Three Ground Wires Suitable for IGBT Drive Applications

Product Code	Size (AWG/kcmil)	Number of Conductors	Insulation Thickness (Inch) (mm)	Ground Wires Qty-Size	Core Diameter (Inch)	Armor Thickness (Mils)	Armor Overall Diameter (Inch)	Jacket Thickness (Mils)	Nominal Overall Diameter (Inch) (mm)	Approximate Net Weight (Lbs/M')
AG03014-500	14	3	.030 .76	3-18	.29	25	.48	50	.58 14.7	170
AG03012-500	12	3	.030 .76	3-16	.33	25	.54	50	.64 16.3	220
AG03010-500	10	3	.030 .76	3-14	.38	25	.58	50	.68 17.3	280
AG03008-500	8	3	.045 1.14	3-14	.52	25	.74	50	.84 21.3	398
AG03006-500	6	3	0.45 1.14	3-12	.60	25	.84	50	.95 24.1	549
AG03004-500	4	3	.045 1.14	3-12	.70	25	.97	50	1.07 27.2	732
AG03002-500	2	3	.045 1.14	3-10	.83	25	1.13	50	1.23 31.2	1052
AG031X0-500	1/0	3	.055 1.40	3-10	1.04	25	1.33	50	1.44 36.6	1512
AG032X0-500	2/0	3	.055 1.40	3-10	1.14	25	1.46	50	1.57 39.9	1813
AG033X0-500	3/0	3	.055 1.40	3-8	1.25	25	1.56	60	1.69 42.9	2280
AG034X0-500	4/0	3	.055 1.40	3-8	1.37	25	1.71	60	1.84 46.7	2743
AG03250-500	250	3	.065 1.65	3-8	1.53	32	1.87	60	2.00 50.8	3258
AG03350-500	350	3	.065 1.65	3-6	1.75	32	2.25	60	2.37 57.2	4424
AG03500-500	500	3	.065 1.65	3-6	2.03	32	2.47	75	2.63 66.8	6056
AG03750-500	750	3	.080 2.03	3-4	2.48	32	3.03	85	3.21 81.5	8873

Four Conductor Gardex® LSZH Power Cables

Product Code	Size (AWG/kcmil)	Number of Conductors	Insulation Thickness (Inch) (mm)	Ground Wires Qty-Size	Core Diameter (Inch)	Armor Thickness (Mils)	Armor Overall Diameter (Inch)	Jacket Thickness (Mils)	Nominal Overall Diameter (Inch) (mm)	Approximate Net Weight (Lbs/M')
AG04014-500	14	4	.030 .76	2-16	.33	25	.54	50	.64 16.3	199
AG04012-500	12	4	.030 .76	3-16	.37	25	.58	50	.68 17.3	256
AG04010-500	10	4	.030 .76	3-14	.43	25	.62	50	.72 18.3	330
AG04008-500	8	4	.045 1.14	2-12	.58	25	.84	50	.95 24.1	488
AG04006-500	6	4	.045 1.14	2-10	.67	25	.92	50	1.02 25.9	667
AG04004-500	4	4	.045 1.14	2-10	.78	25	1.07	50	1.17 29.7	912
AG04002-500	2	4	.045 1.14	2-8	.93	25	1.19	50	1.29 32.8	1309
AG041X0-500	1/0	4	.055 1.40	1-6	1.17	25	1.46	50	1.57 39.9	1902
AG042X0-500	2/0	4	.055 1.40	1-6	1.28	25	1.64	60	1.77 45.0	2340
AG043X0-500	3/0	4	.055 1.40	1-4	1.40	32	1.80	60	1.92 48.8	2966
AG044X0-500	4/0	4	.055 1.40	1-4	1.55	32	1.94	60	2.06 52.3	3558
AG04250-500	250	4	.065 1.65	1-4	1.72	32	2.12	60	2.25 57.2	4153
AG04350-500	350	4	.065 1.65	1-3	1.96	32	2.41	75	2.56 66.8	5657
AG04500-500	500	4	.065 1.65	1-2	2.27	32	2.71	75	2.87 72.9	7780

\* Rated 90°C for normal operation in wet and dry locations, 130°C for emergency overload conditions, and 250°C for short circuit conditions.



Marmon Engineered Wire & Cable LLC

A Berkshire Hathaway Company

