UL CABLES

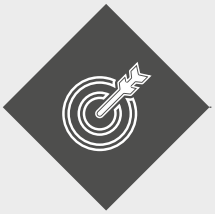
APAR

Tomorrow's solutions today

ABOUT APAR

Since its inception in 1958, APAR has always focused on developing a deeper understanding to address the needs of the customers and provide complete custom-made solutions. Over the years we have combined our experience with the right mix of innovative products and execution skills to deliver **tomorrow's solutions today.** With a growing interdependence between all industries, we have ventured into different business verticals to offer holistic solutions to our customers. Today, we operate our business in cable solutions, conductors, speciality oils, lubricants, speciality automotive and polymers.

APAR is a $1.2 Billion manufacturing conglomerate, exporting to over **140 countries and serving 10+ industries.** All these achievements are backed by our innovative products and seamless service that meets the stringent requirements and global standards of customers from USA, Europe, Australia, and world over.

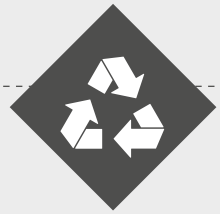


Our Mission

To design & manufacture Building Blocks for Energy Infrastructure, Transportation & Telecommunication Sectors that contribute meaningfully to make this world more energy efficient, environmentally sustainable and a safer place.

Our Vision

To be a Global Leader in the Energy Infrastructure, Transportation & Telecommunication Sectors by providing the best solutions & value creation for our stakeholders.



Our public pledge for Sustainability:

We have been setting our sustainable development goals in line with the United Nations Sustainable Development Goals (UN-SDGs).

To see our ESG reports please visit: https://apar.com/apar-esg-report/

APAR CABLE SOLUTIONS

Leading the innovation curve as one of the world's largest manufacturers of specialized cables

- We have been growing at 25% CAGR in the last decade.
- Footprints in 140+ countries.
- Exports contribute to 34.7% of revenue.
- Our factories and products have been accredited and certified by the global standards of ISO, NABL, ABS, TUV, UL and more.
- Capability to manufacture cables as per IS, IEC, BS, VDE, AS & NZS and as per other International Standards.
- We cater to various speciality sectors like railway locomotive, coaches, naval ships, submarines, solar plants, windmills, hybrid cables and harnesses. We also supply fibre optic cables and general-purpose wires & cables (fixed and flexible) such as LV, MV and XLPE.

Electrical Power & Control Cables

Light Duty Cable & Wires

Elastomer & E-Beam Cables

Fibre Optic Cables

Specialty Cables & Products

WORLD-CLASS MANUFACTURING CAPABILITIES

World-class equipment, facilities and expertise

- 2 cable manufacturing facilities, in South Gujarat, India.
- Facilities are strategically located 150 Km from the Mumbai seaport for quick export shipments.
- Vast manufacturing infrastructure of 250,000 SQM.
- Both our facilities are well equipped with advanced manufacturing infrastructure and accredited with ISO 9001, ISO 14001 and OHSAS 45001
- India's only cable company with 3 E-Beam irradiation facilities i.e. 1.5 MeV, 2.5 MeV & 3.0 MeV.
- Annual production capacity for 30,000 MT aluminum & 10,000 MT copper cables.
- In-house facility to produce nearly all the insulation and sheathing compounds (used for manufacturing cables).
- Latest plant & machinery sourced from world-renowned suppliers to achieve maximum output without compromising cable quality.
- Wire drawing machines are from Niehoff, Germany and the electroplating tinning facility is from OTOMEC, Italy.
- Royale USA & Scholz/ Supermac, Troester CCV Line for cables up to 66kV and state of the art extruders from Troester, Covema, Royale, Rosendahl, Maillefer, etc.

QUALITY ASSURANCE & TESTING FACILITIES

- Our both facilities are well equipped with advanced testing infrastructure, and accredited with ISO 9001, ISO 14001 & OHSAS 45001.
- Our cable testing laboratories are accredited by National Accreditation Board Laboratories (NABL).
- Manufacturing certified cables as per IEC, UL, BS EN, TUV, etc.
- High quality test & measuring equipment and laboratory equipment, manned by highly experienced technical personnel ensure that each cable drum is thoroughly tested before getting dispatched.
- Our cables have successfully been type tested from various international and national labs like KEMA, NABL, ERDA, etc.

APAR's UL COMPLIANCE CERTIFICATES

COPPER & ALUMINIUM CABLES

- APAR offers a wide range of UL approved Wires & Cables for the US market, used for building infrastructure and renewable sectors like solar, wind, etc., to support producing green energy.

APAR offers

- UL-44 / 854 - Thermoset Insulated Cables
- UL-4703 - Photo Voltaic Cables
- UL-1493 - Underground low energy circuit cable
- UL-786 - Appliance Wiring material
- UL-2882 - Radio head cable
- UL-3003 - Distributed Generation Cable
- UL-1277 - Power and Control Tray Cable
- UL-83 - THHN / THWN / TWN - PVC Nylon Cable

To see our UL certificates please visit: https://apar.com/cable-solutions-certificates/

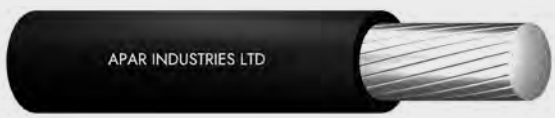
CONTENT

Aluminium XHHW-2, 600V/1000V XLPE Insulation

600V/1000V, 8000 series Aluminum Alloy Conductor, Cross-linked Polyethylene (XLPE) Insulation. Moisture Resistant High Heat.

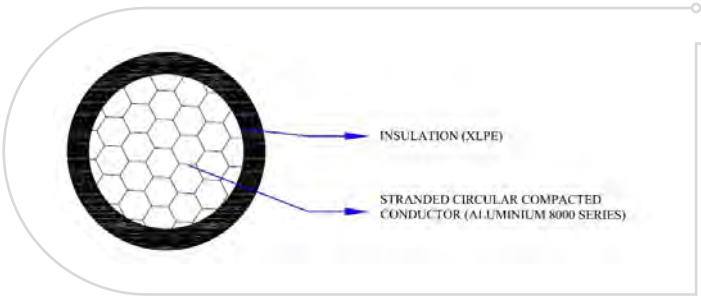
Applications

APAR manufactures XHHW-2 8000 series Aluminium conductors are primarily used in conduit or recognised raceways for service and feeder wiring as specified in the National Electrical Code (NEC). XHHW-2 conductors are used in wet or dry locations at temperatures not exceeding 90°C. Voltage rating for XHHW-2 conductor is 1000 volts, suitable for use in Health Care Facilities as per section 517.160 of the NEC where a dielectric constant of 3.5 or less can be specified. The product is designed to be installed without the application of pulling lubricant.



Construction

We manufacture XHHW-2 Aluminum conductors with 8000 series Aluminum alloy, compact stranded. The insulation is thermoset cross-linked polyethylene which is abrasion, moisture and heat resistant. Available in 6 AWG and larger sizes (sunlight resistant) in 10 colour variants.



Standards & References

Our Aluminium Type XHHW-2 conductors comply with the following:

- ASTM – B800 and either B801 or B836 (SIW).
- Listed per UL Standard 44.
- CSA-cUL certified
- NOM-ANCE 90°C.
- Federal Specification A-A-59544.
- National Electrical Code, NFPA 70.
- NEMA WC-70 (ICEA S-95-658) construction requirements
- CT rated - sizes 1/0 AWG and larger (optional)
- FT4 rated - sizes 1/0 AWG and larger (optional)
- Gas & Oil Resistant II - all sizes
- Sunlight Resistant – sizes 6 AWG and larger
- RoHS/ Reach Compliant

TECHNICAL PARAMETER

Conductor		Insulation thickness (mils)	Nominal OD (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)		
Size (AWG or kcmil)	No. of strands				60°C	75°C	90°C
8	7	45	224	28	35	40	45
6	7	45	259	39	40	50	55
4	7	45	303	57	55	65	75
2	7	45	358	84	75	90	100
1	18	55	409	108	85	100	115
1/0	18	55	446	130	100	120	135
2/0	18	55	486	160	115	135	150
3/0	18	55	533	196	130	155	175
4/0	18	55	585	240	150	180	205
250	36	65	650	289	170	205	230
300	36	65	700	340	195	230	260
350	36	65	746	390	210	250	280
400	36	65	789	439	225	270	305
500	36	65	866	540	260	310	350
600	58	80	973	661	285	340	385
700	58	80	1037	761	315	375	425
750	58	80	1068	810	320	385	435
900	59	80	1159	957	355	425	480
1000	59	80	1220	1056	375	445	500

- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 through 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C - Wet or dry locations.
- For ampacity derating purposes using NEC section 310.15.

Recommended sample specification

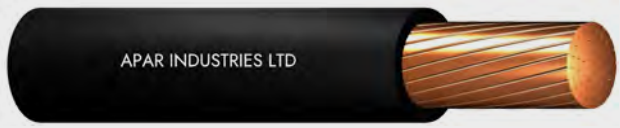
Our conductors are UL-listed Type XHHW-2, suitable for operation at 1000 volts or less in wet or dry locations at a temperature not exceeding 90 °C. Conductors shall be 8000 series Aluminum alloy as manufactured by us or approved equal.

Copper XHHW-2, 600V/1000V XLPE Insulation

600V/1000V, Copper Conductor. Cross-Linked Polyethylene (XLPE) Insulation, High-Heat and Moisture Resistant.
Sizes 14 through 10 AWG also rated SIS.

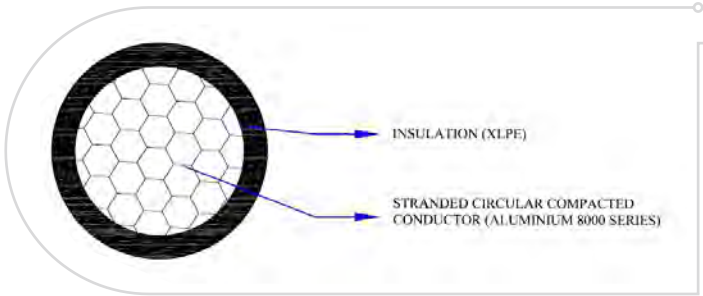
Applications

APAR manufactures XHHW-2 copper conductors, primarily used in conduit, cable tray or other recognised raceways for services, feeders, and branch circuit wiring, as specified in the National Electrical Code. XHHW-2 copper conductors can be used in wet or dry locations at a temperature not exceeding 90°C. Voltage rating for XHHW-2 conductor is 600 volts for all sizes and 1000 volts for sizes 8 AWG and larger. Suitable for use in Health Care Facilities as per Section 517.160 of the National Electrical Code where a dielectric constant of less than 3.5 can be specified. The cable is designed to be installed without the application of pulling lubricant.



Construction

We manufacture XHHW-2 copper conductors annealed (soft) copper. Insulation is equipped with abrasion, moisture, and heat resistant thermoset cross-linked polyethylene (XLPE). Conductor sizes 8 AWG and larger available (sunlight resistant). The Colour customisation option is available subject to economic order quantity.



Standards & References

Our XHHW-2 Copper conductors comply with the following:

- ASTM- B3, B8 (7, 19, 37, 61 Strands), B787 (19 Strands)
- UL Standard 44
- CSA-cUL certified
- NOM-ANCE 90°C
- Federal Specification A-A059544
- CT Rated Sizes 1/0 AWG and Larger (optional)
- Gas and Oil Resistant II size 8 AWG and larger
- Sunlight (UV) Resistant – S 8 AWG and larger
- National Electrical Code, NFPA 70
- NEMA WC 70 construction requirements
- FT4/IEEE 1202- sizes 350 KCMIL and larger
- RoHS/ REACH Chemical Limit Compliant
- RoHS/ Reach Compliant

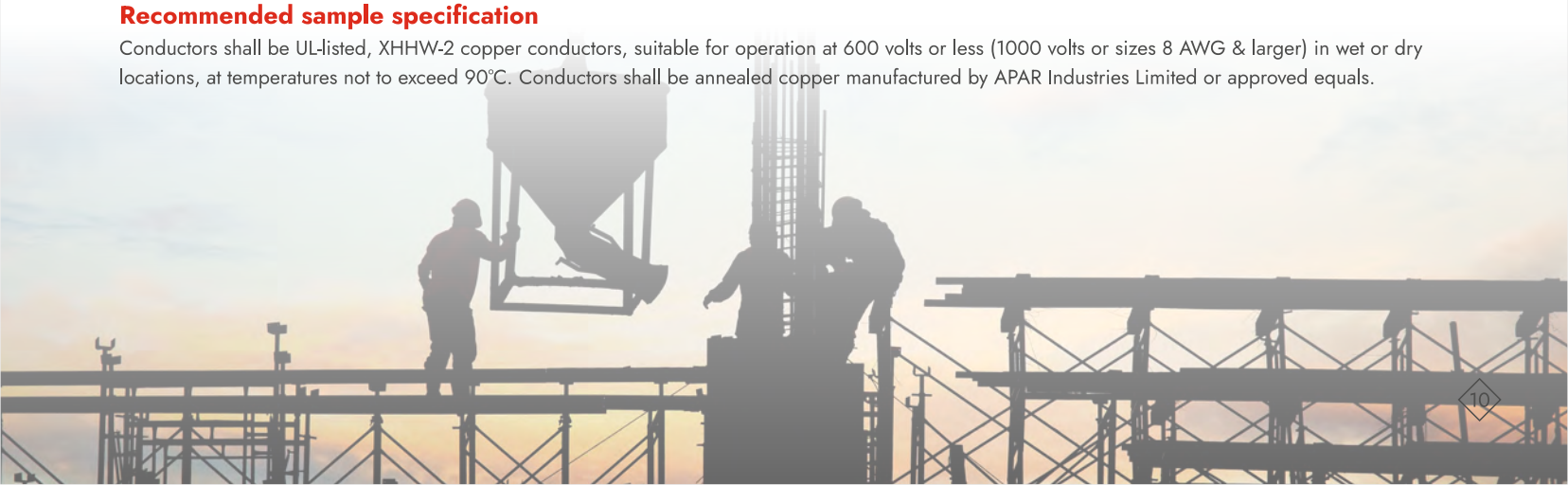
TECHNICAL PARAMETER

Conductor		Insulation thickness (mils)	Nominal OD (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)		
Size (AWG or kcmil)	No. of strands				60°C	75°C	90°C
14	7	30	130	18	15	15	15
12	1	30	141	24	20	20	20
10	1	30	162	26	30	30	30
12	7	30	147	37	20	20	20
19	7	30	171	40	30	30	30
8	7	45	232	65	40	50	55
6	7	45	268	96	55	65	75
4	7	45	311	147	70	85	95
3	7	45	337	183	85	100	115
2	7	45	367	227	95	115	130
1	19	55	435	291	110	130	145
1/0	19	55	477	363	125	150	170
2/0	19	55	521	453	145	175	195
3/0	19	55	571	565	165	200	225
4/0	19	55	627	706	195	230	260
250	37	65	695	835	215	255	290
300	37	65	748	995	240	285	320
350	37	65	798	1155	260	310	350
400	37	65	843	1314	280	335	380
500	37	65	927	1633	320	380	430
600	61	80	1033	1965	350	420	475
700	61	80	1102	2282	385	460	520
750	61	80	1135	2440	400	475	535
1000	61	80	1284	3229	455	545	615

- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 - 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C - Wet or dry locations.
- For ampacity derating purposes using NEC section 310.15.

Recommended sample specification

Conductors shall be UL-listed, XHHW-2 copper conductors, suitable for operation at 600 volts or less (1000 volts or sizes 8 AWG & larger) in wet or dry locations, at temperatures not to exceed 90°C. Conductors shall be annealed copper manufactured by APAR Industries Limited or approved equals.



Aluminium RHH, RHW, USE Cable

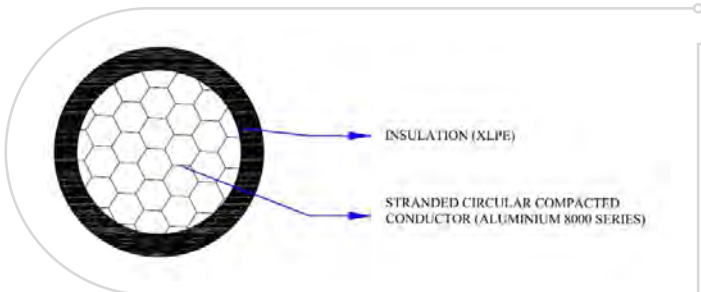
Underground Service Entrance Cable, 600 Volt, Aluminium Alloy Conductor, Cross-linked Polyethylene (XLPE) Insulation, High Heat, Moisture, and Sunlight Resistant. Also Rated THWN-2.

Applications

APAR manufactures RHH or RHW-2 or USE-2 conductors, used with conduits specified in the National Electrical Code. When used as Type USE-2, conductors are suitable for use as underground service entrance conductors for direct burial at conductor temperature not exceeding 90°C. When used as RHW-2 or USE-2, conductor temperatures shall not exceed 90°C in wet or dry locations. The voltage rating for RHW-2 or RHH or USE-2 conductors is 600 volts.

Construction

We manufacture RHH or RHW-2 or USE-2 conductors with 8000 series aluminium alloy, compact stranded. The insulation is an abrasion, moisture, heat and sunlight-resistant black cross-linked polyethylene (XLP). CT rated cables are available upon request sizes 1/0 and larger.



Standards & References

Our RHH or RHW-2, or USE-2 conductors comply with the following:

- ASTM B-800 and B-801
- UL 44 for RHH or RHW-2
- UL 854 for USE-2
- CSA-cUL certified
- Federal Specification A-A-59544
- National Electrical Code, NFPA 70, 2011 edition
- NEMA WC-70 construction requirements
- RoHS/ Reach Compliant

TECHNICAL PARAMETER

Conductor		Insulation thickness (mils)	Nominal OD (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)		
Size (AWG or kcmil)	No. of strands				60°C	75°C	90°C
6	7	60	289	46	40	50	60
4	7	60	333	65	55	65	75
2	7	60	388	92	75	90	100
1	18	80	459	124	85	100	115
1/0	18	80	496	150	100	120	135
2/0	18	80	536	179	115	135	150
3/0	18	80	583	217	130	155	175
4/0	18	80	625	263	150	180	205
250	36	95	710	320	170	205	230
300	36	95	760	373	190	230	255
350	36	95	806	425	210	250	280
400	36	95	849	476	225	270	305
500	36	95	926	581	260	310	350
600	58	110	1033	707	285	340	385
700	58	110	1097	809	310	375	420
750	58	110	1128	859	320	385	435
900	59	110	1219	1011	355	425	480
1000	59	110	1280	1113	375	445	500

- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 - 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C – RHH dry locations and RHW-2 & USE-2 wet & dry location.
- For ampacity derating purposes using NEC section 310.15.

Recommendations and specifications

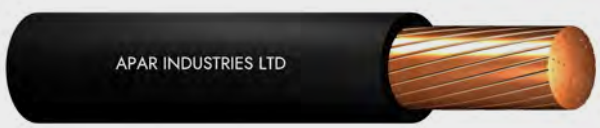
Conductors are UL-listed Type RHH or RHW-2 or USE-2, suitable for operation at 600 volts or less in wet or dry locations, including direct burial in the earth. Conductors are aluminium alloy, XLPE insulated, as manufactured by us or approved equal.

Copper RHH, RHW, USE Cable

Underground Service Entrance Cable. 600 Volt, Copper Conductors, Cross-Linked Polyethylene (XLPE) Insulation, High-Heat, Moisture, and Sunlight Resistant. Sizes 6 through 4/0 AWG.

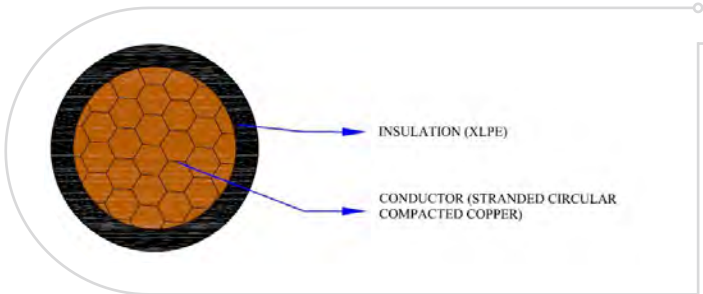
Applications

APAR manufactures RHH or RHW-2 or USE-2 conductors used with conduit as specified in the 2011 National Electrical Code. When used as Type USE-2, the conductor is suitable for use as an underground service entrance cable for direct burial at conductor temperature not exceeding 90°C. When used as RHH, conductor temperature shall not exceed 90°C in dry locations. When used as RHW-2 or USE-2, conductor temperatures shall not exceed 90°C in wet or dry areas. The voltage rating for RHH or RHW-2, or USE-2 conductors is 600 volts.



Construction

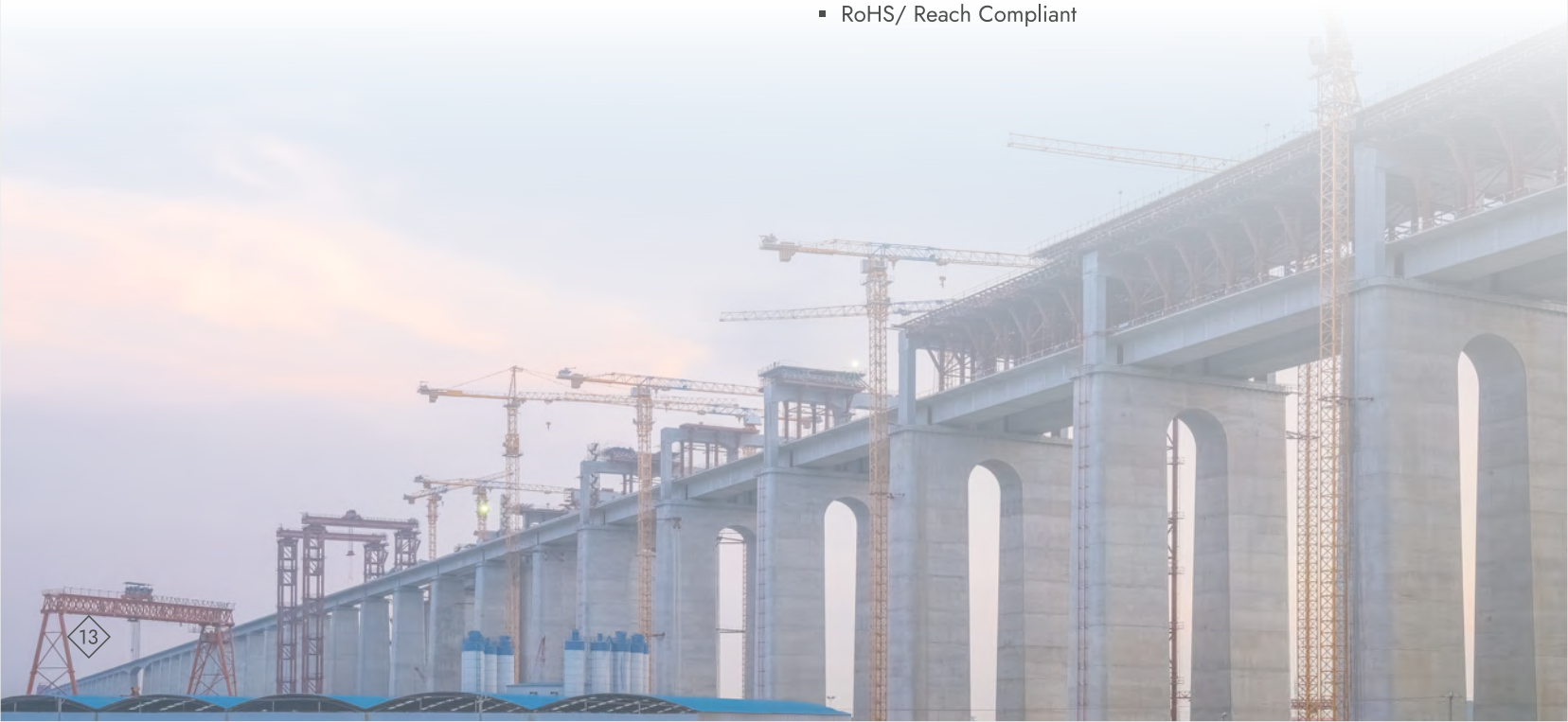
We manufacture RHH or RHW-2, or USE-2 copper conductors, annealed (soft) copper. Insulation is an abrasion, moisture, heat, and sunlight resistant black cross-linked polyethylene (XLPE). An optional CT rated product is available upon request for sizes 1/0 and larger.



Standards & References

Our RHH or RHW-2, or USE-2 conductors comply with the following:

- ASTM - B3, B8 (7, 19, 37, 61 Strands), B787 (19 Wire Combination Unilay Strand)
- UL Standard 44 for RHH or RHW-2
- UL Standard 854 for USE-2
- CSA-cUL certified
- Federal Specification A-A-59544
- National Electrical Code, NFPA 70 - 2011 edition
- NEMA WC 70 construction requirements
- RoHS/ Reach Compliant



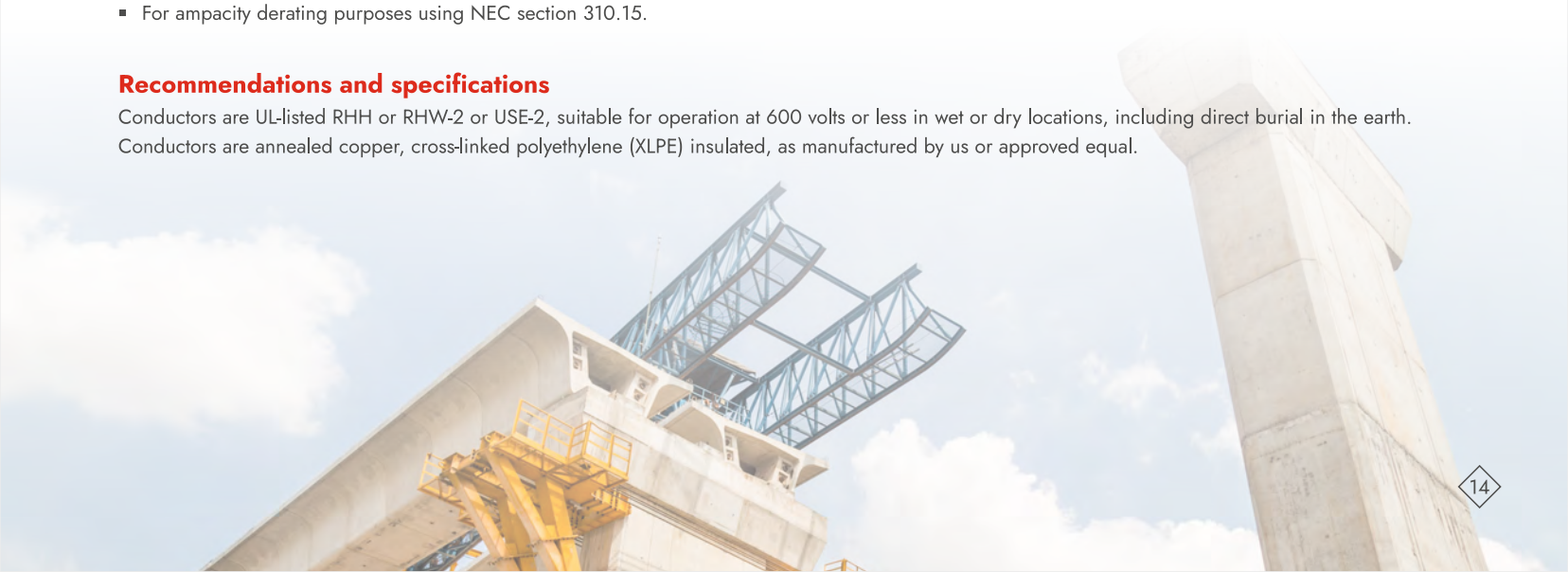
TECHNICAL PARAMETER

Conductor		Insulation thickness (mils)	Nominal OD (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)		
Size (AWG or kcmil)	No. of strands				60°C	75°C	90°C
14	7	45	161	20	15	15	15
12	7	45	179	29	20	20	20
10	7	45	203	42	30	30	30
8	7	60	262	68	40	50	55
6	7	60	298	101	55	65	75
4	7	60	345	154	70	85	95
2	7	60	403	235	95	115	130
1	19	80	482	309	110	130	145
1/0	19	80	522	379	125	150	170
2/0	19	80	565	472	145	175	195
3/0	19	80	616	583	165	200	225
4/0	19	80	672	729	195	230	260
250	37	95	748	863	215	255	290
300	37	95	801	1029	240	285	320
350	37	95	851	1191	260	310	350
400	37	95	896	1352	280	335	380
500	37	95	979	1674	320	380	430
600	61	110	1086	2012	350	420	475
700	61	110	1155	2332	385	460	520
750	61	110	1188	2492	400	475	535
800	61	110	1220	2642	410	490	555
900	61	110	1280	2970	435	520	585
1000	61	110	1337	3288	455	545	615

- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 - 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C - RHH dry locations and RHW-2 & USE-2 wet & dry locations.
- For ampacity derating purposes using NEC section 310.15.

Recommendations and specifications

Conductors are UL-listed RHH or RHW-2 or USE-2, suitable for operation at 600 volts or less in wet or dry locations, including direct burial in the earth. Conductors are annealed copper, cross-linked polyethylene (XLPE) insulated, as manufactured by us or approved equal.



Aluminium THHN Wires & Cables

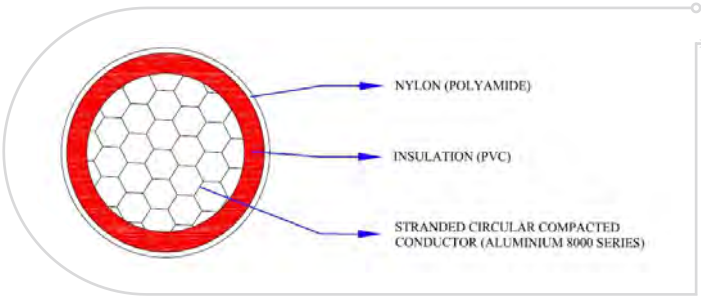
600 Volt 8000 series Aluminium Alloy Conductor, Thermoplastic Insulation/Nylon Sheath. Heat, Moisture, Gasoline, Oil, and Sunlight Resistant.

Applications

APAR manufactures Aluminium THHN Wire & Cable with 8000 series Aluminium alloy conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the 2011 National Electrical Code. Type THHN or T90 Nylon conductor is suitable for use in dry locations at a temperature not exceeding 90°C. Type THWN-2 or TWN75, the conductor is ideal for use in wet or dry areas at a temperature not exceeding 75°C or 90°C when exposed to oil or coolant. Voltage for all applications is 600 volts. The cable should be installed without the application of pulling lubricant.

Construction

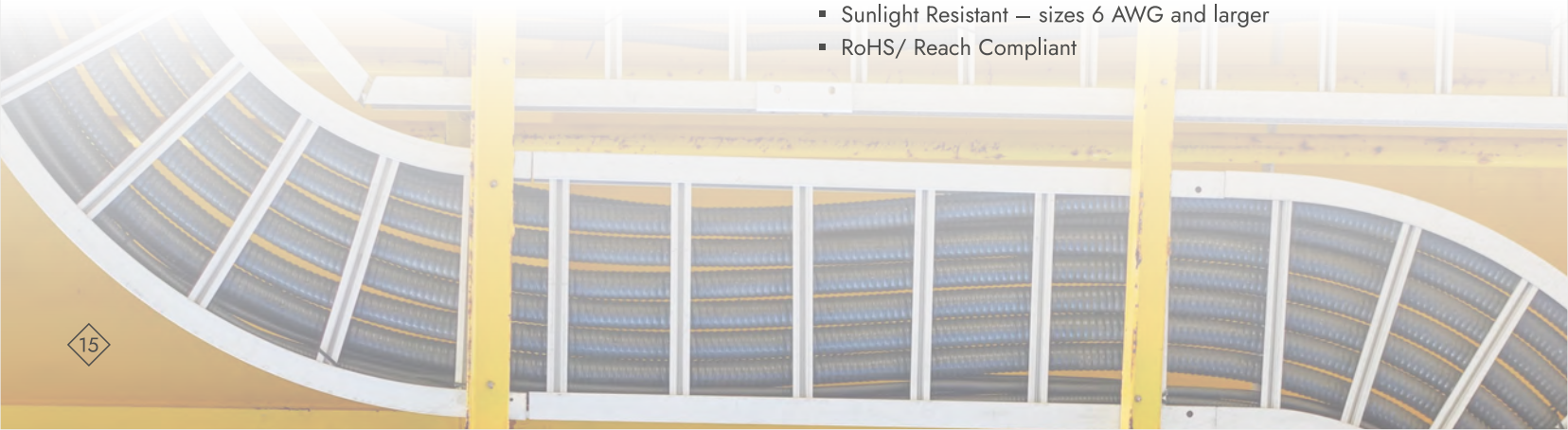
We manufacture THHN conductor with 8000 series aluminium alloy, compact stranded. Insulated with a tough heat and moisture-resistant polyvinyl chloride (PVC), over which nylon (polyamide) or UL-listed equal jacket is applied. Conductor sizes 1/0 AWG and larger are listed and marked sunlight resistant in colours. Available in black, white, red, blue, purple, green, yellow, orange, brown, and grey. Also available in striped configurations. Some colours are subject to economic order quantity.



Standards & References

Our Aluminium THHN conductors comply with the following:

- ASTM B-800 and either B-801 or B836 (SIW)
- UL Standard 83
- CSA-cUL certified
- CSA Standard C22.2 75
- Federal Specification A-A-59544
- VW-1 – Sizes 4 through 1 AWG (optional)
- CT- Sizes 1/0 AWG and larger sizes rated for CT use
- FT1 - Sizes 4 AWG through 750 kcmil
- T90 Nylon – Sizes 4 AWG through 750 kcmil
- TWN 75 – Sizes 8 AWG through 750 kcmil
- National Electrical Code, NFPA 70
- NEMA WC-70 construction requirements
- Gas & Oil Resistant II - all sizes
- Sunlight Resistant – sizes 6 AWG and larger
- RoHS/ Reach Compliant



TECHNICAL PARAMETER

Conductor		Insulation thickness (mils)	Jacket thickness (mils)	Nominal OD (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)		
Size (AWG or kcmil)	No. of strands					60°C	75°C	90°C
8	7	30	5	204	30	35	40	45
6	7	30	5	239	42	40	50	55
4	7	40	6	305	66	55	65	75
2	7	40	6	360	91	75	90	100
1	18	50	7	413	117	85	100	115
1/0	18	50	7	450	141	100	120	135
2/0	18	50	7	490	172	115	135	150
3/0	18	50	7	537	210	130	155	175
4/0	18	50	7	589	257	150	180	205
250	36	60	8	656	311	170	205	230
300	36	60	8	706	365	195	230	260
350	36	60	8	752	418	210	250	280
400	36	60	8	795	470	225	270	305
500	36	60	8	872	574	260	310	350
600	58	70	9	971	697	285	340	385
700	58	70	9	1035	799	315	375	425
750	58	70	9	1066	849	320	385	435
900	59	70	9	1139	1001	355	425	480
1000	59	70	9	1218	1102	375	445	500

- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 - 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C - THHN dry locations and THWN wet & dry locations.
- For ampacity derating purposes using NEC section 310.15.

Recommended sample specifications

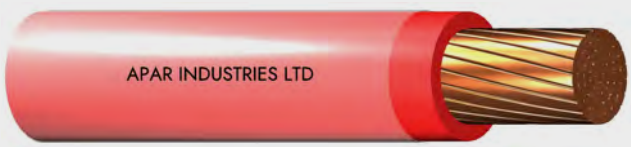
Conductors are 8000 series aluminium alloy, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or UL- listed equivalent as manufactured by us or approved equal. Conductors are UL-listed Type THHN and THWN-2, suitable for operation at 600 volts, as specified in the National Electrical Code. Sizes 8 through 1 AWG shall be rated VW-1; larger sizes are rated for CT use.

Copper THHN Wires & Cables

600 Volts. Copper Conductor. Thermoplastic Insulation/Nylon Sheath, Heat, Moisture, Gasoline and Oil Resistant II. All sizes rated THHN and THWN (sizes 14, 12, and 10 AWG) or THWN- 2 (sizes 8 AWG and larger). Also rated MTW and AWM.

Applications

APAR manufactures THHN copper conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the National Electrical Code. Voltage for all applications is 600 volts. THHN copper conductors are designed to be installed without applying a pulling lubricant.

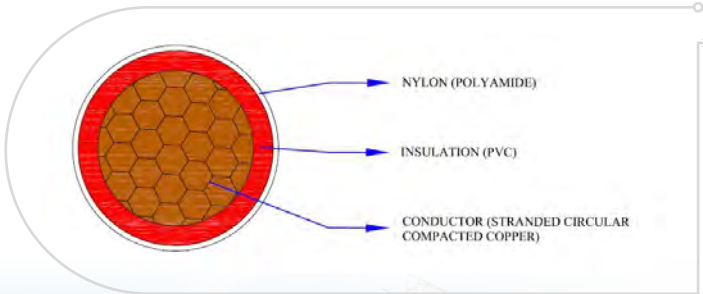


These conductors have multiple ratings. Depending upon the product application, allowable temperatures are as follows:

- THHN or T90 Nylon- dry locations not exceeding 90°C
- THWN-2- wet or dry areas not exceeding 75°C or 90°C when exposed to oil
- THWN- wet locations not exceeding 75°C or dry locations not exceeding 90°C or places not exceeding 75°C when exposed to oil
- TWN75- wet locations not exceeding 75°C
- MTW- wet locations or when exposed to oil at a temperature not exceeding 60°C or dry areas not exceeding 90°C (with ampacity limited to that for 75°C conductor temperature per NFPA 79)
- AWM- dry locations not exceeding 105°C only when rated and used as an appliance wiring material

Construction

APAR manufactures THHN copper conductors are made with soft drawn copper. Sizes 14 through 4/0 AWG use a combination-unilay stranding while 250 kcmil and larger sizes use compressed copper stranding. The wire is covered with tough heat and moisture resistant PVC insulation with an overall nylon jacket. Available in black, white, red, blue, purple, green, yellow, orange, brown, and grey. Also available in striped configurations. Some colours are subject to economic order quantity. Marked as THHN in all sizes. Also marked as THWN-2 in sizes 8 AWG and larger or marked as THWN in sizes 14, 12, and 10 AWG. Marked sunlight resistant in sizes 2 AWG and larger.



Standards & References

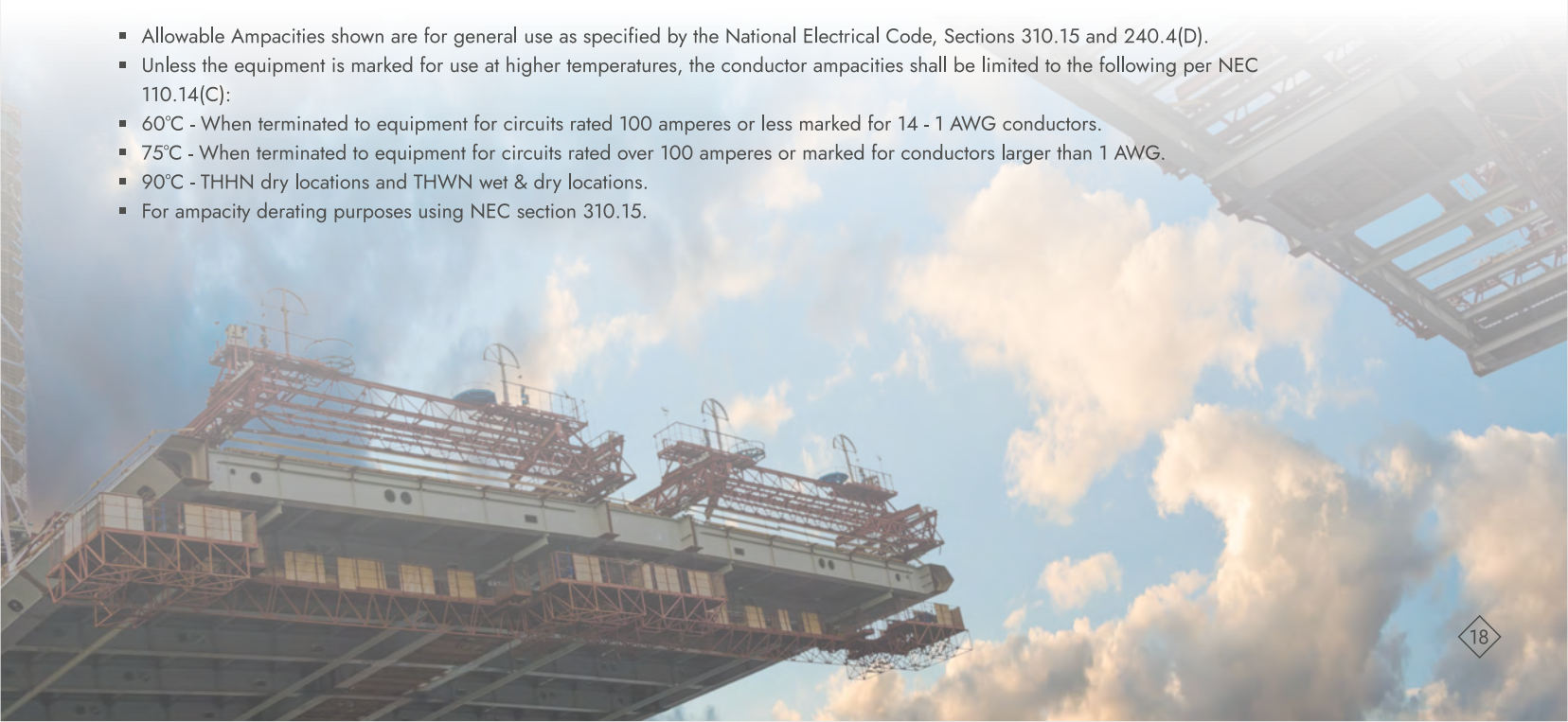
Our THHN copper conductors comply with the following:

- ASTM - B3, B8, and B787 (19 Wire combination unilay-stranded)
- UL Standards 83, 758, 1063, and 1581, CSA-cUL certified
- CSA C22.2 No. 75, T90 Nylon/TWN75 sizes through 1000 kcmil
- NOM-ANCE 90°C
- Federal Specification A-A-59544
- National Electrical Code, NFPA 70
- VW-1 - Sizes 14 through 1 AWG (optional)
- Sunlight Resistant — sizes 2 AWG and larger
- MTW - Stranded constructions only
- NEMA WC-70 (ICEA S-95-658) construction requirements
- CT Rated in Sizes 1/0 AWG and larger
- FT1 - all sizes
- AWM - Sizes 14 through 6 AWG
- RoHS/ Reach Compliant

TECHNICAL PARAMETER

Conductor		Insulation thickness (mils)	Jacket thickness (mils)	Nominal OD (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)		
Size (AWG or kcmil)	No. of strands					60°C	75°C	90°C
14	1	15	4	102	15	15	15	15
12	1	15	4	119	23	20	20	20
10	1	20	4	150	36	30	30	30
14	19	15	4	109	16	15	15	15
12	19	15	4	127	24	20	20	20
10	19	20	4	161	38	30	30	30
8	19	30	5	212	63	40	50	55
6	19	30	5	248	95	55	65	75
4	19	40	6	317	152	70	85	95
3	19	40	6	344	189	85	100	115
2	19	40	6	375	234	95	115	130
1	19	50	7	436	299	110	130	145
1/0	19	50	7	476	372	125	150	170
2/0	19	50	7	519	462	145	175	195
3/0	19	50	7	570	575	165	200	225
4/0	19	50	7	626	718	195	230	260
250	37	60	8	694	851	215	255	290
300	37	60	8	747	1012	240	285	320
350	37	60	8	797	1174	260	310	350
400	37	60	8	842	1334	280	335	380
500	37	60	8	925	1655	320	380	430
600	61	70	9	1024	1987	350	420	475
750	61	70	9	1126	2464	400	475	535
1000	61	70	9	1275	3257	455	545	615

- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 - 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C - THHN dry locations and THWN wet & dry locations.
- For ampacity derating purposes using NEC section 310.15.



Aluminium 2000 Volts PV Type Cable

Single Conductor Photovoltaic (Type PV) Power Cable 2000 Volt Aluminum Conductor XLPE Insulation. Sizes 1/0 AWG through 1000 kcmil. Heat and Moisture Resistant RoHS.

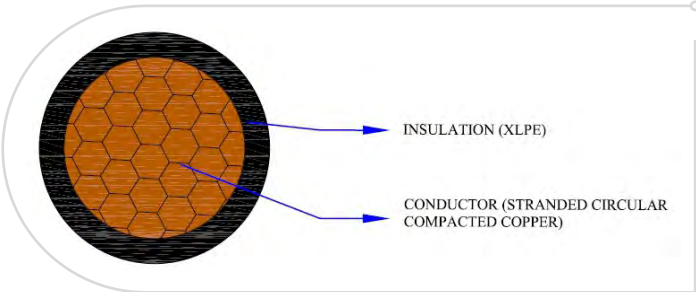
Applications

The cable is available in sizes 6 AWG through 1000 kcmil. The product is approved for solar power applications per the NEC article 690 and is rated 90°C for exposed or concealed wiring in wet or dry locations. Individual conductors are stranded aluminium alloy covered with cross-linked polyethylene (XLPE) insulation and is rated for direct burial. The cable is sunlight resistant, RoHS compliant passes -40°C cold bends.

Construction

Conductor: Class B compact stranded 8000 Series aluminium per ASTM B800 and ASTM B836

Insulation: Cross-Linked Polyethylene (XLPE)



Standards & References

- Stranded Aluminum Alloy Conductors
- ASTM 836 Compact Round Aluminum Conductors
- UL 854 for USE-2
- UL 44 for Type RHW-2
- UL 4703 for Type PV
- CSA-cUL certified

TECHNICAL PARAMETER

Conductor		Insulation thickness (mils)	Nominal OD (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)		
Size (AWG or kcmil	No. of strands				60°C	75°C	90°C
6	7	85	339	55	40	50	60
4	7	85	383	75	55	65	75
2	7	85	438	104	75	90	100
1	18	105	509	138	85	100	115
1/0	18	105	546	164	100	120	135
2/0	18	105	586	196	115	135	150
3/0	18	105	633	235	130	155	175
4/0	18	105	675	284	150	180	205
250	36	120	760	342	170	205	230
300	36	120	810	398	190	230	255
350	36	120	856	452	210	250	280
400	36	120	899	507	225	270	305
500	36	120	976	614	260	310	350
600	58	135	1083	751	285	340	385
700	58	135	1147	845	310	375	420
750	58	135	1178	902	320	385	435
900	59	135	1269	1055	355	425	480
1000	59	135	1330	1166	375	445	500

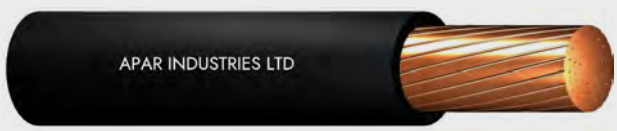
- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 - 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C - RHH dry locations and PV, RHW-2 & USE-2 wet & dry locations.
- For ampacity derating purposes using NEC section 310.15.

Copper 2000 Volts PV Type Cable

Single Conductor Photovoltaic (Type PV) Power Cable 2000 Volt Copper Conductor XLPE Insulation. Sizes 12 AWG through 4/0 AWG. Heat and Moisture Resistant RoHS.

Applications

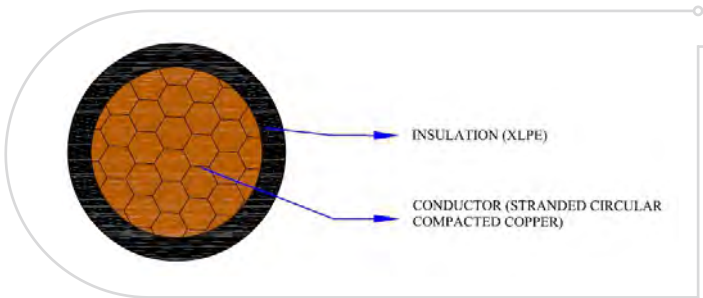
APAR's 2000 Volt power cables are suited for use in wet and dry areas, conduits, ducts, trays, direct burial, aerial supported by a messenger, and where superior electrical properties are desired. These cables can operate continuously at the conductor temperature, not in excess of 90°C for normal operation in wet and dry locations.



Construction

Conductor: Class B compressed stranded bare copper per ASTM B3 and ASTM B8

Insulation: Cross-Linked Polyethylene (XLPE)



Standards & References

- ASTM B3 Soft or Annealed Copper
- ASTM B8 Concentric-lay-standard copper
- UL 44 Thermoset Insulated wires and cables
- UL 854 for USE-2
- UL 4703 for Type PV
- CSA-cUL certified

TECHNICAL PARAMETER

Conductor		Insulation Thickness (mils)	Nominal OD (mils)	Approximate Net Weight Per 1000′ (Lbs.)	Allowable Ampacities (Amp)		
Size (AWG or kcmil)	No. of strands				60°C	75°C	90°C
14	19	75	221	30	15	15	15
12	19	75	239	40	20	20	20
10	19	75	263	53	30	30	30
8	19	85	312	80	40	50	55
6	19	85	348	113	55	65	75
4	19	85	395	167	70	85	95
2	19	85	453	251	95	115	130
1	19	105	532	323	110	130	145
1/0	19	105	572	396	125	150	170
2/0	19	105	615	489	145	175	195
3/0	19	105	666	604	165	200	225
4/0	19	105	722	749	195	230	260
250	37	120	798	891	215	255	290
300	37	120	851	1055	240	285	320
350	37	120	901	1219	260	310	350
400	37	120	946	1382	280	335	380
500	37	120	1029	1706	320	380	430
600	61	135	1136	2051	350	420	475
750	61	135	1238	2534	400	475	535
1000	61	135	1387	3336	455	545	615

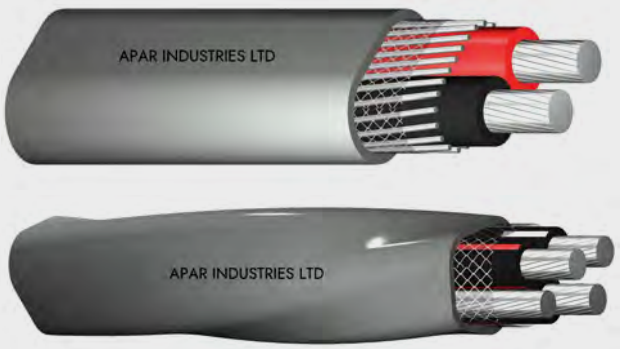
- Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D).
- Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C):
- 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 - 1 AWG conductors.
- 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.
- 90°C - RHH dry locations and PV, RHW-2 & USE-2 wet & dry locations.
- For ampacity derating purposes using NEC section 310.15.

Aluminium Service Entrance (SE) Cable

Type SE, Style SER and SEU Service Entrance Cable, 600 Volt. 8000 series Aluminium Alloy Conductors. Individual Conductors Rated XHHW or THHN/THWN Jacket and Inner Conductors are Sunlight Resistant.

Applications

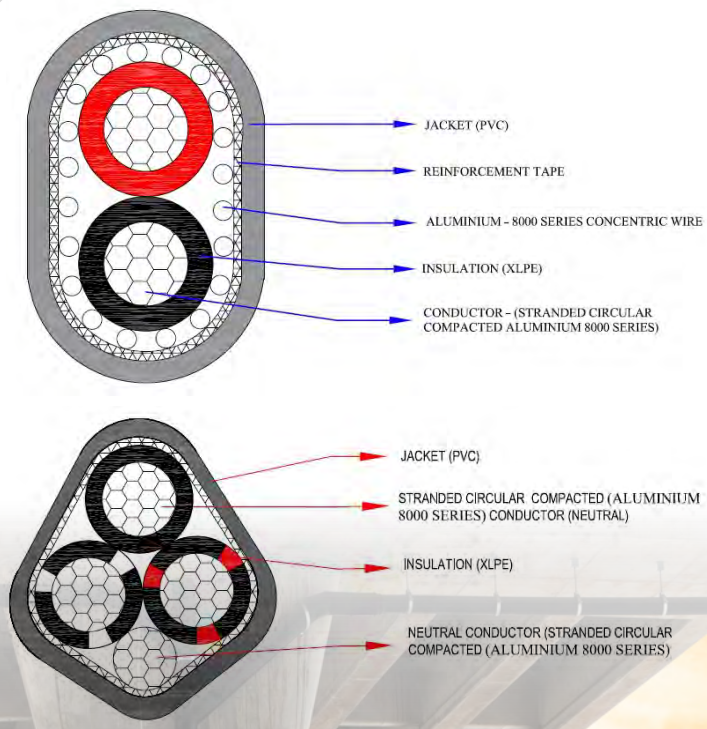
APAR manufactures Type SE, service entrance cable used to convey power from the service drop to the meter base and from the meter base to the distribution panel board. The cable can be used in all applications where Type SE cable is permitted. SE can be used in wet or dry above-ground locations at a temperature not exceeding 90°C. The voltage rating is 600 volts.



Construction

APAR's Type SE cable is constructed with 8000 series aluminium alloy compacted stranded conductors. The conductors are covered with a sunlight resistant Type XHHW-2 or Type THHN/THWN-2-insulation. A reinforcement tape is wrapped around the conductors for added strength and conformity. A grey sunlight-resistant polyvinyl chloride (PVC) outer jacket covers the entire assembly. Style SEU cable has two-phase conductors surrounded by a concentric neutral, while the SER style has two, three or four-phase conductors and a bare neutral.

APAR's Type SER Cable's phase conductors are identified by a coloured stripe on the insulation;
3 Conductor – Black and Black with Red Stripe
4 Conductor – Black, Black with White Stripe and Black with Red Stripe
5 Conductor – Black, Black with White Stripe, Black with Red Stripe and Black with Blue Stripe.



Standards & References

Our Type SE cable complies with the following:

- ASTM B800 and either B801 or B836 (SIW)
- UL Standard 44 for XHHW-2
- UL Standard 83 for THHN/THWN-2
- CSA-cUL certified
- Federal Specification A-A-59544
- National Electrical Code, NFPA 70
- RoHS/Reach Compliant

TECHNICAL PARAMETER

Conductor	Stranding		Nominal OD (mils)	Allowable ampacities (Amp)				Approximate net weight per 1000' (Lbs.)	Standard package (Ft.)
Size/ construction AWG or kcmil	Phase conductor & neutral	Equipment ground conductor		60°C	75°C	90°C	Dwelling		
SER aluminium two-conductor with bare ground									
6/6/2006	7	7	595	40	50	55	-	145	1000
4/4/2006	7	7	660	55	65	75	-	180	1000
2/2/2004	7	7	770	75	90	100	100	255	1000
SER aluminium three-conductor with bare ground									
8 - 8 - 8 - 8	1	7	590	35	40	45	-	140	1000
6 - 6 - 6 - 6	7	7	675	40	50	55	-	190	1000
4 - 4 - 4 - 6	7	7	755	55	65	75	-	245	1000
2 - 2 - 2 - 4	7	7	885	75	90	100	100	350	1000
1 - 1 - 1 - 3	18	7	990	85	100	115	115	435	1000
1/0 - 1/0 - 1/0 - 2	18	7	1075	100	120	135	135	530	1000
2/0 - 2/0 - 2/0 - 1	18	18	1165	115	135	150	150	635	1000
3/0 - 3/0 - 3/0 - 1/0	18	18	1270	130	155	175	175	770	1000
4/0 - 4/0 - 4/0 - 2/0	18	18	1395	150	180	205	200	940	1000
250 - 250 -250 - 3/0	18	18	1540	170	205	230	225	1130	1000
300 - 300 - 300 - 4/0	18	18	1665	195	230	260	250	1330	1000
SER Aluminum Four Conductor With Bare Ground									
2 - 2 - 2 - 2 - 4	7	7	995	75	90	100	100	440	1000
2/0 - 2/0 - 2/0 - 2/0 - 1	18	7	1320	115	135	150	150	805	1000
4/0 - 4/0 - 4/0 - 4/0 - 2/0	18	18	1575	150	180	205	200	1195	1000
250 - 250 - 250 - 250 - 3/0	18	18	1740	170	205	230	225	1435	1000
SEU Aluminum Two Conductor With Bare Concentric Ground (Formerly referred to as "Three Conductor")									
6/6/2006	7	18	455 X 720	40	50	55	-	145	1000
4/4/2004	7	18	500 X 810	55	65	75	-	205	1000
4/4/2006	7	18	485 X 795	55	65	75	-	185	1000
2/2/2002	7	24	565 X 930	75	90	100	100	290	1000
2/2/2004	7	18	555 X 925	75	90	100	100	265	1000
2/0 - 2/0 - 2/0	18	24	750 X 1245	115	135	150	150	535	1000
2/0 - 2/0 - 1	18	24	720 X 1210	115	135	150	150	480	1000
4/0 - 4/0 - 4/0	18	48	840 X 1435	150	180	205	200	795	1000
4/0 - 4/0 - 2/0	18	24	860 X 1455	150	180	205	200	725	1000

- Table values reflect XHHW-2 conductors. Allowable ampacities shown are for general use as specified by the National Electrical Code, Section 310.15. ▪ 60°C - When terminated to equipment for circuits rated 100 amperes or less or marked for 14 through 1 AWG conductors. See NEC Article 338.10 (B) (4).
- 75°C - When terminated to equipment for circuits rated 100 amperes or marked for conductors larger than 1 AWG conductors. It may not apply; see NEC Article 338.10 (B) (4). ▪ 90°C - Wet or dry locations. For ampacity derating purposes.
- Dwelling - For units, conductors shall be permitted at listed ampacities as 120/240-volt, 3-wire, single-phase services and feeders per NEC Article 310.15. ▪ For compact-stranded construction, the number of wires, as permitted by UL Standard 44 and ASTMB-801 may be reduced as follows: 19- wire constructions - 18 wires minimum.

Recommended sample specifications

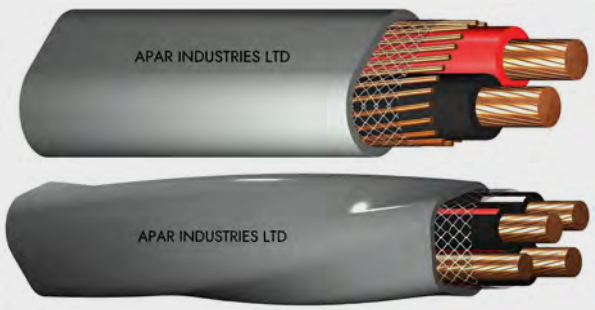
SER Sample Specification: Cables are UL-listed Type SE, Style SER, suitable for operation at 600 volts or less as specified in the National Electrical Code. Conductors shall be 8000 series aluminium alloy, weather-resistant PVC jacketed, as manufactured by APAR Industries Limited or approved equal.

Copper Service Entrance (SE) Cable

SE, Style SER and SEU Service Entrance Cable, 600 Volt. Individual Conductors Rated XHHW-2 or THHN/THWN. Jacket and Individual Conductors Sunlight Resistant.

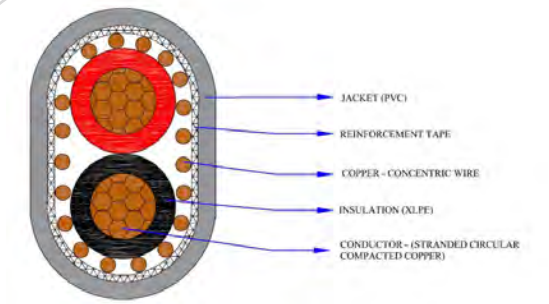
Applications

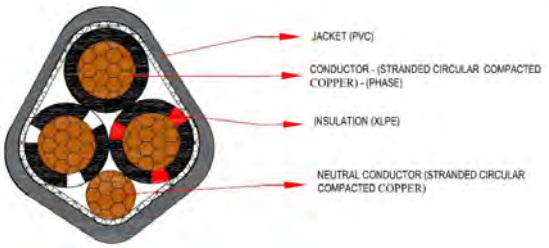
APAR manufactures Type SE, service entrance cable, primarily used to convey power from the service drop to the meter base and from the meter base to the distribution panel board. The cable can be used in all applications where Type SE cable is permitted. SER may be used in wet or dry locations at temperatures not exceeding 90°C. The voltage rating is 600 volts.



Construction

We manufacture type SE cable with sunlight resistant Type XHHW-2 conductors or Type THHN/THWN conductors. Copper conductors are annealed (soft) copper. Cable assembly plus reinforcement tape are jacketed with sunlight resistant grey polyvinyl chloride (PVC). Available as 1 conductor with a concentric ground, 2 conductors with a round or concentric ground, or 3 conductors with a bare ground. SE cable is jacketed with grey sunlight-resistant polyvinyl chloride (PVC).





Standards & References

Our Type SE cable complies with the following:

- ASTM- All applicable standards
- UL Standard 44 for XHHW-2 conductors
- UL Standard 83 for THHN/THWN conductors
- UL Standard 854
- CSA-cUL certified
- Federal Specification A-A-59544
- National Electrical Code, NFPA 70. 2011 edition
- RoHS/ Reach compliance

TECHNICAL PARAMETER

Conductor	Stranding		Nominal OD (mils)	Allowable ampacities (Amp)				Approximate net weight per 1000′ (Lbs.)	Standard package (Ft.)
Size/ construction AWG or kcmil	Phase conductor & neutral	Equipment ground conductor		60°C	75°C	90°C	Dwelling		
SER two conductor with the bare concentric ground (formerly referred to as "three conductors")									
8-8-8	7	7	538	40	50	55	–	218	500
6-6-6	7	7	615	55	65	75	–	322	500
4-4-4	7	7	717	70	85	95	100	483	500
2-2-2	7	7	842	95	115	130	125	735	500
1-1-1	19	19	955	110	130	145	150	921	1000
1/0 - 1/0 - 1/0	19	19	1042	125	150	170	175	1145	1000
2/0 - 2/0 - 2/0	19	19	1134	145	175	195	200	1418	1000
3/0 - 3/0 - 3/0	19	19	1245	165	200	225	225	1763	1000
4/0 - 4/0 - 4/0	19	19	1366	195	230	260	250	2192	1000
SER three-conductor with the bare ground (formerly referred to as "four conductors")									
8 - 8 - 8 - 8	7	7	611	40	50	55	–	276	500
6 - 6 - 6 - 6	7	7	698	55	65	75	–	411	500
4 - 4 - 4 - 6	7	7	784	70	85	95	100	571	500
2 - 2 - 2 - 4	7	7	917	95	115	130	125	873	500
1 - 1 - 1 - 3	19	7	1041	110	130	145	150	1094	1000
1/0 - 1/0 - 1/0 - 2	19	7	1132	125	150	170	175	1362	1000
2/0 - 2/0 - 2/0 - 1	19	19	1234	145	175	195	200	1689	1000
3/0 - 3/0 - 3/0 - 1/0	19	19	1351	165	200	225	225	2104	1000
4/0 - 4/0 - 4/0 - 2/0	19	19	1478	195	230	260	250	2621	1000
SEU two conductor with the bare concentric ground (formerly referred to as "three conductors")									
8-8-8	7	8	665 X 425	40	50	55	–	222	1000/500/250
6-6-6	7	18	724 X 448	55	65	75	–	326	1000/500/150
4-4-4	7	18	837 X 514	70	85	95	100	486	1000/500/150
2-2-2	7	18	978 X 598	95	115	130	125	738	500/100
1-1-1	19	24	1093 X 653	110	130	145	150	922	500
1/0 - 1/0 - 1/0	19	24	1195 X 715	125	150	170	175	1184	1000/500
2/0 - 2/0 -2/0	19	24	1291 X 768	145	175	195	200	1425	1000/500
3/0 - 3/0 - 3/0	19	24	1410 X 836	165	200	225	225	1764	500/100
4/0 - 4/0 - 4/0	19	24	1550 X 920	195	230	260	250	2245	1000/500
SEU two conductor with the bare concentric ground (formerly referred to as "three conductors") (reduced neutral)									
6-6-8	7	8	737 X 461	55	65	75	–	293	1000/500
4-4-6	7	18	818 X 495	70	85	95	100	435	1000/500
2-2-4	7	18	953 X 572	95	115	130	125	657	1000/500

- Table values reflect XHHW-2 conductors. Allowable ampacities shown are for general use as specified by the National Electrical Code, Section 310.15. ▪ 60°C - When terminated to equipment for circuits rated 100 amperes or less or marked for 14 through 1 AWG conductors. See NEC Article 338.10 (B) (4).
- 75°C - When terminated to equipment for circuits rated 100 amperes or marked for conductors larger than 1 AWG conductors. It May not apply; see NEC Article 338.10 (B) (4). ▪ 90°C - Wet or dry locations. For ampacity derating purposes.
- Dwelling - For units, conductors shall be permitted at listed ampacities as 120/240-volt, 3-wire, single-phase services and feeders per NEC Article 310.15.

Recommended sample specifications

The cable is UL-listed Type SE, suitable for operation at 600 volts. Conductors are annealed copper, weather-resistant PVC jacketed, manufactured by us or approved equal.

600 Volts Triplex Secondary Underground Distribution Cable

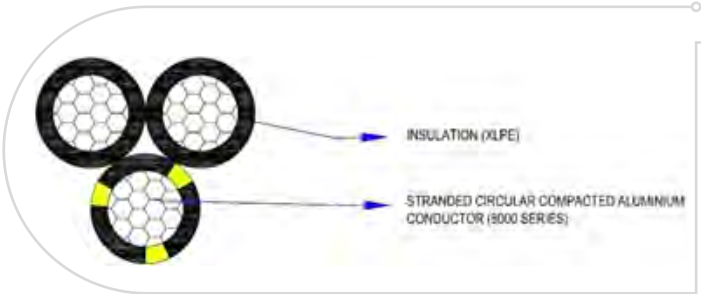
600 Volt, Aluminium Conductors, Cross-linked Polyethylene (XLP) Insulation.

Applications

APAR manufactures Triplex Secondary Underground Distribution cable for secondary distribution and underground service at 600 volts or less, either direct burial or in ducts.

Construction

Conductors are stranded, compressed 1350-H19, H16, or H26 aluminium, insulated with cross-linked polyethylene. Neutrals are triple yellow extruded stripes. Cables with "YES" neutrals have sequential footage markers. Conductors are durably surface printed for identification. Two-phase conductors and one neutral conductor are cabled together to produce the triplex cable configuration. Conductors are also available paralleled.

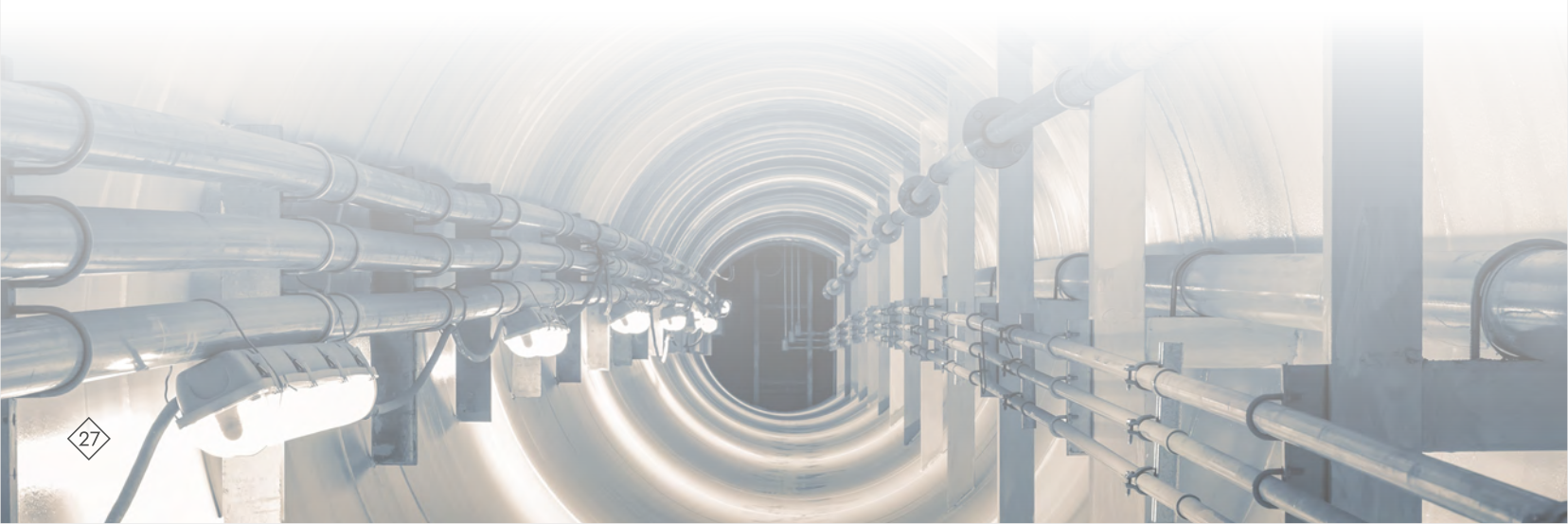


Standards & References

We manufacture triplex or paralleled 600 volts secondary Underground Distribution cable that meets or exceeds the following applicable ASTM specifications:

- B-230 aluminium 1350-H19 wire for electrical purposes.
- B-231 aluminium 1350 conductors, concentric-lay-stranded.
- B-609 aluminium 1350 round wire, annealed and intermediate tempers, for electrical purposes.
- B-901 compressed round stranded aluminium conductors using a single input wire.

The cable meets or exceeds all applicable requirements of ICEA S-105-692 for cross-linked polyethylene insulated conductors and UL Standard 854 for Type USE-2.



TECHNICAL PARAMETER

Code	Phase conductor			Neutral			Diameter (mils)		Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)	
	Size (AWG)	Stranding	Insulation thickness (mils)	Size (AWG)	Stranding	Insulation thickness (mils)	Single phase conductor	Complete cable		Direct burial	In ducts
Erskine	6	7	60	6	7	60	298	644	133	95	70
Vassar	4	7	60	4	7	60	345	754	188	125	90
Stephens	2	7	60	4	7	60	403	842	243	165	120
Ramapo	2	7	60	2	7	60	403	874	271	165	120
Brenau	1/0	19	80	2	7	60	522	1064	384	215	160
Bergen	1/0	19	80	1/0	19	80	522	1133	440	215	160
Converse	2/0	19	80	1	19	80	565	1172	476	245	180
Hunter	2/0	19	80	2/0	19	80	565	1226	531	245	180
Hollins	3/0	19	80	1/0	19	80	616	1276	576	280	205
Rockland	3/0	19	80	3/0	19	80	616	1336	644	280	205
Sweetbriar	4/0	19	80	2/0	19	80	672	1389	698	315	240
Monmouth	4/0	19	80	4/0	19	80	672	1457	782	315	240
Pratt	250	37	95	3/0	19	80	748	1538	849	345	265
Wesleyan	350	37	95	4/0	19	80	851	1736	1105	415	320
Holyoke	500	37	95	300	37	95	979	2008	1523	495	395
Rider	500	37	95	350	37	95	979	2035	1576	495	395

Allowable Ampacity:

- 90°C conductor temperature, 20°C ambient, RHO factor 90, 100% load factor for two conductor triplex with neutral carrying only unbalanced load.
- Technical data for cable with solid black neutral is identical to yellow extruded stripe data.
- To determine correct ampacity by conductor size, please consult the National Electric Code's latest edition.

600 Volts Quadruplex Secondary Underground Distribution Cable

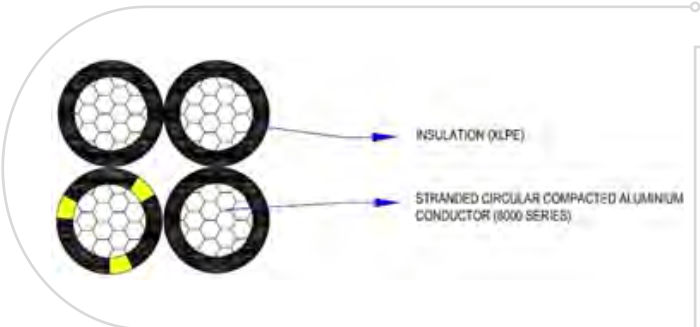
600 Volt, Aluminium Conductors, Cross-linked Polyethylene (XLP) Insulation.

Applications

APAR manufactures Quadruplex cable used for secondary distribution and underground service at 600 volts or less, either direct burial or in ducts.

Construction

Conductors are stranded, compressed 1350-H16/H26 aluminium, insulated with cross-linked polyethylene. Neutrals are identified by a triple yellow extruded stripe. Cables with "YES" neutrals have sequential footage markers. Conductors are durably surface printed for identification. Three-phase conductors and one neutral conductor are cabled together to produce the Quadruplex cable configuration.



Standards & References

We manufacture Quadruplex or paralleled 600 volts secondary Underground Distribution cable that meets or exceeds the following applicable ASTM specifications:

- B230 Aluminum, 1350-H19 Wire for Electrical Purposes
- B231 Aluminum 1350 Conductors, Concentric-Lay-Stranded
- B609 Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes
- B901 Compressed Round Stranded Aluminum Conductors Using Single Input Wire

The cable meets or exceeds all applicable requirements of ICEA S-105-692 for cross-linked polyethylene insulated conductors and UL Standard 854 for Type USE-2.

TECHNICAL PARAMETER

Code	Phase conductor				Neutral				Complete cable diameter (mils)	Approximate net weight per 1000′ (Lbs.)	Allowable ampacities (Amp)	
	Size (AWG)	Stranding	Insulation thickness (mils)	Phase diameter (mils)	Size (AWG)	Stranding	Insulation thickness (mils)	Neutral diameter (mils)			Direct burial	In ducts
Tulsa	4	7	60	345	4	7	60	345	833	251	119	85
Dyke	2	7	60	403	4	7	60	345	938	334	153	115
Wittenberg	2	7	60	403	2	7	60	403	973	361	153	115
Notre Dame	1/0	19	80	522	2	7	60	403	1188	530	198	150
Purdue	1/0	19	80	522	1/0	19	80	522	1260	587	198	150
Syracuse	2/0	19	80	565	1	19	80	482	1314	653	225	170
Lafayette	2/0	19	80	565	2/0	19	80	565	1365	708	225	170
Swarthmore	3/0	19	80	616	1/0	19	80	522	1430	791	250	195
Davidson	3/0	19	80	616	3/0	19	80	616	1487	859	250	195
Wake Forest	4/0	19	80	672	2/0	19	80	565	1560	959	290	225
Earlham	4/0	19	80	672	4/0	19	80	672	1623	1043	290	225
Slippery Rock	350	37	95	851	4/0	19	80	672	1945	1527	385	305
Wofford	500	37	95	979	350	37	95	851	2348	2153	467	370

Allowable Ampacity:

- 90°C conductor temperature, 20°C ambient, RHO factor 90, 100% load factor for two conductor triplex with neutral carrying only unbalanced load.
- Technical data for cable with solid black neutral is identical to yellow extruded stripe data.
- To determine correct ampacity by conductor size, please consult the National Electric Code's latest edition.

Aluminium 2000 Volts EPR-CPE Wind Cable

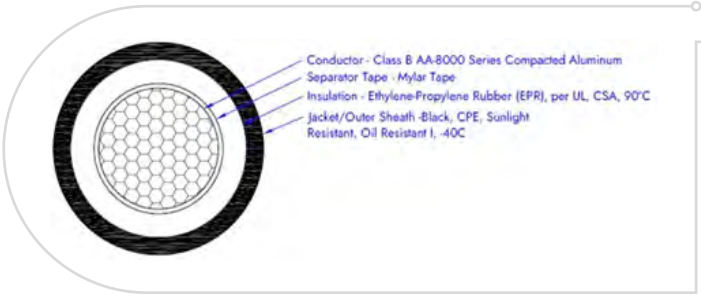
Aluminium Conductor AA-8000 Series Aluminium alloy, Compacted stranded, 2000 Volt, EPR/CPE Insulation/Jacket, Sizes 1/0 AWG through 1000 kcmil, Sunlight Resistant, Oil Resistant I, temperatures of -40°C to +90°C.

Applications

APAR manufactures Wind cable is available in sizes 1/0 AWG through 1000 kcmil. The cable is specifically useful for the application that requires conductor insulation up to 2000 volts in a wind turbine for generator and step-up transformers. The cable is suited for use in wet and dry locations at temperatures of -40°C to +90°C.

Construction

Conductor: Class B AA-8000 series compacted aluminium
Binder Tape: mylar tape
Insulation: Ethylene-propylene rubber (EPR), per UL, CSA, 90°C
Jacket: Black, CPE, sunlight resistant, oil resistant I. -40C



Standards & References

- Type RHH/RHW-2 per UL 44
- Type RHH/RHW-2, 90°C Wet/Dry, 2000V
- CSA listed RW90, RW90-TC 1kV
- Type USE-2/ cable tray rated
- Sunlight resistant, oil resistant I, -40C
- RoHS compliant
- CSA C22.2 No. 38
- CSA-cUL certified

TECHNICAL PARAMETER

Conductor		Insulation Thickness		Nominal Jacket Thickness		Nominal OD.		Approximate Net Weight (Kg/1000 Ft.)	Ampacities*	Min. Bending Radius (Inches)
Size (AWG or kcmil)	No. of strands	Inches	mm	Inches	mm	Inches	mm			
1/0	19	0.065	1.65	0.045	1.14	0.566	14.38	210	205	4.53
2/0	19	0.065	1.65	0.045	1.14	0.606	15.39	246	235	4.85
3/0	19	0.065	1.65	0.045	1.14	0.653	16.59	290	270	5.22
4/0	19	0.065	1.65	0.045	1.14	0.705	17.91	344	315	5.64
250	19	0.075	1.91	0.065	1.65	0.810	20.57	436	355	6.48
300	37	0.075	1.91	0.065	1.65	0.860	21.84	499	395	6.88
350	37	0.075	1.91	0.065	1.65	0.906	23.01	560	445	7.25
400	37	0.075	1.91	0.065	1.65	0.949	24.10	620	480	7.59
500	37	0.075	1.91	0.065	1.65	1.026	26.06	737	545	8.21
600	61	0.090	2.29	0.065	1.65	1.133	28.78	888	615	9.06
700	61	0.090	2.29	0.065	1.65	1.197	30.40	1002	670	9.58
750	61	0.090	2.29	0.065	1.65	1.228	31.19	1060	700	9.82
800	61	0.090	2.29	0.065	1.65	1.258	31.95	1116	725	10.06
900	61	0.090	2.29	0.065	1.65	1.319	33.50	1232	790	10.55
1000	61	0.090	2.29	0.065	1.65	1.380	35.05	1346	845	11.04

- All dimensions & weights are nominal, subject to industry standards and tolerances unless otherwise noted.
- Ampacity values based on NEC Table 310.15(B) (17) - Single Insulated Conductors Rated Up to and including 2000V Operating at 90°C in Free Air Based on Ambient Temperature of 30°C.

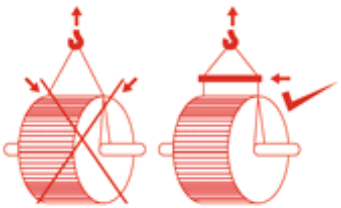
DRUM HANDLING

APAR's cables should be installed by trained professionals in accordance with good engineering practices, recognised codes of practices, local statutory requirements and IEEE wiring regulations.

Electrical cables are often supplied in heavy drums, and handling these drums can constitute a safety hazard. Proper handling of cable drums decreases the probability of accidental damage of cable, material and personnel.

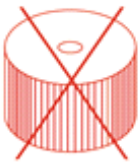
Following are the number of key safety issues to keep in mind while handling the cable drums:

Lifting the cable drum by crane



Drum rolling as shown direction

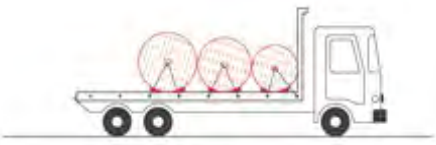
Do not lay drum on flanges



Use proper stops to prevent drum rolling

Lifting drums correctly on fork truck

Secure drums adequately before transportation



CABLE LAYING & INSTALLATION PROCEDURES

- Take proper precautions to avoid any mechanical damage to the cables before and during installation.
- Exceeding the manufacturer's recommended maximum pulling tensions should be avoided as this can damage the cables.
- If cables are being installed in ducts, the correct size of the duct should be consulted and used.
- The type of jointing and filling compounds employed should be chemically compatible with the cable materials.
- The cable support system must be apt to avoid damage to the cable.
- Repeated over-voltage testing can lead to premature failure of the cable.
- The selection of cable glands, accessories and any associated tools should take account of all aspects of intended use. Any semi-conducting coating present on the over sheath should be removed for a suitable distance from joints and terminations.
- Exercise proper care with single-core cables to ensure that the bonding and earthing arrangements are adequate to cater for circulating currents in screen(s).

APAR
Tomorrow's solutions today

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