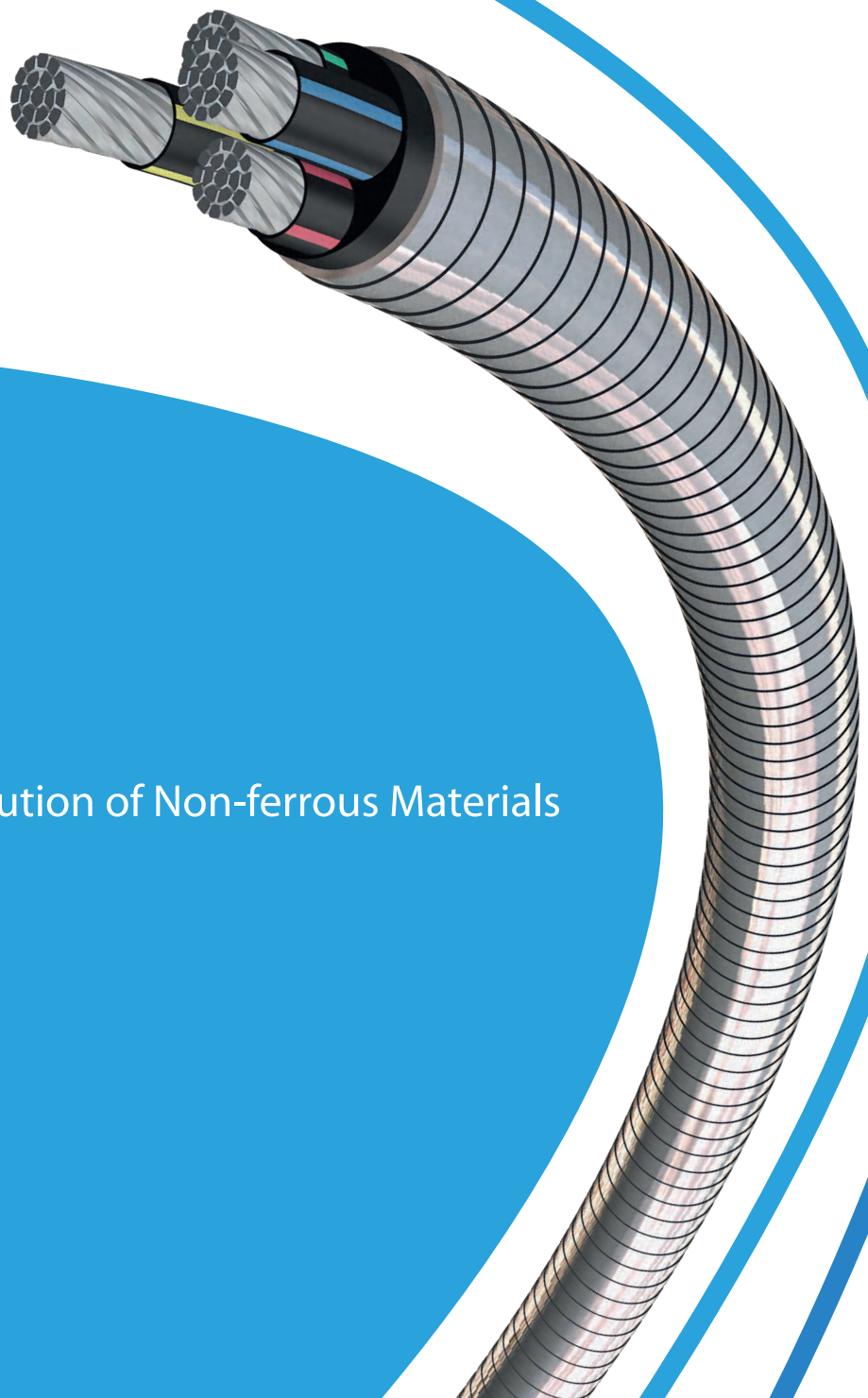
JOY SENSE CABLE SDN BHD

Rare-earth High-iron
Aluminium Alloy Power Cable



A Revolution of Non-ferrous Materials

SIRIM

Aluminum Alloy Cable
Cutting-Edge Technology
International Brand

JOYSENSE CABLE CONTENTS

JOY SENSE CABLE SDN BHD

Joy Sense Cable Sdn Bhd is a fully owned local company which operated since April 2011. It is located at Suite 8.07 (North Block) 8th Floor, Ampang Walk, 218 Jalan Ampang, 50450 Kuala Lumpur, Malaysia. We have obtained an exclusive right of distribution from the main Aluminium Alloy cable manufacturer which is Anhui Joysense Cable in China and also approval from Standards and Industrial Research Institute of Malaysia (SIRIM).

We exercise strict and highest standards of quality control to ensure the best quality of cable. We are confident to be able to realize this vision as a developed and competitive company in this era of modernization and globalization. Our pledge is to maintain this continuous effort to strive for excellence in supplying the best product for our country.

THE HISTORY

Joy Sense Cable Co., Ltd was established in 1994, located in the city of Hefei which is known as "Science & Technology Town" in Anhui Province. Started off by producing copper cable and ACSR and focuses on key national project particularly the Three Gorge Dam Project. Having produce large cross section ACSR-720/50 and becoming the leading product of the mega scale project, our product has been widely recognised and used in the industry. The state power corporation gave full recognition and praise on our product and we have won high regards and honour from the national cable industry.






TODAY

Owning independent technology research and development centre and having own production line for continuous casting and rolling for aluminium ingot to aluminium alloy rod, Joy Sense Cable company covers an area of 300,000 square meter and have manufacturing plant in Chaohu (Anhui province), Shijiazhuang (Hebei province), Qingyuan (Guangdong province) and Jixi (Anhui province) with the total production reaching 5 billion USD annually.

The fully patented Rare Earth Hi-Iron Aluminium Alloy Power Cable that is research and developed by our company has been well received locally and internationally. Having exported to the United States since year 2005 and being recognised and recommended by national construction department, fire department, power transmission and distribution, railroad department and oil and gas industry, the amount of project involved has been in the thousand. Combining superior product qualities with a company that is recognized as the industry leader in customer service in China, Joy Sense Cable has earned confidence from innovative designers and progressive contractors by consistently exceeding their expectation. Joy Sense's Aluminium Alloy conductor cables are increasingly becoming the preferred choice for different application.

Through its history, Joy Sense Cable Company has sought to deliver power through our products, our service and by helping empower our customers, employees and communities.

ADVANTAGES USING JOYSENSE CABLE

INTERNATIONALLY CUTTING EDGE TECHNOLOGY

New type 8000 series aluminium alloy with mixture of iron, rare earth and other elements after the processes of drawing, compacting and special annealing has better conductivity and superior mechanical property. Conductors are insulated with fire retardant silane cross linked polyethylene developed and patented by Joysense, with armour using the interlocked aluminium alloy armour and patented sheath that is low smoke zero halogen fire retardant environmental friendly material. Spring back of aluminium alloy is 40% less than copper while flexibility is 30% more. Overall this helps to guarantee stable connection even when expose to continuous over-carrying ampacity and heat, and reduces fire risk.

HUGE ECONOMIC BENEFIT

Copper resources are relatively more expensive and fluctuate greatly with supply getting scarce; oppositely aluminium has a more stable market with abundant resources available. At the same current carry capacity, aluminium alloy has half the weight and better flexibility. This reduces the amount of fix support needed for the cable and reduces the man hour needed during the installation because it is easier to install and thus further saves money. Accordingly, our product has already enjoyed a favourable market worldwide, helping project to save money and within budget.

Joysense Research Centre

Patent NO.655535
Formula of high elongation

Patent NO.878563
Methods of making high soft aluminum alloy conductor

Patent NO.825885
Methods of making low smoke low halogen retardant agent

Patent NO.934771
Methods of making aluminum alloy for civil wiring

DISPLACEMENT OF COPPER RESOURCES

With the demand for copper resources increases gradually, copper reserves are getting lesser world wide. After oil, copper has become another strategic resources that influences one nation's economic safety. Although aluminium is also being in demand but it still has abundant reserve around the world. Our Aluminium alloy has electrical performance just as good as copper while the physical performance is better than copper. It is accepted overwhelmingly by experts in this field at home and aboard and certified by big projects that our cables not only have reached the highest safety level but also achieved a considerable economic value to society. Using our aluminium alloy cable on the one hand saves a great amount of money for both end users and government, on the other, contributes immeasurably to both sustainable and conservation oriented society and national strategy.

SAFETY

Increased anti-creeping property of the Joysense cable when properly connected has proven to have superior and stable connectivity. Over the long term, with its superior mechanical property, regular retightening is not required as the connection will not be loosened. Combine with patented material used for the construction of the cable, the fire safety of the cable is high. Patented sheath material is low smoke zero halogen and flame retardant suitable to be use for indoor and places that prioritize fire safety. Furthermore, Joysense cable passes fire testing BS 6387 Category CWZ at temperature of 950°C, IEC 60331 Class 1, IEC 60332 Category A, certified by many authority both local and worldwide.

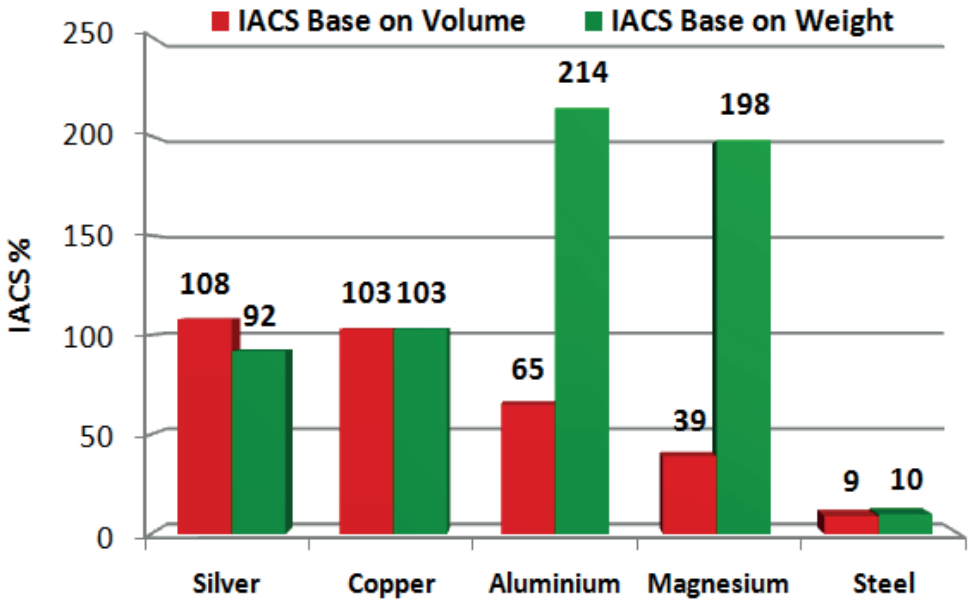
INTRODUCTION TO ALUMINIUM ALLOY

JOYSENSE ALUMINIUM ALLOY

Rare Earth Hi-Iron Aluminium Alloy is classified as 8000 series aluminium alloy and is suitable to be use for low voltage ranges to replace copper conductor. Through continuous research and development, we have successfully developed not only Class 2 conductor but Class 5 conductor as well which is the very first and the leading technology in the industry. This breakthrough has allowed copper conductor to be replace with a more economical aluminium alloy.

CONDUCTIVITY

Aluminium alloy current carrying capacity is at 61% IACS and weight 1/3 of copper given the same surface area. Given this, Aluminium alloy is half the weight of copper at the same current carrying capacity. Substituting copper with aluminium alloy will tremendously reduce the weight of the cable and reduces the amount of support needed and subsequently reduce installation cost, reduce damage to cable and easing installation work.



MECHANICAL PROPERTY

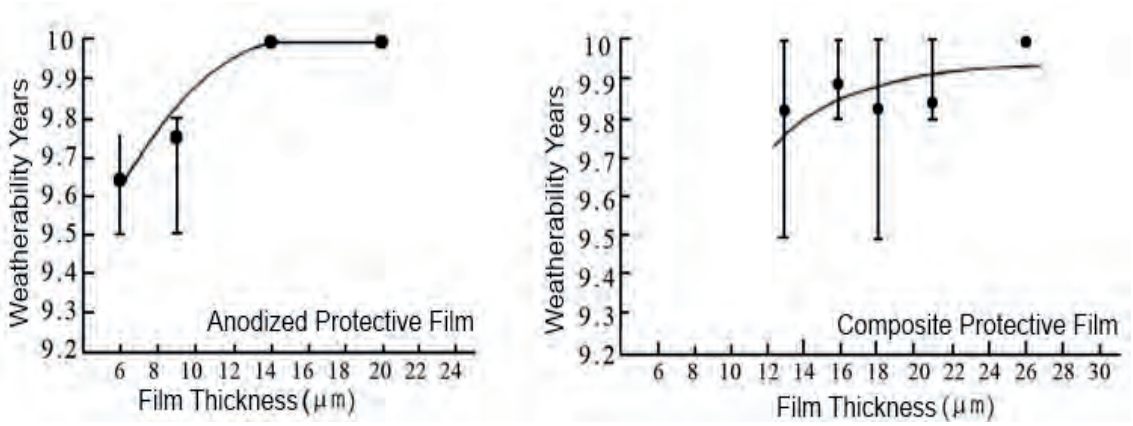
Flexible and High Elongation: The flexibility of Joysense Aluminium Alloy is 30% more than of copper and the elongation rate is at 30%.

Anti Creeping: Having gone through special treatment, the anti - creeping property and compression resistant of aluminium alloy is 300% greater than traditional pure aluminium cable thus making the connection with the connector just as stable as the copper cable.

Spring back and Bending Radius: The spring back resistance of aluminium alloy is 40% lower than that of copper and the bending radius of the cable is only at 7 times the diameter of the cable. This reduces the space needed for installation and makes installation work faster and easier.

ANTI CORROSION

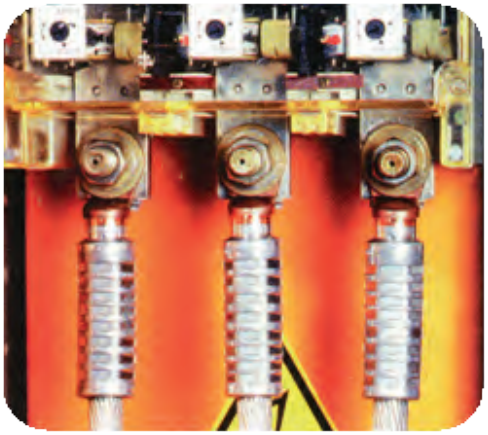
A stable, thin and solid oxide layer that is impermeable is form on the aluminium surface when exposed to air. This layer prevents further corrosion into the conductor and is the main reason for aluminium good anti corrosion property. Joysense Aluminium Alloy has even better anti-corrosion property after special treatment. The alloys reduce the oxidation process and further improve the already great anti corrosive property of the aluminium. This further increases the safety and life span of the cable up to 40 years and making it a very suitable choice for sites that are close to sea water without the need for additional coating.

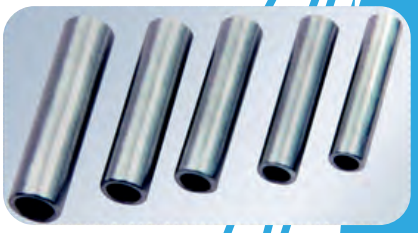


Traditional Aluminium VS Joysense Aluminium Alloy anti-corrosion comparison

CONNECTIVITY

Joysense Aluminium alloy has greatly improved its connection property compare with traditional pure aluminium. The element of iron ensures a stable connection even thought the conductor is overcarrying or over-heating. The anti-creeping property of aluminium alloy ensures the connection is secure and not become loosen over time and thus regular retightening is not required. The safety and stability of the connection is ensured when it is property secure and installed with connector that is aluminium compatible. Joysense aluminium alloy has passes the stringent test of 1000 heat cycle test for lugs connection at the national centre for quality supervision and test of electrical wire and cable at Shanghai electric cable research institute.





PROJECT INSTALLATION

Through-Wall

Vertical Bracket

Cable Tray

Cable Duct

Cable Pit

Cable Tunnel

Cable Gallery

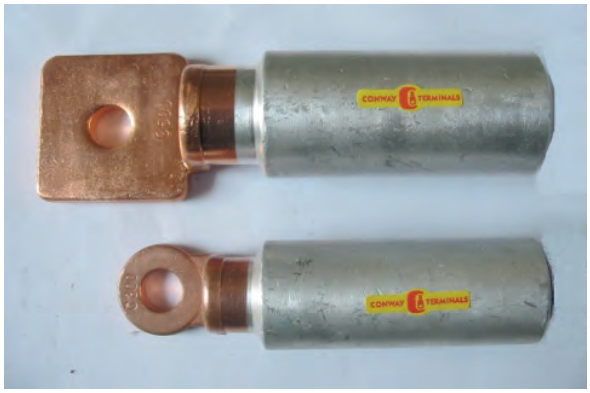
Direct Burial

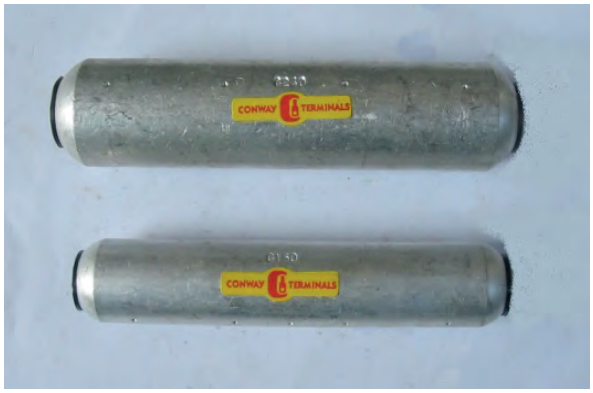
Tunnel Laying

Pipe Laying

PROPER CONNECTION WITH ALUMINIUM ALLOY CONDUCTOR

When connect to copper terminal, a bimetallic lug is compulsory to prevent galvanized corrosion between different metal. Joysense Cable recommends using Bimetal Lugs compliant to type test IEC 61238-1 for stable and safety connection.





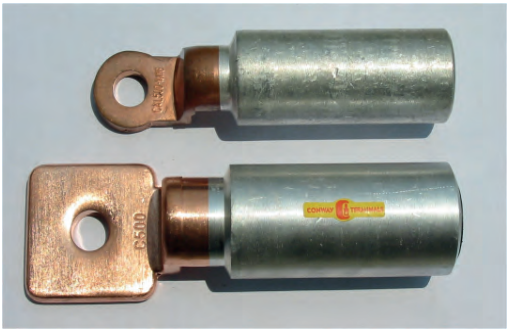
BIMETAL LUGS & ALUMINIUM FERRULE LINK

Picture below demonstrate different between a standard and non-standard lugs.

300mm² BIMETAL LUGS

Non Standard Bimetal Lugs

IEC Standard Bimetal Lugs



500mm² BIMETAL LUGS

Using a non-standard lug or improper installation can jeopardised the safety of the connection. Thus it is highly recommended that instruction from the lugs manufacturer is obtain in regards to having a proper and secure connection.

PICTURE COURTESY OF CONWAY TERMINALS MFG SDN BHD

PROCEDURE IN MAKING A PROPER CONNECTION

PROCEDURE

1. Cut the cable to the specific length that is needed
2. Cut the heat shrink to the specific length and jacket it onto the cable
3. Remove the insulation of the cable according to the internal depth of the bimetal lug.
4. Wire brush the surface of the conductor from dust and dirt and apply the jointing compound.
5. Insert the conductor to the bimetal lugs and turn it around so that the jointing compound covers the whole surface of the conductor thoroughly.
6. Use proper crimping head to crimp the bimetal lugs. (Hydraulic Indent Crimping Head CH-240 for sizes 16mm^2 to 240mm^2 and CH-630 for sizes 300mm^2 to 630mm^2)
7. The first crimp on the bimetal lugs must be crimp from the inside (which is near to the friction welding side) and then follow by the second crimp.
8. Clean the surface after complete crimping and pull the heat shrink over to cover the aluminium barrel.
9. Use heat to shrink it until completely bind to the aluminium barrel and check the termination.

CH-240 INDENT TOOL

CH-630 INDENT TOOL

TOOLS USE FOR CRIMPING

Crimping can be either indent or hexagon and it must be done with proper tools. The hexagon crimping die for Aluminium is different from the crimping die for copper , although both are rated for the same size. A 240mm^2 Aluminium Crimping Die has different dimension than a 240mm^2 Copper Crimping Die . Wrongly use of crimping die will lead to over crimping or insufficient crimping and can lead to increase resistant on the connection causing overheating. This is a fire risk and in long term also causes unnecessary power lost.

CP-400

CP-1000

HEXAGON CRIMPING TOOLS

PICTURE COURTESY OF CONWAY TERMINALS MFG SDN BHD

PROJECT REFERENCE

Tibet 10MW Solar Power Plant

Wind Mill – Windmill Industrial park

Thermal Power Plant

Universiade Shenzhen 2011 – Street Lighting

Baha Mar – Development plan of Hotels, Gold Course, Casino, Retail Space and Convention Centre

ACCREDITATION & CERTIFICATION

SIRIM Certification

No Lesen : PC000308
Licence No :

SIRIM QAS INTERNATIONAL

LESEN PENSIJILAN BARANGAN
Product Certification Licence

MS SIRIM

SIRIM QAS International Sdn. Bhd. dengan ini menganugerahkan kepada
SIRIM QAS International Sdn. Bhd. hereby grants to

JOY SENSE CABLE SDN BHD
CENTRUM SETIAWANGSA, TINGKAT 2, LOT 16861
JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200, KUALA LUMPUR
WILAYAH PERSEKUTUAN, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on
POWER CABLES WITH EXTRUDED SOLID INSULATION

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with
IEC 60502-1 : 2004

Khalidah Mustafa
Pengarah Urusan
Managing Director
SIRIM QAS International Sdn. Bhd.

Tarikh Mula Pensijilan : 02 September 2012
Certified Since
Sah Sehingga : 14 October 2013
Valid Until

Tarikh Dikeluarkan : 26 December 2012
Issue Date
No Siri : 003858
Serial No

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Pengarah Urusan
Managing Director
SIRIM QAS International Sdn. Bhd.

Tarikh Mula Pensijilan : 11 May 2012
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Sah Sehingga : 11 May 2013
Valid Until

Tarikh Dikeluarkan : 14 May 2012
Issue Date
No Siri : 001691
Serial No

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Certificate
IEC 60502-2:2005

SIRIM Certification

No Lesen : PC000306
Licence No :

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54200, KUALA LUMPUR
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FIRE RESISTANT CABLES

Please refer to detail in the SCHEDULE

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as complying with
MS IEC 60331-21 : 2001

Khalidah Mustafa
Pengarah Urusan
Managing Director
SIRIM QAS International Sdn. Bhd.

Tarikh Mula Pensijilan : 02 September 2012
Certified Since
Sah Sehingga : 14 October 2013
Valid Until
Tarikh Dikeluarkan : 26 December 2012
Issue Date
No Siri : 003660
Serial No

SIRIM
Certificate
IEC 60331-21:2001

No Lesen : PC000307
Licence No :

LESEN PENSIJILAN BARANGAN
Product Certification Licence

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JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200, KUALA LUMPUR
WILAYAH PERSEKUTUAN, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on
FLAME RETARDANT CABLES - CATEGORY A

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with
IEC 60332-3-22 : 2000

Khalidah Mustafa
Pengarah Urusan
Managing Director
SIRIM QAS International Sdn. Bhd.

Tarikh Mula Pensijilan : 02 September 2012
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Sah Sehingga : 14 October 2013
Valid Until
Tarikh Dikeluarkan : 26 December 2012
Issue Date
No Siri : 003659
Serial No

SIRIM
Certificate
IEC 60332-3-22:2000

ACCREDITATION & CERTIFICATION

SIRIM & BOMBA Certification

No Lesen : PC000086
Licence No :

SIRIM QAS INTERNATIONAL

LESEN PENSIJILAN BARANGAN
Product Certification Licence

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JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200, KUALA LUMPUR
WILAYAH PERSEKUTUAN, MALAYSIA

Lesen untuk menggunakan Tanda Pensijilan di atas barangan
a licence to use the Certification Mark on
FIRE RESISTANT CABLES

Please refer to detail in the SCHEDULE

sebagai mematuhi keperluan
as complying with
BS 6387 : 1994

Khalidah Mustafa
Pengarah Urusan
Managing Director
SIRIM QAS International Sdn. Bhd.

Tarikh Mula Pensijilan : 24 February 2012
Certified Since
Sah Sehingga : 24 February 2014
Valid Until
Tarikh Dikeluarkan : 29 February 2012
Issue Date
No Siri : 004357
Serial No.

SIRIM
Certificate
BS 6387:1994

No. Fail: **JBPM/IP/BKK:700-7/2/16-129 (8)** **BAHARU**

SIJIL PERAKUAN BAHAN
CERTIFICATE OF MATERIAL APPROVAL

Jabatan Bomba dan Penyelamat Malaysia
dengan ini memperakui bahawa
Fire and Rescue Department of Malaysia
hereby certify that

JOY SENSE CABLE SDN BHD (940709-K)
Centrum Setiawangsa, Tingkat 5, Lot 16861,
Jalan Setiawangsa 8 & 13,
Taman Setiawangsa,
54200 Kuala Lumpur.

Bagi bahan binaan / pepasangan keselamatan kebakaran
For building material / fire safety equipment

FIRE RESISTANT CABLE

Berdasarkan piawaian
As complying with

BS 6387: 1994

Tempoh sah perakuan: **29/11/2012 hingga 28/11/2013**

(DATO' MAHADI BIN MD-ALI)
Timbalan Ketua Pengarah (Operasi),
b.p. Ketua Pengarah
Jabatan Bomba dan Penyelamat Malaysia.

Tarikh: 30 November 2012

Bomba
Certificate
Sijil Perakuan Bahan

SAI GLOBAL Certification

STANDARDSMARK LICENCE

SAI Global hereby grants:

Anhui Joy Sense Cable Co., Ltd.
No.98 Zhangwa Road, HEFEI, Anhui China

And

Australia Joy Sense Pty Ltd
Unit 7701/7 Riverside, SOUTHBANK, VIC 3006, Australia

"Jointly the Licensee"

StandardsMark Licence

Manufactured to:

IEC 60502-1 ED. 2.1 - Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV) - Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)

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Issued: 3 August 2010
Expires: 2 August 2015

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Current Certification: 3 August 2010

Duncan Lilley
Global Head – Assurance Services

Alex Ezrakhovich
General Manager – Certification Services

Certified Product
Australian Standard

* For details of manufacture, refer to the licensee

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SAI GLOBAL

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Certificate
IEC 60502-1

ACCREDITATION & CERTIFICATION

SIRIM Award


Congratulations

JOY SENSE SDN. BHD.

TINGKAT 5, CENTRUM SETIAWANGSA
LOT 16861, JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200 KUALA LUMPUR
WILAYAH PERSEKUTUAN

for successfully participating in the

PRODUCT CERTIFICATION SCHEME

complying to

IEC 60502-1 : 2004
for Power Cables with Extruded Solid Insulation

for the year

2012

Dr. Hj. Zainal Abidin Mohd Yusof
President and Chief Executive
SIRIM Berhad

SIRIM Award


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LOT 16861, JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200 KUALA LUMPUR
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for successfully participating in the

PRODUCT CERTIFICATION SCHEME

complying to

IEC 60502-2 : 2005
for Power Cables with Extruded Solid Insulation

for the year

2012

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President and Chief Executive
SIRIM Berhad

SIRIM Award

SIRIM Award


Congratulations

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TINGKAT 5, CENTRUM SETIAWANGSA
LOT 16861, JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200 KUALA LUMPUR
WILAYAH PERSEKUTUAN

for successfully participating in the

PRODUCT CERTIFICATION SCHEME

complying to

MS IEC 60331-21 : 2001
for Fire Resistant Cables

for the year

2012

Dr. Hj. Zainal Abidin Mohd Yusof
President and Chief Executive
SIRIM Berhad

SIRIM Award


Congratulations

JOY SENSE SDN. BHD.

TINGKAT 5, CENTRUM SETIAWANGSA
LOT 16861, JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200 KUALA LUMPUR
WILAYAH PERSEKUTUAN

for successfully participating in the

PRODUCT CERTIFICATION SCHEME

complying to

BS 6387 : 1994
for Fire Resistant Cables

for the year

2012

Dr. Hj. Zainal Abidin Mohd Yusof
President and Chief Executive
SIRIM Berhad

SIRIM Award

ACCREDITATION & CERTIFICATION

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Congratulations

JOY SENSE SDN. BHD.

TINGKAT 5, CENTRUM SETIAWANGSA
LOT 16861, JALAN SETIAWANGSA 8 & 13, TAMAN SETIAWANGSA
54200 KUALA LUMPUR
WILAYAH PERSEKUTUAN

for successfully participating in the

PRODUCT CERTIFICATION SCHEME

complying to

IEC 60332-3-22 : 2000
for Flame Retardant Cables - Category A

for the year

2012

Dr. Hj. Zainal Abidin Mohd Yusof
President and Chief Executive
SIRIM Berhad

SIRIM Award

VENDOR REGISTRATION

- SURUHANJAYA TENAGA
- TENAGA NATIONAL BERHAD
- JABATAN KERJA RAYA MALAYSIA
- SABAH ELECTRICITY SDN BHD
- JOHOR PORT BERHAD
- PENANG PORT SDN BHD
- PELABUHAN TANJUNG PELEPAS SDN BHD
- NORTHPORT (MALAYSIA) BHD
- BOUSTEAD NAVAL SHIPYARD SDN BHD
- LABUAN SHIPYARD & ENGINEERING SDN BHD
- PETRONAS BERHAD
- PRASARANA NEGARA BERHAD
- RNZ INTEGRATED (M) SDN BHD

COMPARISON BETWEEN ALUMINIUM ALLOY AND COPPER CABLE

COMPARISON ON AMPACITY

In Air

Selection		Ampacity					
Cross Section (mm^2)		0.6/1kv		8.7/10kv		26/35kv	
CU	AA	CU	AA	CU	AA	CU	AA
25	35	120	122	-	-	-	-
35	50	150	156	-	-	-	-
50	70	196	194	205	214	220	224
70	120	255	276	305	333	270	309
95	150	310	325	370	388	330	355
120	185	360	372	430	440	375	401
150	240	419	443	490	521	425	472
185	300	479	518	560	603	485	548
240	400	565	639	665	722	560	648
300	500	643	765	765	813	650	727
400	630	771	851	890	934	760	831

*Single Core – Delta shape laid; In Air Temperature 40°C; Maximum Operating Temperature 90°C

Direct Burial

Selection		Ampacity					
Cross Section (mm^2)		0.6/1kv		8.7/10 kv		26/35kv	
CU	AA	CU	AA	CU	AA	CU	AA
25	35	142	137	-	-	-	-
35	50	171	169	-	-	-	-
50	70	204	202	200	200	200	200
70	120	257	269	246	267	246	268
95	150	306	310	293	305	293	306
120	185	341	343	335	340	335	341
150	240	385	395	377	394	372	396
185	300	434	452	423	450	423	452
240	400	494	535	493	523	488	525
300	500	563	602	553	577	553	580
400	630	652	670	632	648	632	651

*Single Core – Delta shape laid; Ambient Temperature 25°C; Soil Thermal Resistance – 1.2Km/W

COMPARISON ON PHYSICAL PARAMAETER

PHYSICAL PARAMETER					
Cross Section (mm^2)		Overall Diameter (mm)		Weight (Kg/Km)	
CU	AA	CU	AA	CU	AA
25	35	10.6	11.7	315	187
35	50	11.8	13.2	414	244
50	70	13.2	15.1	542	322
70	120	15.1	18.5	757	503
95	150	17.0	20.6	1025	623
120	185	18.8	22.7	1281	759
150	240	20.8	25.3	1562	956
185	300	23.0	27.8	1940	1167
240	400	25.8	31.5	2522	1521
300	500	28.5	35.1	3144	1879
400	630	31.9	39.2	4006	2341

*Given the same ampacity, Aluminium Alloy has 1.5x the nominal cross section of copper and half the weight.

COMPARISON ON CABLE

ITEM	COPPER CABLE	JOYSENSE CABLE	NOTES
Conductor	Copper	Aluminium Alloy	-
Service Life	30 years	40 years	Longer
Armour	Non-Interlocked	Interlocking Armour	Flexible and Easy to install
Weight	Fair	Good	Half the weight
Bending Radius	15 times Diameter	7 times Diameter	Uses less space
Fatigue Resistance	Good	Better	25% more than copper
Flexibility	Good	Better	25% more than copper
Installation and Construction	Require Conduit, Cable tray and supports.	Light weight, armoured, no conduit and less support.	Reduces time and man hour
Anti Corrosion	Great	Best	Improved anti corrosion property
Spring Back & Shape Memory	High	Low	40% less than copper, easier to install
Connection	Stable, Safe	Stable, Safe	Aluminium compatible lugs

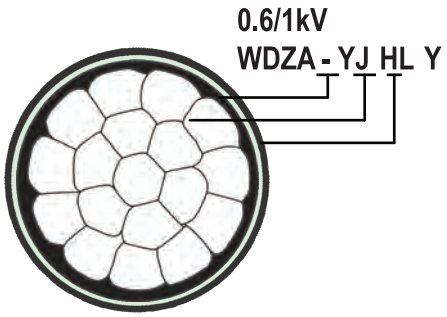
* Basing on same current carrying performance.

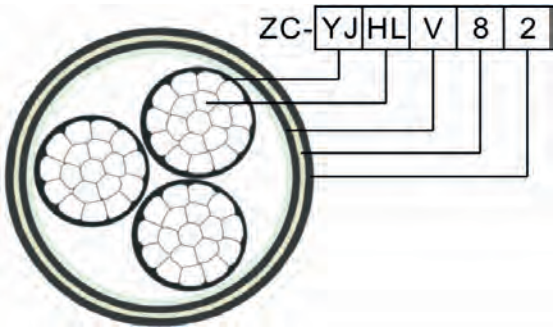
ALUMINIUM ALLOY CABLE VARIETY

MODEL	NAME	CORES	VOLTAGE RANGE		
			0.6/1KV	8.7/15KV	26/35KV
			CROSS SECTION (mm^2)		
YJHLV	**Unarmoured Cable** Rare Earth Hi-Iron Aluminium Alloy Conductor XLPE Insulated PVC Sheathed Power Cable	1	10-630	70-630	70-630
		2	10-630		
		3	10-630	70-630	70-630
		3+1	16-630		
		3+2	16-630		
		4	10-630		
		4+1	16-630		
		5	10-630		
YJHLV8	**MC Cable** Rare Earth Hi-Iron Aluminium Alloy Conductor XLPE Insulated PVC Sheathed Aluminium Alloy Interlocked Armour Conduit	2	10-630		
		3	10-630	70-630	70-400
		3+1	16-630		
		3+2	16-630		
		4	10-630		
		4+1	16-630		
		5	10-630		
YJHLV82	**Interlocked Armoured Cable** Rare Earth Hi-Iron Aluminium Alloy Conductor XLPE Insulated Aluminium Alloy Interlocked Armoured PVC Sheathed Power Cable	2	10-630		
		3	10-630	70-630	70-240
		3+1	16-630		
		3+2	16-630		
		4	10-630		
		4+1	16-630		
		5	10-630		
YJHLV22	**Steel Tape Armoured Cable** Rare Earth Hi-Iron Aluminium Alloy Conductor XLPE Insulated Double Steel Tape Armoured PVC Sheathed Power Cable	2	10-630		
		3	10-630	70-630	70-630
		3+1	16-630		
		3+2	16-630		
		4	10-630		
		4+1	16-630		
		5	10-630		

*Sheath and Armour material can be slightly different depending on cable characteristic and design requirement.

CABLE MODEL VARIETIES





Below is the logic behind the model naming of Joysense cable.

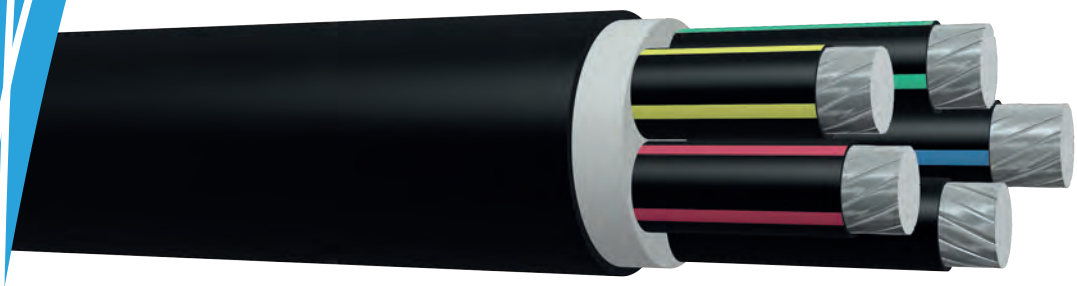
CABLE CHARACTERISTIC			
W	D	Z	N
LSZH		**FRT & FR**	

-

CABLE CONSTRUCTION				
YJ	HL	Y	8	3
Insulation	**Conductor**	**Sheath**	**Armour**	**Outer Sheath**

CHARACTERISTIC	INSULATION	CONDUCTOR	SHEATH	ARMOUR	OUTER SHEATH
WD Low Smoke Zero Halogen	**V** PVC Insulated	**HL** Class 2 Aluminium Alloy Conductor	**V** PVC Sheath	**2** Double Steel Tape Armour	**2** PVC Outer Sheath
ZC Fire Retardant Category C	**YJ** XLPE Insulated	**RHL** Class 5 Aluminium Alloy Conductor	**Y** PE or PO Sheath	**3** Steel Wire Armour (SWA)	**3** PE or PO Outer Sheath
ZA Fire Retardant Category A	**E** EPR Insulated		**F** TPE Sheath	**6** Aluminium Tape Armour	**4** TPE Outer Sheath
ZN Fire Resistant & Fire Retardant Category A				**7** Aluminium Wire Armour (AWA)	
FS Water Resistant				**8** Interlocked Aluminium Alloy	
FSY Water Resistant & Anti-Termite					

YJHLV - UNARMOURED CABLE



VOLTAGE RANGE
- 0.6/1kV
- 8.7/15kV
- 26/35kV

CONDUCTOR
- Class 2 Aluminium Alloy 8000 Series

INSULATION
- XLPE

SHEATH
- PVC / PE / LSZH

OPERATING TEMPERATURE
- -40°C to 90°C
- -40°C to 105°C
  (Optional for Photo-Voltaic Cable)

STANDARD REFERENCES
- IEC 60228
- IEC 60502
- IEC 60332
- IEC 60754
- IEC 61034

DESCRIPTION

Single core and multi core power cable with compact stranded class 2 aluminium alloy 8000 series conductor, XLPE insulated and PVC sheathed. Cable conforms to IEC 60502 and has option for IEC 60332 Flame Retardant Category A and Low Smoke Zero Halogen.

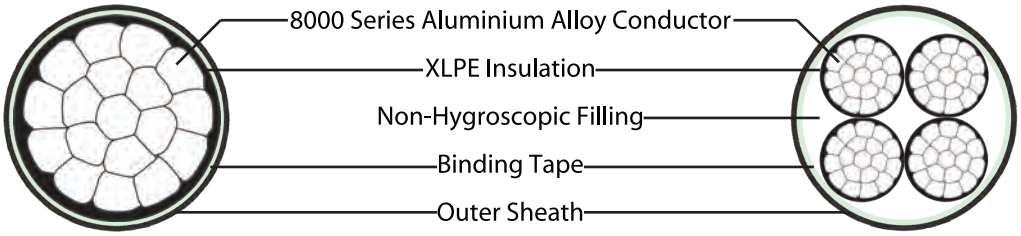
APPLICATION

YJHLV unarmored cable is widely applied in circumstances without armoured mechanical protection and can be installed for common residence, commercials and industrial buildings.

Suitable for Indoor condition, outdoor environment and direct burial with proper protection.

CHARACTERISTIC	FEATURE	USAGE AREA				
		INDOOR	OUTDOOR	FIRE SAFETY	DIRECT BURIAL	UPS
ZC-YJHLV	Fire Retardant Cat C	✓	✓		✓	
WDZA-YJHLY	LSZH & Fire Retardant Cat A	✓	✓	✓	✓	
FSY-YJHLY	Termite & Water Resistant	✓	✓		✓	

CLASS 2 – 600/1000V UNARMOURED CABLE
TECHNICAL DATA – YJHLV



YJHLV – 0.6/1kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
1 Core	10	0.7	8.0	82	64	69	≤3.080	3.690	0.164
	16	0.7	9.1	108	87	91	≤1.910	2.269	0.156
	25	0.9	10.6	150	117	115	≤1.200	1.449	0.153
	35	0.9	11.7	187	144	137	≤0.868	1.039	0.149
	50	1.0	13.2	244	184	169	≤0.641	0.718	0.145
	70	1.1	15.1	322	229	202	≤0.443	0.515	0.143
	95	1.1	16.6	407	277	237	≤0.320	0.383	0.141
	120	1.2	18.5	503	326	269	≤0.253	0.303	0.139
	150	1.4	20.6	623	384	310	≤0.206	0.237	0.139
	185	1.6	22.7	759	439	343	≤0.164	0.195	0.139
	240	1.7	25.3	956	521	395	≤0.125	0.149	0.137
	300	1.8	27.8	1167	609	452	≤0.100	0.117	0.136
	400	2.0	31.5	1521	751	535	≤0.0778	0.089	0.135
	500	2.2	35.1	1879	895	602	≤0.0605	0.074	0.135
	630	2.4	39.2	2341	997	670	≤0.0469	0.060	0.134
2 Core	10	0.7	15.7	243	69	85	≤3.080	3.690	0.079
	16	0.7	18.1	302	93	109	≤1.910	2.269	0.075
	25	0.9	21.4	401	130	138	≤1.200	1.449	0.076
	35	0.9	23.8	517	147	162	≤0.868	1.039	0.073
	50	1.0	27.2	671	191	202	≤0.641	0.718	0.072
	70	1.1	31.2	865	235	241	≤0.443	0.515	0.072
	95	1.1	33.5	1042	275	278	≤0.320	0.383	0.070
	120	1.2	37.6	1281	336	324	≤0.253	0.303	0.070
	150	1.4	42.1	1673	381	365	≤0.206	0.237	0.070
	185	1.6	46.4	1973	425	401	≤0.164	0.195	0.071

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

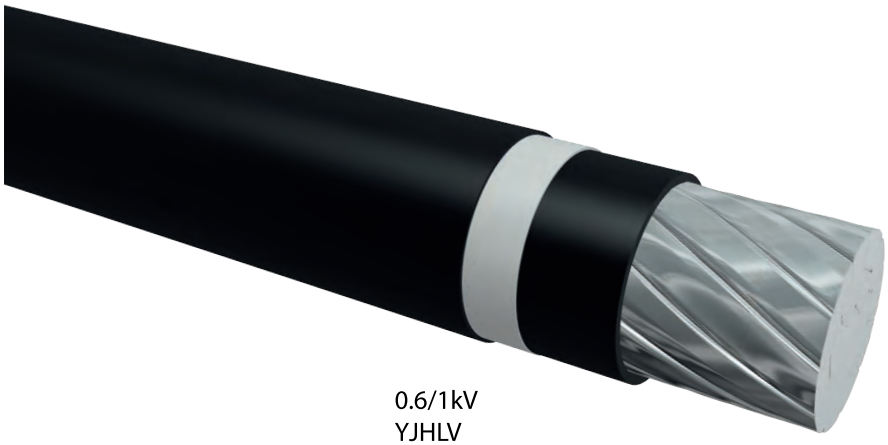
YJHLV - UNARMOURED CABLE

CLASS 2 – 600/1000V UNARMOURED CABLE
TECHNICAL DATA – YJHLV

YJHLV – 0.6/1kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
2 Core	240	1.7	52.0	2506	535	478	≤0.125	0.149	0.070
	300	1.8	57.2	3080	620	548	≤0.100	0.117	0.069
	400	2.0	65.1	3894	713	622	≤0.0778	0.089	0.069
	500	2.2	72.6	4776	825	692	≤0.0605	0.074	0.069
	630	2.4	81.4	5953	977	787	≤0.0469	0.060	0.069
3 Core	10	0.7	16.6	269	55	66	≤3.080	3.690	0.079
	16	0.7	19.2	349	74	86	≤1.910	2.269	0.075
	25	0.9	22.8	496	99	110	≤1.200	1.449	0.076
	35	0.9	25.4	609	119	131	≤0.868	1.039	0.073
	50	1.0	29.2	792	154	162	≤0.641	0.718	0.072
	70	1.1	33.4	1088	192	194	≤0.443	0.515	0.072
	95	1.1	36.0	1369	232	229	≤0.320	0.383	0.070
	120	1.2	40.4	1678	271	260	≤0.253	0.303	0.070
	150	1.4	45.3	2090	317	299	≤0.206	0.237	0.070
	185	1.6	49.9	2514	362	331	≤0.164	0.195	0.071
	240	1.7	56.0	3218	427	383	≤0.125	0.149	0.070
	300	1.8	61.6	3880	494	438	≤0.100	0.117	0.069
	400	2.0	70.1	5100	609	517	≤0.0778	0.089	0.069
	500	2.2	78.1	6392	664	561	≤0.0605	0.074	0.069
	630	2.4	87.7	7907	760	629	≤0.0469	0.060	0.069
4 Core	10	0.7	18.1	316	55	66	≤3.080	3.690	0.079
	16	0.7	21.0	429	74	86	≤1.910	2.269	0.075
	25	0.9	25.0	587	99	110	≤1.200	1.449	0.076
	35	0.9	27.8	732	119	131	≤0.868	1.039	0.073
	50	1.0	32.3	1022	154	162	≤0.641	0.718	0.072

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.



0.6/1kV
YJHLV

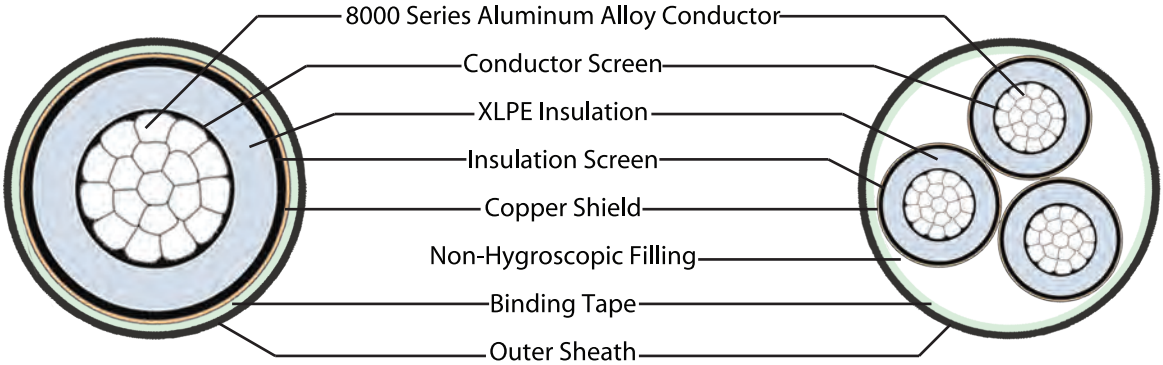
YJHLV – 0.6/1kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
4 Core	70	1.1	37.1	1409	192	194	≤0.443	0.515	0.072
	95	1.1	40.0	1760	232	229	≤0.320	0.383	0.070
	120	1.2	44.9	2189	271	260	≤0.253	0.303	0.070
	150	1.4	50.4	2690	317	299	≤0.206	0.237	0.070
	185	1.6	55.5	3294	362	331	≤0.164	0.195	0.071
	240	1.7	62.4	4119	427	383	≤0.125	0.149	0.070
	300	1.8	68.6	4988	494	438	≤0.100	0.117	0.069
	400	2.0	78.2	6563	609	517	≤0.0778	0.089	0.069
	500	2.2	87.2	8196	664	561	≤0.0605	0.074	0.069
	630	2.4	97.9	10359	760	629	≤0.0469	0.060	0.069
5 Core	10	0.7	19.7	382	55	66	≤3.080	3.690	0.079
	16	0.7	22.9	516	74	86	≤1.910	2.269	0.075
	25	0.9	27.3	723	99	110	≤1.200	1.449	0.076
	35	0.9	30.7	918	119	131	≤0.868	1.039	0.073
	50	1.0	35.7	1267	154	162	≤0.641	0.718	0.072
	70	1.1	41.1	1756	192	194	≤0.443	0.515	0.072
	95	1.1	44.3	2183	232	229	≤0.320	0.383	0.070
	120	1.2	49.8	2671	271	260	≤0.253	0.303	0.070
	150	1.4	55.9	3355	317	299	≤0.206	0.237	0.070
	185	1.6	61.6	4046	362	331	≤0.164	0.195	0.071
	240	1.7	69.3	5147	427	383	≤0.125	0.149	0.070
	300	1.8	76.3	6282	494	438	≤0.100	0.117	0.069
	400	2.0	86.9	8259	609	517	≤0.0778	0.089	0.069
	500	2.2	97.0	10307	664	561	≤0.0605	0.074	0.069
	630	2.4	108.8	12993	760	629	≤0.0469	0.060	0.069

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV - UNARMOURED CABLE

CLASS 2 – 8.7/15KV & 26/35KV UNARMOURED CABLE
TECHNICAL DATA – YJHLV

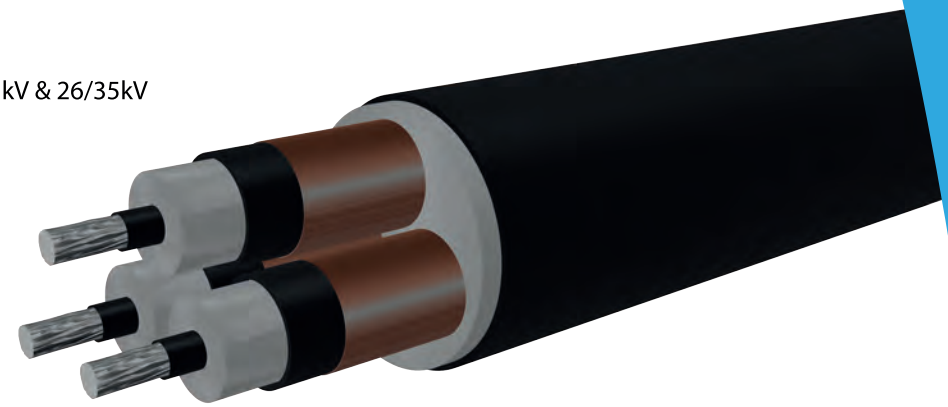


YJHLV – 8.7/15kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
1 Core	70	4.5	27.1	863	241	200	0.515	0.085	0.18
	95	4.5	28.6	985	289	235	0.383	0.083	0.21
	120	4.5	30.4	1116	333	267	0.303	0.081	0.22
	150	4.5	32.1	1261	388	305	0.237	0.081	0.24
	185	4.5	33.7	1416	440	340	0.195	0.081	0.27
	240	4.5	36.1	1660	521	394	0.149	0.079	0.29
	300	4.5	38.4	1910	603	450	0.117	0.078	0.32
	400	4.5	41.7	2312	722	523	0.089	0.077	0.36
	500	4.5	44.8	2709	813	577	0.074	0.077	0.40
	630	4.5	48.5	3217	934	648	0.060	0.076	0.42
3 Core	70	4.5	55.6	2887	193	186	0.515	0.072	0.18
	95	4.5	58.8	3310	230	219	0.383	0.070	0.21
	120	4.5	62.5	3753	264	248	0.303	0.070	0.22
	150	4.5	66.2	4283	306	284	0.237	0.070	0.24
	185	4.5	69.7	4813	346	323	0.195	0.071	0.27
	240	4.5	75.0	5613	408	368	0.149	0.070	0.29
	300	4.5	79.8	6518	472	420	0.117	0.069	0.32
	400	4.5	87.0	7894	558	487	0.089	0.069	0.36
	500	4.5	93.7	9231	619	535	0.074	0.069	0.40
	630	4.5	101.8	10932	713	602	0.060	0.069	0.42

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

8.7/15kV & 26/35kV
YJHLV

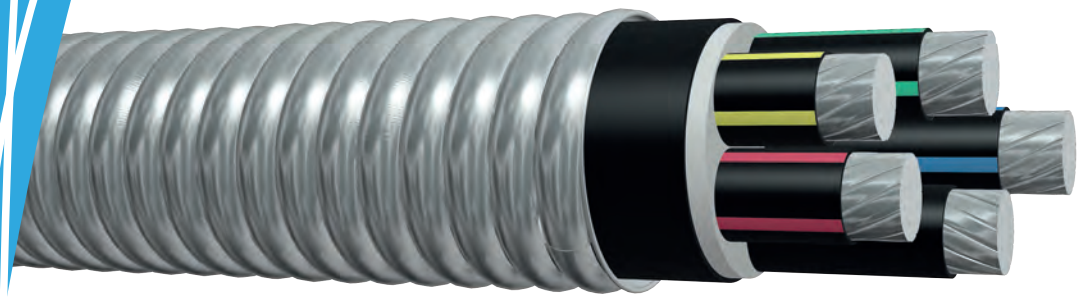


YJHLV – 26/35kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
1 Core	70	10.5	40.8	1738	246	200	0.515	0.085	0.11
	95	10.5	42.3	1895	293	236	0.383	0.083	0.12
	120	10.5	44.1	2066	319	268	0.303	0.081	0.13
	150	10.5	45.8	2251	391	306	0.237	0.081	0.14
	185	10.5	47.4	2444	442	341	0.195	0.081	0.15
	240	10.5	49.8	2745	521	396	0.149	0.079	0.17
	300	10.5	52.1	3047	605	452	0.117	0.078	0.18
	400	10.5	55.4	3527	717	525	0.089	0.077	0.20
	500	10.5	58.5	3997	805	580	0.074	0.077	0.22
	630	10.5	62.2	4592	923	651	0.060	0.076	0.24
3 Core	70	10.5	85.2	6030	192	186	0.515	0.072	0.11
	95	10.5	88.4	6674	231	214	0.383	0.070	0.12
	120	10.5	92.1	7280	264	245	0.303	0.070	0.13
	150	10.5	95.8	7990	304	280	0.237	0.070	0.14
	185	10.5	99.3	8693	342	319	0.195	0.071	0.15
	240	10.5	104.6	9726	403	363	0.149	0.070	0.17
	300	10.5	109.4	10727	478	414	0.117	0.069	0.18
	400	10.5	116.6	12326	575	493	0.089	0.069	0.20
	500	10.5	123.3	13901	609	544	0.074	0.069	0.22
	630	10.5	131.4	15898	713	610	0.060	0.069	0.24

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV8 - TYPE MC - INTERLOCKING CONDUIT



VOLTAGE RANGE
- 0.6/1kV
- 8.7/15kV
- 26/35kV

CONDUCTOR
- Class 2 Aluminium Alloy 8000 Series

INSULATION
- XLPE

SHEATH
- PVC / PE / LSZH

ARMOUR
- Interlocking Aluminium Alloy Tape

OPERATING TEMPERATURE
- -40°C to 90°C

STANDARD REFERENCES
- IEC 60228
- IEC 60502
- IEC 60332
- IEC 60754
- IEC 61034

DESCRIPTION

Single core and multi core power cable with compact stranded class 2 aluminium alloy 8000 series conductor, XLPE insulated, PVC sheathed and Interlocking Aluminium Tape Armoured. Cable conforms to IEC 60502 and has option for IEC 60332 Flame Retardant Category A and Low Smoke Zero Halogen.

APPLICATION

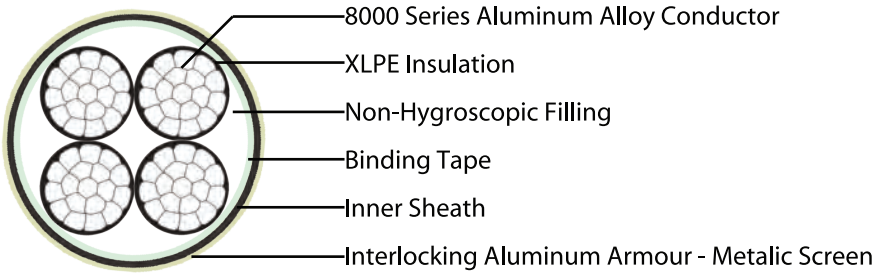
The aluminium tape act as both armour and conduit. It is flexible and facilitates fast and easy installation. Reducing labour, lengthy time and installation difficulty needed for threading and forming pipeline.

It has great hardness while maintaining flexibility of up to 7D and not limited to 360 degree bend. Widely applied to installation of overhead and underground wire in a dry environment.

The corrugated surface of the armour gives additional fire protection to the cable and reduces friction with surface when installing. It also protects full length of the cable from damages during transport and from pests.

CHARACTERISTIC	FEATURE	USAGE AREA				
		INDOOR	OUTDOOR	FIRE SAFETY	DIRECT BURIAL	UPS
ZC-YJHLV8	Fire Retardant Cat C	✓				
WDZA-YJHLY8	LSZH & Fire Retardant Cat A	✓				

CLASS 2 – 600/1000V MC CABLE
YJHLV8



YJHLV8 – 0.6/1kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
2 Core	10	0.7	17.2	194	65	-	≤3.080	3.690	0.079
	16	0.7	19.5	255	91	-	≤1.910	2.269	0.075
	25	0.9	22.5	347	113	-	≤1.200	1.449	0.076
	35	0.9	24.8	430	143	-	≤0.868	1.039	0.073
	50	1.0	28.0	559	175	-	≤0.641	0.718	0.072
	70	1.1	31.5	720	210	-	≤0.443	0.515	0.072
	95	1.1	34.3	894	245	-	≤0.320	0.383	0.070
	120	1.2	40.2	1137	285	-	≤0.253	0.303	0.070
	150	1.4	44.3	1381	321	-	≤0.206	0.237	0.070
	185	1.6	48.2	1654	381	-	≤0.164	0.195	0.071
	240	1.7	53.3	2048	438	-	≤0.125	0.149	0.070
	300	1.8	58.0	2465	501	-	≤0.100	0.117	0.069
	400	2.0	65.1	3159	589	-	≤0.0778	0.089	0.069
	500	2.2	71.8	3854	657	-	≤0.0605	0.074	0.069
	630	2.4	79.8	4743	771	-	≤0.0469	0.060	0.069
3 Core	10	0.7	18.1	240	54	-	≤3.080	3.690	0.079
	16	0.7	20.5	323	72	-	≤1.910	2.269	0.075
	25	0.9	23.8	447	94	-	≤1.200	1.449	0.076
	35	0.9	26.2	562	114	-	≤0.868	1.039	0.073
	50	1.0	29.7	742	142	-	≤0.641	0.718	0.072
	70	1.1	33.5	968	166	-	≤0.443	0.515	0.072
	95	1.1	36.6	1217	221	-	≤0.320	0.383	0.070
	120	1.2	42.7	1545	259	-	≤0.253	0.303	0.070
	150	1.4	47.1	1891	302	-	≤0.206	0.237	0.070
	185	1.6	51.3	2280	343	-	≤0.164	0.195	0.071
	240	1.7	56.8	2846	407	-	≤0.125	0.149	0.070
	300	1.8	61.9	3448	472	-	≤0.100	0.117	0.069
	400	2.0	69.6	4454	584	-	≤0.0778	0.089	0.069
	500	2.2	76.9	5463	645	-	≤0.0605	0.074	0.069
	630	2.4	85.5	6756	739	-	≤0.0469	0.060	0.069

In Air – 40°C

YJHLV8 - TYPE MC - INTERLOCKING CONDUIT

CLASS 2 – 600/1000V MC CABLE
YJHLV8

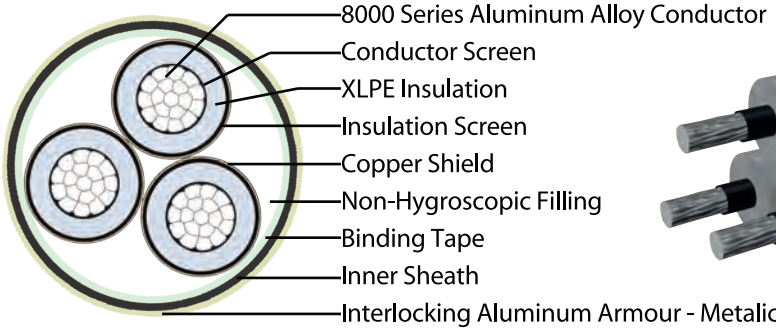
YJHLV8 – 0.6/1kV

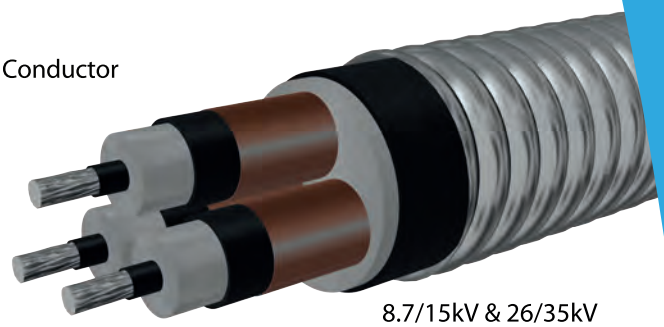
No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
4 Core	10	0.7	19.4	293	54	-	≤3.080	3.690	0.079
	16	0.7	22.2	397	72	-	≤1.910	2.269	0.075
	25	0.9	25.9	555	94	-	≤1.200	1.449	0.076
	35	0.9	28.6	704	114	-	≤0.868	1.039	0.073
	50	1.0	32.5	936	142	-	≤0.641	0.718	0.072
	70	1.1	38.9	1229	166	-	≤0.443	0.515	0.072
	95	1.1	42.4	1607	221	-	≤0.320	0.383	0.070
	120	1.2	46.8	1971	259	-	≤0.253	0.303	0.070
	150	1.4	51.8	2421	302	-	≤0.206	0.237	0.070
	185	1.6	56.4	2930	343	-	≤0.164	0.195	0.071
	240	1.7	62.6	3671	407	-	≤0.125	0.149	0.070
	300	1.8	68.3	4461	472	-	≤0.100	0.117	0.069
	400	2.0	76.9	5783	584	-	≤0.0778	0.089	0.069
	500	2.2	85.1	7110	645	-	≤0.0605	0.074	0.069
	630	2.4	94.7	8812	739	-	≤0.0469	0.060	0.069
5 Core	10	0.7	20.9	346	54	-	≤3.080	3.690	0.079
	16	0.7	24.0	473	72	-	≤1.910	2.269	0.075
	25	0.9	28.1	666	94	-	≤1.200	1.449	0.076
	35	0.9	31.1	847	114	-	≤0.868	1.039	0.073
	50	1.0	35.5	1132	142	-	≤0.641	0.718	0.072
	70	1.1	42.4	1546	166	-	≤0.443	0.515	0.072
	95	1.1	46.3	1953	221	-	≤0.320	0.383	0.070
	120	1.2	51.2	2401	259	-	≤0.253	0.303	0.070
	150	1.4	56.7	2956	302	-	≤0.206	0.237	0.070
	185	1.6	62.0	3584	343	-	≤0.164	0.195	0.071
	240	1.7	68.8	4500	407	-	≤0.125	0.149	0.070
	300	1.8	75.2	5479	472	-	≤0.100	0.117	0.069
	400	2.0	84.8	7118	584	-	≤0.0778	0.089	0.069
	500	2.2	93.9	8764	645	-	≤0.0605	0.074	0.069
	630	2.4	104.6	10876	739	-	≤0.0469	0.060	0.069

In Air – 40°C

YJHLV8 - TYPE MC - INTERLOCKING CONDUIT

CLASS 2 – 8.7/15KV & 26/35KV MC CABLE
YJHLV8





8.7/15kV & 26/35kV
YJHLV8

YJHLV8 – 8.7/15kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
3 Core	70	4.5	62.1	2445	209	-	0.515	0.072	0.18
	95	4.5	65.1	2787	250	-	0.383	0.070	0.21
	120	4.5	68.5	3149	288	-	0.303	0.070	0.22
	150	4.5	72.0	3551	331	-	0.237	0.070	0.24
	185	4.5	75.2	3983	378	-	0.195	0.071	0.27
	240	4.5	80.2	4657	445	-	0.149	0.070	0.29
	300	4.5	84.7	5352	516	-	0.117	0.069	0.32
	400	4.5	91.4	6469	639	-	0.089	0.069	0.36
	500	4.5	97.7	7567	717	-	0.074	0.069	0.40
	630	4.5	105.3	8967	818	-	0.060	0.069	0.42

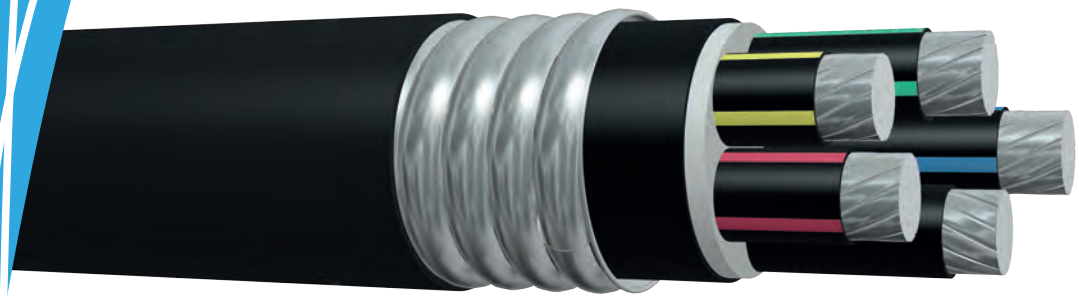
In Air – 40°C

YJHLV8 – 26/35kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
3 Core	70	10.5	89.7	4763	216	-	0.515	0.072	0.11
	95	10.5	92.7	5191	257	-	0.383	0.070	0.12
	120	10.5	96.2	5652	295	-	0.303	0.070	0.13
	150	10.5	99.6	6153	341	-	0.237	0.070	0.14
	185	10.5	102.9	6678	384	-	0.195	0.071	0.15
	240	10.5	107.9	7494	455	-	0.149	0.070	0.17
	300	10.5	112.4	8319	520	-	0.117	0.069	0.18
	400	10.5	119.1	9628	643	-	0.089	0.069	0.20

In Air – 40°C

YJHLV82 - INTERLOCKING ARMOURED CABLE



VOLTAGE RANGE
- 0.6/1kV
- 8.7/15kV
- 26/35kV

CONDUCTOR
- Class 2 Aluminium Alloy 8000 Series

INSULATION
- XLPE

SHEATH
- PVC / PE / LSZH

ARMOUR
- Interlocking Aluminium Alloy Tape

OPERATING TEMPERATURE
- -40°C to 90°C

STANDARD REFERENCES
- IEC 60228
- IEC 60331
- IEC 60502
- IEC 60754
- IEC 60332
- IEC 61034

DESCRIPTION

Single core and multi core power cable with compact stranded class 2 aluminium alloy 8000 series conductor, XLPE insulated, PVC sheathed and interlocking aluminium alloy armoured. Cable conforms to IEC 60502 and has option for IEC 60332 Flame Retardant Category A, IEC 60331 Fire Resistant and Low Smoke Zero Halogen. Light weight and anti corrosive.

APPLICATION

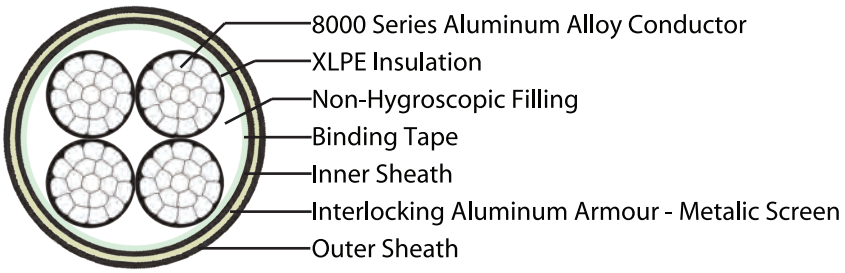
Flexible and Hard armour can be applied for overhead and underground wire, tight bending area, humid area. Can be direct burial without extra conduit and pipeline installation.

Recommended to use for street lighting, zone 1 and zone 2, level 1, level 2 and 3 dangerous and corrosive environments such as offshore and on shore oil & gas platform, mining, subways and important national bases.

Fire resistant model suitable to be use for UPS connection and able to withstand heat up to 750 degree Celsius.

CHARACTERISTIC	FEATURE	USAGE AREA				
		INDOOR	OUTDOOR	FIRE SAFETY	DIRECT BURIAL	UPS
ZC-YJHLV82	Fire Retardant Cat 'C'	✓	✓		✓	
WDZA-YJHLY83	LSZH & Fire Retardant Cat 'A'	✓	✓	✓	✓	
WDZN-YJHLY83	LSZH, Fire Retardant & Fire Resistant	✓	✓	✓	✓	✓
FSY-YJHLY83	Termite & Water Resistant	✓	✓		✓	

CLASS 2 – 600/1000V INTERLOCKING ARMOURED CABLE
YJHLV82



YJHLV82 – 0.6/1kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
2 Core	10	0.7	22.3	418	64	81	≤3.080	3.690	0.079
	16	0.7	24.5	506	90	104	≤1.910	2.269	0.075
	25	0.9	27.6	634	111	127	≤1.200	1.449	0.076
	35	0.9	29.8	744	142	156	≤0.868	1.039	0.073
	50	1.0	33.1	912	173	187	≤0.641	0.718	0.072
	70	1.1	36.6	1114	208	220	≤0.443	0.515	0.072
	95	1.1	39.4	1322	243	252	≤0.320	0.383	0.070
	120	1.2	44.9	1670	283	286	≤0.253	0.303	0.070
	150	1.4	48.9	1968	318	319	≤0.206	0.237	0.070
	185	1.6	53.3	2352	378	370	≤0.164	0.195	0.071
	240	1.7	58.4	2819	435	421	≤0.125	0.149	0.070
	300	1.8	64.8	3420	497	479	≤0.100	0.117	0.069
	400	2.0	71.9	4228	585	555	≤0.0778	0.089	0.069
	500	2.2	79.4	5170	652	611	≤0.0605	0.074	0.069
	630	2.4	87.9	6303	765	692	≤0.0469	0.060	0.069
3 Core	10	0.7	23.1	475	55	63	≤3.080	3.690	0.079
	16	0.7	25.6	586	73	81	≤1.910	2.269	0.075
	25	0.9	28.9	750	95	104	≤1.200	1.449	0.076
	35	0.9	31.3	894	115	124	≤0.868	1.039	0.073
	50	1.0	34.8	1115	143	150	≤0.641	0.718	0.072
	70	1.1	38.6	1386	187	193	≤0.443	0.515	0.072
	95	1.1	44.3	1785	224	226	≤0.320	0.383	0.070
	120	1.2	48.3	2117	260	257	≤0.253	0.303	0.070
	150	1.4	53.2	2581	302	296	≤0.206	0.237	0.070
	185	1.6	57.4	3030	342	330	≤0.164	0.195	0.071
	240	1.7	63.7	3783	404	384	≤0.125	0.149	0.070
	300	1.8	68.7	4466	468	441	≤0.100	0.117	0.069
	400	2.0	77.2	5731	577	535	≤0.0778	0.089	0.069
	500	2.2	85.0	6969	638	563	≤0.0605	0.074	0.069
	630	2.4	94.1	8539	732	601	≤0.0469	0.060	0.069

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV82 - INTERLOCKING ARMOURED CABLE

CLASS 2 – 600/1000V INTERLOCKING ARMOURED CABLE
YJHLV82

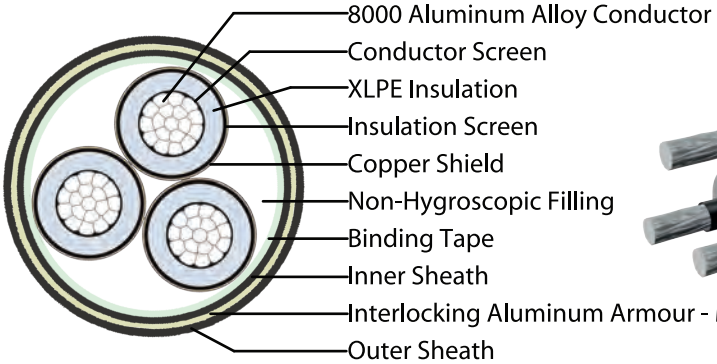
YJHLV82 – 0.6/1kV

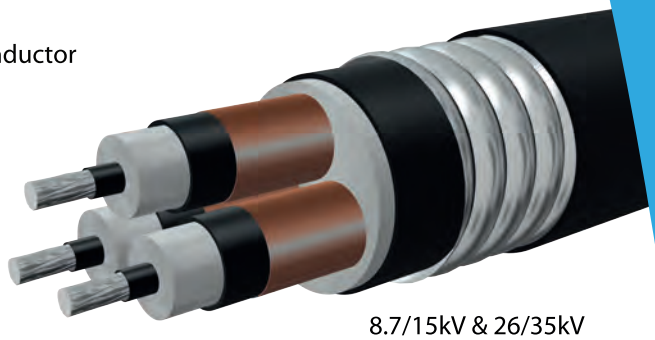
No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
4 Core	10	0.7	24.5	544	55	63	≤3.080	3.690	0.079
	16	0.7	27.2	680	73	81	≤1.910	2.269	0.075
	25	0.9	30.9	883	95	104	≤1.200	1.449	0.076
	35	0.9	33.6	1064	115	124	≤0.868	1.039	0.073
	50	1.0	33.6	1342	143	150	≤0.641	0.718	0.072
	70	1.1	44.5	1800	187	193	≤0.443	0.515	0.072
	95	1.1	48.0	2175	224	226	≤0.320	0.383	0.070
	120	1.2	52.9	2657	260	257	≤0.253	0.303	0.070
	150	1.4	57.8	3177	302	296	≤0.206	0.237	0.070
	185	1.6	63.3	3861	342	330	≤0.164	0.195	0.071
	240	1.7	69.5	4700	404	384	≤0.125	0.149	0.070
	300	1.8	75.9	5714	468	441	≤0.100	0.117	0.069
	400	2.0	85.0	7289	577	535	≤0.0778	0.089	0.069
	500	2.2	93.7	8884	638	563	≤0.0605	0.074	0.069
	630	2.4	103.3	10781	732	601	≤0.0469	0.060	0.069
5 Core	10	0.7	26.0	615	55	63	≤3.080	3.690	0.079
	16	0.7	29.0	777	73	81	≤1.910	2.269	0.075
	25	0.9	33.2	1020	95	104	≤1.200	1.449	0.076
	35	0.9	36.2	1237	115	124	≤0.868	1.039	0.073
	50	1.0	43.3	1635	143	150	≤0.641	0.718	0.072
	70	1.1	48.0	2057	187	193	≤0.443	0.515	0.072
	95	1.1	52.3	2567	224	226	≤0.320	0.383	0.070
	120	1.2	57.3	3078	260	257	≤0.253	0.303	0.070
	150	1.4	63.6	3812	302	296	≤0.206	0.237	0.070
	185	1.6	68.8	4516	342	330	≤0.164	0.195	0.071
	240	1.7	76.4	5664	404	384	≤0.125	0.149	0.070
	300	1.8	83.3	6844	468	441	≤0.100	0.117	0.069
	400	2.0	93.5	8763	577	535	≤0.0778	0.089	0.069
	500	2.2	102.5	10579	638	563	≤0.0605	0.074	0.069
	630	2.4	113.3	12892	732	601	≤0.0469	0.060	0.069

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV82 - INTERLOCKING ARMOURED CABLE

CLASS 2 – 8.7/15KV & 26/35KV INTERLOCKING ARMOURED CABLE
YJHLV82





8.7/15kV & 26/35kV
YJHLV82

YJHLV82 – 8.7/15kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
3 Core	70	4.5	68.9	3437	185	180	0.515	0.072	0.18
	95	4.5	71.9	3827	227	216	0.383	0.070	0.21
	120	4.5	75.4	4243	261	246	0.303	0.070	0.22
	150	4.5	79.6	4833	301	281	0.237	0.070	0.24
	185	4.5	82.8	5323	334	312	0.195	0.071	0.27
	240	4.5	88.3	6189	392	360	0.149	0.070	0.29
	300	4.5	92.9	6970	449	409	0.117	0.069	0.32
	400	4.5	100.1	8331	582	479	0.089	0.069	0.36
	500	4.5	106.3	9556	649	537	0.074	0.069	0.40
	630	4.5	113.9	11109	751	594	0.060	0.069	0.42

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV82 – 26/35kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
3 Core	70	10.5	97.8	6475	199	187	0.515	0.072	0.11
	95	10.5	101.4	7079	236	219	0.383	0.070	0.12
	120	10.5	104.8	7610	271	249	0.303	0.070	0.13
	150	10.5	108.3	8181	312	285	0.237	0.070	0.14
	185	10.5	111.5	8772	350	317	0.195	0.071	0.15
	240	10.5	116.5	9688	413	367	0.149	0.070	0.17

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV22 - DOUBLE STEEL TAPE ARMOURED CABLE

VOLTAGE RANGE
- 0.6/1kV
- 8.7/15kV
- 26/35kV

CONDUCTOR
- Class 2 Aluminium Alloy 8000 Series

INSULATION
- XLPE

SHEATH
- PVC / PE / LSZH

ARMOUR
- Galvanised Double Steel Tape

OPERATING TEMPERATURE
- -40°C to 90°C

STANDARD REFERENCES
- IEC 60228
- IEC 60331
- IEC 60502
- IEC 60754
- IEC 60332
- IEC 61034
- BS 6387

DESCRIPTION

Single core and multi core power cable with compact stranded class 2 aluminium alloy 8000 series conductor, XLPE insulated, PVC sheathed and double steel tape armour. Cable conforms to IEC 60502 and has option for IEC 60332 Flame Retardant Category A, IEC 60331 or BS 6387 Fire Resistant and Low Smoke Zero Halogen.

APPLICATION

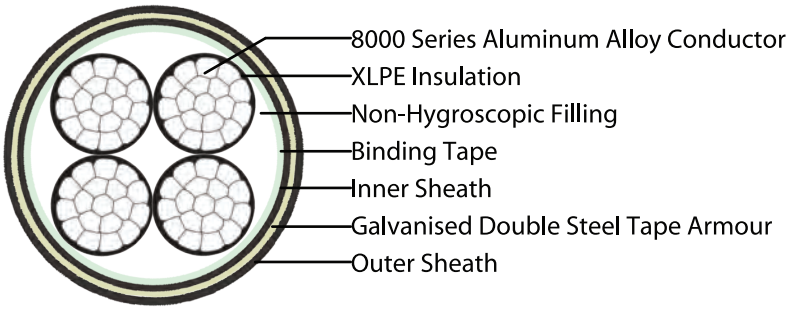
Can be install on dry or humid area, underground cable both indoor and outdoor.

When installed in location with risk of mechanical damages and when extra mechanical protection is required.

Fire resistant model suitable to be use for UPS connection. Withstand heat up to 950 degree Celsius.

CHARACTERISTIC	FEATURE	USAGE AREA				
		INDOOR	OUTDOOR	FIRE SAFETY	DIRECT BURIAL	UPS
ZC-YJHLV22	Fire Retardant Cat 'C'	✓	✓		✓	
WDZA-YJHLY23	LSZH & Fire Retardant Cat 'A'	✓	✓	✓	✓	
WDZN-YJHLY23	LSZH, Fire Retardant & Fire Resistant	✓	✓	✓	✓	✓
FSY-YJHLY23	Termite & Water Resistant	✓	✓		✓	

CLASS 2 – 600/1000V DOUBLE STEEL TAPE ARMOURED CABLE
YJHLV22



YJHLV22 – 0.6/1kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
2 Core	10	0.7	18.9	377	72	64	≤3.080	3.690	0.079
	16	0.7	21.3	453	96	84	≤1.910	2.269	0.075
	25	0.9	24.6	576	127	108	≤1.200	1.449	0.076
	35	0.9	26.9	705	154	129	≤0.868	1.039	0.073
	50	1.0	30.6	905	199	160	≤0.641	0.718	0.072
	70	1.1	34.6	1129	241	196	≤0.443	0.515	0.072
	95	1.1	38.2	1663	283	228	≤0.320	0.383	0.070
	120	1.2	42.3	1972	349	266	≤0.253	0.303	0.070
	150	1.4	46.8	2441	397	303	≤0.206	0.237	0.070
	185	1.6	51.1	2815	437	340	≤0.164	0.195	0.071
	240	1.7	56.7	3445	551	405	≤0.125	0.149	0.070
	300	1.8	61.9	4108	620	496	≤0.100	0.117	0.069
	400	2.0	69.8	5057	773	584	≤0.0778	0.089	0.069
	500	2.2	77.3	6067	865	610	≤0.0605	0.074	0.069
	630	2.4	87.4	8193	919	678	≤0.0469	0.060	0.069
3 Core	10	0.7	19.8	409	56	65	≤3.080	3.690	0.079
	16	0.7	22.4	508	76	86	≤1.910	2.269	0.075
	25	0.9	26.0	680	100	109	≤1.200	1.449	0.076
	35	0.9	28.6	815	123	131	≤0.868	1.039	0.073
	50	1.0	32.6	1040	154	159	≤0.641	0.718	0.072
	70	1.1	36.8	1370	192	193	≤0.443	0.515	0.072
	95	1.1	40.7	2032	233	227	≤0.320	0.383	0.070
	120	1.2	45.1	2417	272	259	≤0.253	0.303	0.070
	150	1.4	50.0	2913	317	296	≤0.206	0.237	0.070
	185	1.6	54.6	3417	359	329	≤0.164	0.195	0.071
	240	1.7	60.7	4225	426	383	≤0.125	0.149	0.070
	300	1.8	66.3	4983	494	436	≤0.100	0.117	0.069
	400	2.0	74.8	6349	586	512	≤0.0778	0.089	0.069
	500	2.2	82.9	7779	672	564	≤0.0605	0.074	0.069
	630	2.4	93.6	10314	776	635	≤0.0469	0.060	0.069

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV22 - DOUBLE STEEL TAPE ARMOURED CABLE

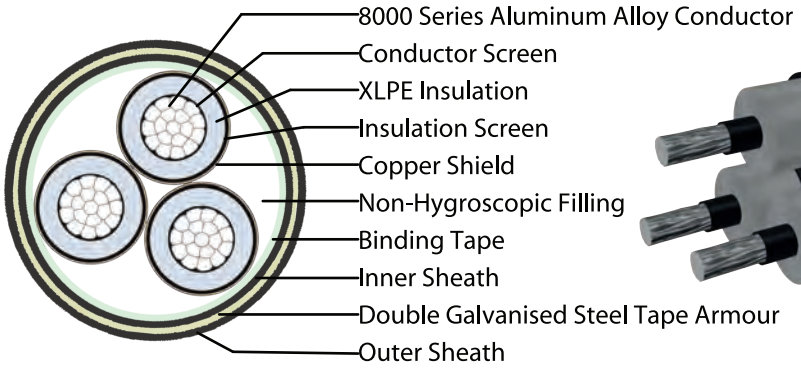
CLASS 2 – 600/1000V DOUBLE STEEL TAPE ARMOURED CABLE
YJHLV22

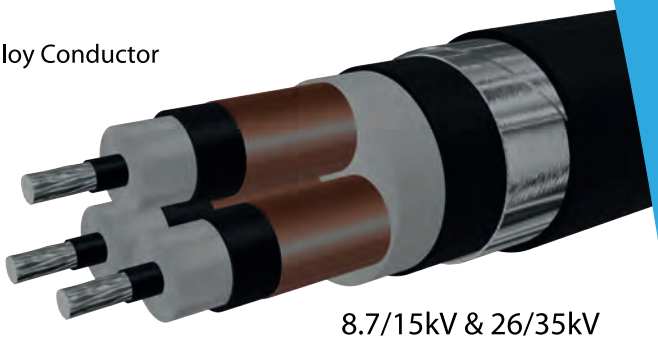
YJHLV22 – 0.6/1kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km)		Reactance at 50Hz (Ω/Km)
					Air at 40°C	Ground at 25°C	DC at 20°C	AC at 90°C	
4 Core	10	0.7	21.3	467	56	65	≤3.080	3.690	0.079
	16	0.7	24.2	600	76	86	≤1.910	2.269	0.075
	25	0.9	28.2	788	100	109	≤1.200	1.449	0.076
	35	0.9	31.3	970	123	131	≤0.868	1.039	0.073
	50	1.0	35.8	1295	154	159	≤0.641	0.718	0.072
	70	1.1	41.8	2092	192	193	≤0.443	0.515	0.072
	95	1.1	44.7	2492	233	227	≤0.320	0.383	0.070
	120	1.2	49.6	3005	272	259	≤0.253	0.303	0.070
	150	1.4	55.1	3600	317	296	≤0.206	0.237	0.070
	185	1.6	60.3	4293	359	329	≤0.164	0.195	0.071
	240	1.7	67.1	5235	426	383	≤0.125	0.149	0.070
	300	1.8	73.4	6212	494	436	≤0.100	0.117	0.069
	400	2.0	82.9	8683	586	512	≤0.0778	0.089	0.069
	500	2.2	93.2	10591	672	564	≤0.0605	0.074	0.069
	630	2.4	103.8	13036	776	635	≤0.0469	0.060	0.069
5 Core	10	0.7	22.9	545	56	65	≤3.080	3.690	0.079
	16	0.7	26.1	702	76	86	≤1.910	2.269	0.075
	25	0.9	30.7	957	100	109	≤1.200	1.449	0.076
	35	0.9	34.2	1178	123	131	≤0.868	1.039	0.073
	50	1.0	40.5	1926	154	159	≤0.641	0.718	0.072
	70	1.1	45.8	2507	192	193	≤0.443	0.515	0.072
	95	1.1	49.0	2989	233	227	≤0.320	0.383	0.070
	120	1.2	54.5	3571	272	259	≤0.253	0.303	0.070
	150	1.4	60.6	4359	317	296	≤0.206	0.237	0.070
	185	1.6	66.3	5150	359	329	≤0.164	0.195	0.071
	240	1.7	74.0	6381	426	383	≤0.125	0.149	0.070
	300	1.8	82.3	7672	494	436	≤0.100	0.117	0.069
	400	2.0	92.9	9836	586	512	≤0.0778	0.089	0.069
	500	2.2	103.0	12061	672	564	≤0.0605	0.074	0.069
	630	2.4	114.8	14955	776	635	≤0.0469	0.060	0.069

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

CLASS 2 – 600/1000V DOUBLE STEEL TAPE ARMOURED CABLE
YJHLV22





8.7/15kV & 26/35kV
YJHLV22

YJHLV22 – 8.7/15kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
3 Core	70	4.5	61.1	4490	203	192	0.515	0.072	0.18
	95	4.5	64.4	5002	243	226	0.383	0.070	0.21
	120	4.5	68.1	5546	281	257	0.303	0.070	0.22
	150	4.5	71.8	6177	324	293	0.237	0.070	0.24
	185	4.5	75.7	6888	366	327	0.195	0.071	0.27
	240	4.5	82.3	8764	433	380	0.149	0.070	0.29
	300	4.5	87.1	9863	502	433	0.117	0.069	0.32
	400	4.5	94.3	11526	593	508	0.089	0.069	0.36
	500	4.5	101.4	13247	685	561	0.074	0.069	0.40
	630	4.5	109.5	15280	784	633	0.060	0.069	0.42

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

YJHLV22 – 26/35kV

No. Core	Cross Section (mm^2)	Insulation Thickness (mm)	Approx. Diameter (mm)	Approx. Weight (Kg/Km)	Current Rating (Amps)		Conductor Resistant (Ω/Km) 50Hz at 90°C	Reactance at 50Hz (Ω/Km)	Capacitance (uF/Km)
					Air at 40°C	Ground at 25°C			
3 Core	70	10.5	92.4	9588	214	194	0.515	0.072	0.11
	95	10.5	95.7	10362	256	230	0.383	0.070	0.12
	120	10.5	99.8	11229	293	260	0.303	0.070	0.13
	150	10.5	103.5	12091	339	297	0.237	0.070	0.14
	185	10.5	107.0	12937	381	331	0.195	0.071	0.15
	240	10.5	112.3	14188	447	382	0.149	0.070	0.17
	300	10.5	117.1	15389	516	435	0.117	0.069	0.18
	400	10.5	124.3	17282	607	512	0.089	0.069	0.20
	500	10.5	131.0	19133	695	565	0.074	0.069	0.22
	630	10.5	139.1	21463	799	635	0.060	0.069	0.24

In Air – 40°C; Direct Burial – 25°C, Soil Thermal resistance – 1.2Km/W, Depth 1m.

AMPACITY TABLE

YJHLV - 0.6/1kV

Cross Section (mm^2)	AMPACITY - IN AIR AT 40°C						AMPACITY - DIRECT BURIAL AT 25°C					
												
10	55	51	56	60	64	54	51	51	66	69	70	62
16	74	69	76	81	87	74	69	68	86	91	94	81
25	99	92	102	107	117	99	92	86	110	115	117	105
35	119	111	125	133	144	122	113	102	131	137	140	124
50	154	143	160	169	184	156	145	129	162	169	170	150
70	192	178	200	219	229	194	180	155	194	202	205	184
95	232	215	243	254	277	235	218	185	229	237	240	215
120	271	251	286	297	326	276	256	208	260	269	273	246
150	317	294	336	350	384	325	302	247	299	310	313	281
185	362	333	385	400	439	372	345	275	331	343	349	319
240	427	394	458	473	521	443	409	320	383	395	401	368
300	494	457	536	553	609	518	479	373	438	452	460	420
400	609	559	663	679	751	639	592	445	517	535	542	503
500	664	612	791	807	895	765	708	489	561	602	611	570
630	760	699	881	898	997	851	878	554	629	670	679	634

Direct Burial Depth 1m

YJHLV - 8.7/15kV

Cross Section (mm^2)	AMPACITY - IN AIR AT 40°C						AMPACITY - DIRECT BURIAL AT 25°C					
												
70	193	181	219	225	241	214	202	161	186	200	202	189
95	230	216	273	267	289	256	242	190	219	235	237	222
120	264	248	303	310	333	296	278	216	248	267	270	250
150	306	287	353	360	388	343	323	248	284	305	309	289
185	346	324	400	407	440	389	366	317	323	340	344	323
240	408	381	473	481	521	460	432	323	368	394	399	373
300	472	441	548	556	603	533	500	372	420	450	455	428
400	558	520	655	662	722	637	598	432	487	523	529	500
500	619	576	737	747	813	717	672	478	535	577	584	555
630	713	662	847	855	934	823	771	541	602	648	655	627

Direct Burial Depth 1m

YJHLV - 26/35kV

Cross Section (mm^2)	AMPACITY - IN AIR AT 40°C						AMPACITY - DIRECT BURIAL AT 25°C					
												
70	192	180	229	231	246	224	214	168	186	200	203	193
95	231	219	273	276	293	267	254	196	214	236	238	226
120	264	251	315	318	319	309	293	222	245	268	271	259
150	304	289	363	366	391	355	338	255	280	306	310	295
185	342	323	410	414	442	401	381	324	319	341	345	330
240	403	380	483	487	521	472	448	331	363	396	400	382
300	478	440	561	564	605	548	519	341	414	452	457	438
400	575	538	664	668	717	648	614	449	493	525	531	511
500	609	600	744	747	805	727	686	498	544	580	586	566
630	713	683	851	853	923	831	786	561	610	651	658	638

Direct Burial Depth 1m

YJHLV8

Cross Section (mm^2)	AMPACITY - IN AIR AT 40°C					
	0.6/1kV		8.7/15kV		26/35kV	
						
10	54	51	-	-	-	-
16	72	67	-	-	-	-
25	94	88	-	-	-	-
35	114	107	-	-	-	-
50	142	134	-	-	-	-
70	166	157	209	196	216	203
95	221	209	250	243	257	242
120	259	243	288	268	295	277
150	302	284	331	311	341	320
185	343	323	378	351	384	359
240	407	383	445	416	455	424
300	472	444	516	477	520	484
400	584	549	639	585	643	589
500	645	595	717	654	-	-
630	739	681	818	744	-	-

AMPACITY TABLE

YJHL82

Cross Section (mm^2)	AMPACITY - IN AIR AT 40°C						AMPACITY - DIRECT BURIAL AT 25°C					
	0.6/1kV		8.7/15kV		26/35kV		0.6/1kV		8.7/15kV		26/35kV	
												
10	55	52	-	-	-	-	51	63	-	-	-	-
16	73	68	-	-	-	-	67	81	-	-	-	-
25	95	89	-	-	-	-	85	104	-	-	-	-
35	115	106	-	-	-	-	102	124	-	-	-	-
50	143	135	-	-	-	-	125	150	-	-	-	-
70	187	177	185	176	199	189	161	193	160	180	180	187
95	224	211	227	215	236	224	192	226	191	216	201	219
120	260	245	261	246	271	256	218	257	218	246	228	249
150	302	286	301	284	312	295	254	296	250	281	261	285
185	342	325	334	316	350	331	289	330	278	312	290	317
240	404	381	392	370	413	389	336	384	322	360	337	367
300	468	446	449	422	-	-	389	441	368	409	-	-
400	577	543	582	531	-	-	477	535	437	479	-	-
500	638	589	649	593	-	-	477	563	481	537	-	-
630	732	675	751	679	-	-	540	601	543	594	-	-

Direct Burial Depth 1m

YJHL22

Cross Section (mm^2)	AMPACITY - IN AIR AT 40°C						AMPACITY - DIRECT BURIAL AT 25°C					
	0.6/1kV		8.7/15kV		26/35kV		0.6/1kV		8.7/15kV		26/35kV	
												
10	56	53	-	-	-	-	51	65	-	-	-	-
16	76	71	-	-	-	-	68	86	-	-	-	-
25	100	94	-	-	-	-	87	109	-	-	-	-
35	123	115	-	-	-	-	105	131	-	-	-	-
50	154	144	-	-	-	-	129	159	-	-	-	-
70	192	179	203	191	214	202	157	193	167	192	176	194
95	233	217	243	228	256	242	187	227	197	226	208	230
120	272	253	281	263	293	275	215	259	225	257	235	260
150	317	294	324	303	339	318	249	296	257	293	269	297
185	359	333	366	342	381	357	279	329	287	327	300	331
240	426	395	433	404	447	418	327	383	335	380	349	382
300	494	458	502	467	516	481	375	436	385	433	397	435
400	586	542	593	552	607	568	445	512	455	508	469	512
500	672	620	685	629	695	647	495	564	506	561	519	565
776	776	713	784	721	799	738	563	635	575	633	587	635

Direct Burial Depth 1m

CORRECTION FACTOR

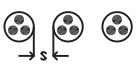
Ampacity Correction Factors for Different Air Temperature

Laying Method	Voltage Rating	AIR TEMPERATURE (°C)											
		-5	5	10	15	20	25	30	35	40	50	60	70	80
	1kV	1.45	1.36	1.31	1.27	1.21	1.16	1.10	1.05	1.00	0.86	0.73	0.58	0.38
	10kV	1.44	1.35	1.30	1.26	1.21	1.16	1.12	1.06	1.00	0.88	0.76	0.59	0.41
	1kV	1.48	1.39	1.34	1.28	1.24	1.18	1.12	1.07	1.00	0.87	0.73	0.58	0.38
	10kV	1.47	1.38	1.33	1.28	1.22	1.18	1.12	1.06	1.00	0.88	0.74	0.59	0.39

Ampacity Correction Factors for Different Soil Temperature

Laying Method	Soil Thermal Resistance (Km/W)	SOIL TEMPERATURE (°C)								
		5	10	15	20	25	30	35	40	45
	0.7	1.15	1.11	1.08	1.04	1.00	0.96	0.92	0.88	0.83
	1.0	1.14	1.11	1.07	1.03	1.00	0.96	0.92	0.88	0.83
	1.5	1.14	1.11	1.07	1.04	1.00	0.96	0.92	0.87	0.83
	2.5	1.13	1.10	1.06	1.03	1.00	0.95	0.91	0.87	0.82
	0.7	1.14	1.11	1.07	1.04	1.00	0.96	0.92	0.88	0.83
	1.0	1.14	1.11	1.08	1.04	1.00	0.96	0.92	0.88	0.83
	1.5	1.14	1.11	1.07	1.04	1.00	0.96	0.92	0.88	0.83
	2.5	1.14	1.11	1.07	1.04	1.00	0.96	0.92	0.88	0.83

Ampacity Correction Factor for Different Laying Interval

Spacing (S) mm	LAYING METHOD				
					
0	0.85	0.83	0.89	0.84	0.89
50	0.90	0.89	0.92	0.89	0.92
100	0.89	0.92	0.94	0.92	0.94
200	0.96	0.97	0.98	0.98	0.98
300	1.00	1.00	1.00	1.00	1.00

CORRECTION FACTOR

Ampacity Correction Factor for Direct Burial for Different Number of Single Core Circuit

Voltage Rating	No. of Circuit	LAYING METHOD											
													
		Soil Thermal Resistance (Km/W)											
		0.7	1.0	1.5	2.5	0.7	1.0	1.5	2.5	0.7	1.0	1.5	2.5
1~35kV	1	1.15	1.00	0.85	0.67	1.19	1.04	0.88	0.71	1.06	0.97	0.86	0.71
	2	0.94	0.80	0.67	0.53	0.98	0.84	0.70	0.56	0.94	0.84	0.73	0.59
	3	0.82	0.70	0.58	0.46	0.87	0.75	0.62	0.49	0.87	0.77	0.66	0.53
	4	0.76	0.65	0.53	0.42	0.81	0.69	0.57	0.45	0.83	0.73	0.62	0.50
	5	0.71	0.60	0.50	0.39	0.76	0.65	0.54	0.42	0.80	0.70	0.60	0.48
	6	0.67	0.57	0.47	0.37	0.72	0.62	0.52	0.40	-	-	-	-

Ampacity Correction Factor for Direct Burial for Different Number of Multi Core Circuit

Voltage Rating	No. of Circuit	LAYING METHOD							
									
		Soil Thermal Resistance (Km/W)							
		0.7	1.0	1.5	2.5	0.7	1.0	1.5	2.5
0.6/1kV Spacing 50mm	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	2	0.85	0.83	0.83	0.81	0.92	0.91	0.89	0.87
	3	0.73	0.71	0.70	0.68	0.84	0.81	0.78	0.75
	4	0.68	0.64	0.63	0.62	0.79	0.76	0.73	0.69
	5	0.62	0.59	0.58	0.57	0.75	0.72	0.68	0.65
	6	0.58	0.56	0.55	0.53	0.72	0.68	0.65	0.61
8.7/15kV Spacing 100mm	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	2	0.85	0.83	0.81	0.80	0.90	0.88	0.86	0.82
	3	0.75	0.73	0.70	0.68	0.83	0.80	0.76	0.72
	4	0.69	0.67	0.64	0.62	0.79	0.75	0.71	0.66
	5	0.65	0.63	0.60	0.58	0.75	0.71	0.67	0.62
	6	0.62	0.60	0.57	0.54	0.73	0.68	0.64	0.59
26/35kV Spacing 100mm	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	2	0.86	0.85	0.84	0.83	0.90	0.88	0.85	0.82
	3	0.76	0.74	0.73	0.71	0.83	0.79	0.75	0.71
	4	0.71	0.69	0.67	0.65	0.78	0.75	0.71	0.66
	5	0.66	0.64	0.62	0.60	0.75	0.71	0.66	0.62
	6	0.64	0.61	0.59	0.57	0.72	0.68	0.64	0.59

ELECTRICAL PERFORMANCE

Resistant, Reactance & Voltage Drop

Cross Section (mm^2)	DC Resistant at 20°C (Ω/Km)	AC Resistant at 90°C (Ω/Km)	Reactance at 50Hz (Ω/Km)	Voltage Drop (%(A.km))				
				Power Factor				
				0.6	0.7	0.8	0.9	1.0
10	≤3.080	3.690	0.079	0.66	0.76	0.87	0.97	1.07
16	≤1.910	2.269	0.075	0.41	0.47	0.54	0.60	0.65
25	≤1.200	1.449	0.076	0.27	0.31	0.35	0.39	0.42
35	≤0.868	1.039	0.073	0.20	0.23	0.25	0.28	0.30
50	≤0.641	0.718	0.072	0.14	0.16	0.18	0.20	0.21
70	≤0.443	0.515	0.072	0.11	0.12	0.13	0.14	0.15
95	≤0.320	0.383	0.070	0.08	0.09	0.10	0.11	0.11
120	≤0.253	0.303	0.070	0.07	0.08	0.08	0.09	0.09
150	≤0.206	0.237	0.070	0.06	0.06	0.07	0.07	0.07
185	≤0.164	0.195	0.071	0.05	0.05	0.06	0.06	0.06
240	≤0.125	0.149	0.070	0.04	0.04	0.05	0.05	0.04
300	≤0.100	0.117	0.069	0.04	0.04	0.04	0.04	0.03
400	≤0.0778	0.089	0.069	0.03	0.03	0.03	0.03	0.03
500	≤0.0605	0.074	0.069	0.03	0.03	0.03	0.03	0.02
630	≤0.0469	0.060	0.069	0.03	0.03	0.03	0.02	0.02

MV Capacitance

Cross Section (mm^2)		70	95	120	150	185	240	300	400	500	630
Capacitance (uF/Km)	8.7/15kV	0.18	0.21	0.22	0.24	0.27	0.29	0.32	0.36	0.40	0.42
	26/35kV	0.11	0.12	0.13	0.14	0.15	0.17	0.18	0.20	0.22	0.24

ELECTRICAL PERFORMANCE

0.6/1kV Cable System Reactance

Cross Section (mm^2)	REACTANCE (Ω/km)			
	LAYING METHOD			
				
10	0.079	0.106	0.120	0.164
16	0.075	0.098	0.113	0.156
25	0.076	0.095	0.109	0.153
35	0.073	0.091	0.105	0.149
50	0.072	0.087	0.101	0.145
70	0.072	0.085	0.100	0.143
95	0.070	0.083	0.097	0.141
120	0.070	0.081	0.096	0.139
150	0.070	0.081	0.095	0.139
185	0.071	0.081	0.095	0.139
240	0.070	0.079	0.094	0.137
300	0.069	0.078	0.093	0.136
400	0.069	0.077	0.092	0.135
500	0.069	0.077	0.091	0.135
630	0.069	0.076	0.091	0.134

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