IS : 694 IS : 1554 IS : 7098 IS : 14255

MAKE IN INDIA

Neyveli Lignite Corporation Limited

NBPDCL / SBPDCL
Online Bill Payment

IndianOil

EASTERN RAILWAY

Public Works Department
Government of West Bengal

Public Health Engineering Department
Government of West Bengal

Nagarjuna Construction Company Limited

Oil India Limited

WBPDCL

POLYCAB

KEI Wires & Cables

CESC LIMITED

LARSEN & TOUBRO

PNS® WIRES & CABLES
Empowering Life

PNS Wires & Cables
An ISO 9001:2015 Certified Organization

Registered Office & Plant:
60 +61/1 Jaya Bibi Road, Ghusuri, Howrah 711 107

98362 47799 / 93313 4779 sbs.omega@yahoo.com

PNS® WIRES & CABLES

www.pnscables.com

CHAIRMAN'S MESSAGE

Empowering life

At PNS Wires & Cables, we focus on empowering people's life. We continuously strive to provide a safe and secure experience for our stakeholders. Our manufacturing and delivering process ensure that our products can build a reliable relationship with the people, not only in the present scenario but also in our future endeavors as well.

Our success is a result of the high commitment of our people towards providing the spectacular delivery standards. We continuously strive to set new benchmarks and bring about the changes, encouraging our stakeholders to expand their horizon, thus providing us an opportunity to think differently and act progressively, to innovate and deliver value added PNS Wires & Cables and services with an impressive and powerful return, along with a supreme hold in the market place.

in the marketplace.

ABOUT US

PNS Wires & Cables is the most trusted make in India brand for producing the highest standards quality wires and cables with the aim of empowering & bettering the lives of the people. Our purpose is to define and connect to the people through our technologically developed products and services. Housed with the modernized infrastructure of international standards, our manufacturing unit is able to produce high-quality machinery and equipment along with advanced testing facilities to deliver supreme quality FR/FRLS-H/Multicore wires and cables, etc.

Our qualified technical experts are driven with the passion for producing complete solutions to meet our customer's expectations. At PNS, we strive to create a name that not only symbolizes power and success but also depicts the essence of trust and integrity. We seek to expand our routes into the local markets as well as into the facets of the country as a whole.

VISION

To become the leading organization acclaimed globally for using the most energy-efficient technology to empower the lives of our customers, employees, associates, and work for a better environment and society.

MISSION

Our mission is to empower people's life, pursuing the following principles!

Fellowship
People in our company are talented and work as a team, driven by passion, pride, and the thirst to achieve success

Responsibility
We ensure the well being of our customers and all who are associated with PNS Wires & Cables

Newness
We create high quality evolved products- by employing front-line scientific know-how

Transparency
We maintain assurance in transparency in all of our dealings!

PNS® WIRES & CABLES

PNS as a promising brand

Energy Efficient
The non-hygroscopic insulation almost unaffected by moisture makes the PVC cable mostly energy saving

Economical
Producing optimum results for the expenditure, PNS Wires & Cables are most cost effective and economic

Safe & Secure
It's tough and resilient sheath with excellent fine resisting quality makes it safe and secure. All the more, it's a complicated protection against most forms of electrolytic and chemical corrosion

Durable
Good ageing properties support long service life, PNS Wires & Cables are highly long lasting

The Manufacturing Plant

The two key strengths that make PNS Wires & Cables' plant better in every prospect.

Industrial Localization:
Being in the industrial belt of Howrah, we enjoy all the benefits of available resources for betterment of the Cable industry like easy availability of skilled labors, quality raw materials, transportation and uninterrupted power supply that makes PNS Wires & Cables unmatched in quality aspects.

Plant Layout:
Through our modern plant layout we ensure to optimize available space requirement thus guaranteeing proper batch to batch consistency in finished materials.

Our Product Range

- PVC - Insulated Industrial Cables (Multi Strand)- FR/FRLS-H
- PVC - Insulated Industrial Cables (Flexible)- Single/ Multi Core
- Industrial 3 Core Flat Submersible Cables
- Industrial LT Power Cables
- Industrial LT Control Cables
- Industrial LT XLPE Cables
- Industrial Instrumentations Cables
- Industrial LT Aerial Bunched Cables

Future Plan

Industrial Localization Excelling in the Industry we are in, we have plans to launch our own line fo Fans and other home appliances.

Broaden network We aspire to spread our horizon wider in Pan India to serve more people, empowering their lives.

PNS® WIRES & CABLES

Quality Policy

We deeply focus on quality as we believe in delivering products, that are safer, quicker and just simply of higher quality.

We have multi level quality checks at each step - in process and raw material inspection, Sample, routine, type, acceptance and other types tests too.

Manufacturing of Cables

The brief description of the process is mentioned as under

PNS cables are available with both Aluminum and Copper conductors. It is manufactured with solid/stranded circular/shaped aluminum and copper conductor. Stranding makes cables flexible and easy to handle while shaping makes them copact. Compaction is provided to all stranded conductor constructions as under.

1

CONDUCTOR

CIRCULAR CONDUCTOR

SHAPED CONDUCTORS

2

With one wire in the centre conductors contains 6, 12, 18, 24, 30...wire layers in either inlay or opposite helical directions. The conductor is sized upto 92 compaction.

In all multicore cables from 16 sq.mm size, conductors are shaped. Compaction degree in multicore power cables is upto 92. The conductor is manufactured in equal segments and compacted, then laid together. This reduces A.C. losses in the large size conductor, which are of the same construction of cables with Aluminum conductor except for high tensile strength, superion conductivity, better flexibility and ease of jointing. Copper cables are used in control, instrumentation, winding, submarine, mining and ship wiring, etc, applications. All conductors for PNS Cables are manufactured strictly in accordance with National Specification (IS:8130)

3

DIELECTRIC INSULATION

4

Insulation of PNS cables is strictly as per National Specifications. PNS cables are disigned and manufactured with polymer dielectrics to bear thermal and thermo-mechanical stresses safely at continuous normal and short circuit temperatue conditions.
PNS cables are available with both thermoplastic & thermosetting insulations. PVC cables Thermoplastic dielectric, XLPE cables Thermo setting dielectric.
PNS cables use PVC compounds that take care of over load and short circuit current with both coarse and fine protection systems.
PNS XLPW cables use XLPE compound with anti oxidant stabilizers and traces of polynuclear hydrocarbon.
Thus improving electrical treeing characteristics and mechanical strength of insulation.
Through there is no change in basic design of PNS cables yet the latest manufacturing process gives improved reliability and compactness to cables. The relative thermae expansion during short circuit between dielectric and conductor is therefore limited to minimum both in PVC and XLPE, thus limiting displacement of cores in cables during short circuit.
Insulation of PNS Cables are stricly manufactured and applied over conductor in accordance with National Specification. (IS 5831)

LAYING UP

5

Cores are tested online during production both for physical and electrical characteristics. Control is observed within tight tolerance limits for dimensions in case of PVC/XLPE Insulation. For Multi core Cables cores are laid up on our latest laying up machine equipped with sector correction equipment. In case of XLPE insulated cores the same are cured so as to impart the requisite characteistics both electrical and mechanical and then are laid up.

Laid up cable are provided with inner sheath either through extrusion or wrapping with high quality fo PVC Compound/tape which acts as bedding for steel wire/strip armoring. Wherever required, filler cords are provided to maintain the circularity to laid up cables.

6

INNER SHEATH

ARMORING

7

Mechanical protection to the cable is provided with armoring, PNS single core cables are armored with Aluminum or Aluminum alloy wire (for A.C. use) thus avoiding magnetic hysteresis losses on A.C. System.
Multi core cables are provised with galvanized steel wire/strips. PNS cables are provided with galvanized wire armoing. PNS cables armor wires/strips are fo low resistivity material and meet the requirements of IS 3975. PNS armored cables are within almost 95% armor coverage.

OUTER SHEATH

8

All PNS cables are provided with PVC/polymer outer sheath. PNS cables are manufacured with various characteristics of sheathing compounds. General purpose of sheathing compound used for PNS cables are fo various grades to meet specifications IS 5831. In order to be identified. PNS cables have their name embossed/printed/indented on outer sheath at regular intervals of the outer sheath of PNS cables. Voltage grade, Cables size, Trade name & year of manufacture are embossed, as disired. Cables are sequentially marked for lenght at every metre throughout its length.

Each PNS cables is tested for all applicable routine tests. From a lot of cables on cable of each type is tested for Type tests, as per relevant specifications. PNS conducts it's testing at PNS cable plant at Howrah (Kolkata) for acceptance test as per specifications. Testing of PNS cables are carried out as per PNS work standards for testing, besides applicable standards.

9

FINAL TESTING

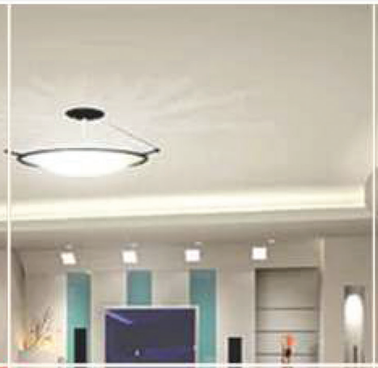
PNS® WIRES & CABLES

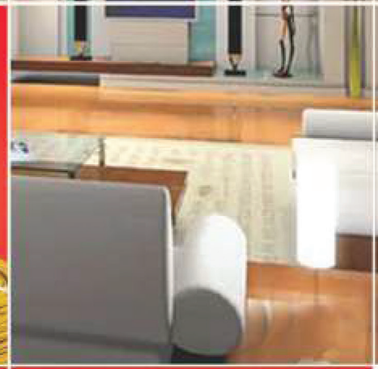
HOUSE WIRING

FR Cables
(Single core & Multi core and Submersible)

Insulation:
Flexible domestic and industrial cable conductors are insulated with specially formulated PVC compound that has high electric strength. It consists of thermoplastic material with no tendency to set when heated, the critical oxygen index also remains high in these cables.

Conductor:
Made of electrolytic grade bright annealed copper, the conductor gives maximum conductivity to the flow of electricity. Thus, saves maximum energy.





FRLS-H Cables
(Single core & Multi core)

Conductor:
Made of electrolytic grade bright annealed copper, the conductor gives maximum conductivity to the flow of electricity. That results in energy conservation.

Insulation:
Two of the most significant characteristics of the specially formulated PVC compound that has high temperature and critical oxygen index. Escalated index values lead to the optimum level of non combustibility.

ZHFR Cables
(Single core & Multi core)

Conductor:
Made of electrolytic grade bright annealed copper, the conductor gives maximum conductivity to the flow of electricity. Resulting in maximum energy saving.

Insulation:
The wires are insulated with specially formulated Zero Halogen Fire Retardant Compound that are eco-friendly and superior in quality. These properties aid in restricting the fire from spreading wide. In addition these wires have good electrical properties, high thermal stress resistance, emits low smoke and minimum corrosive acid generation.

PNS® WIRES & CABLES

INDUSTRIAL WIRING

LT 1.1 KV Unarmoured Power Cables
(Single core & Multi core)

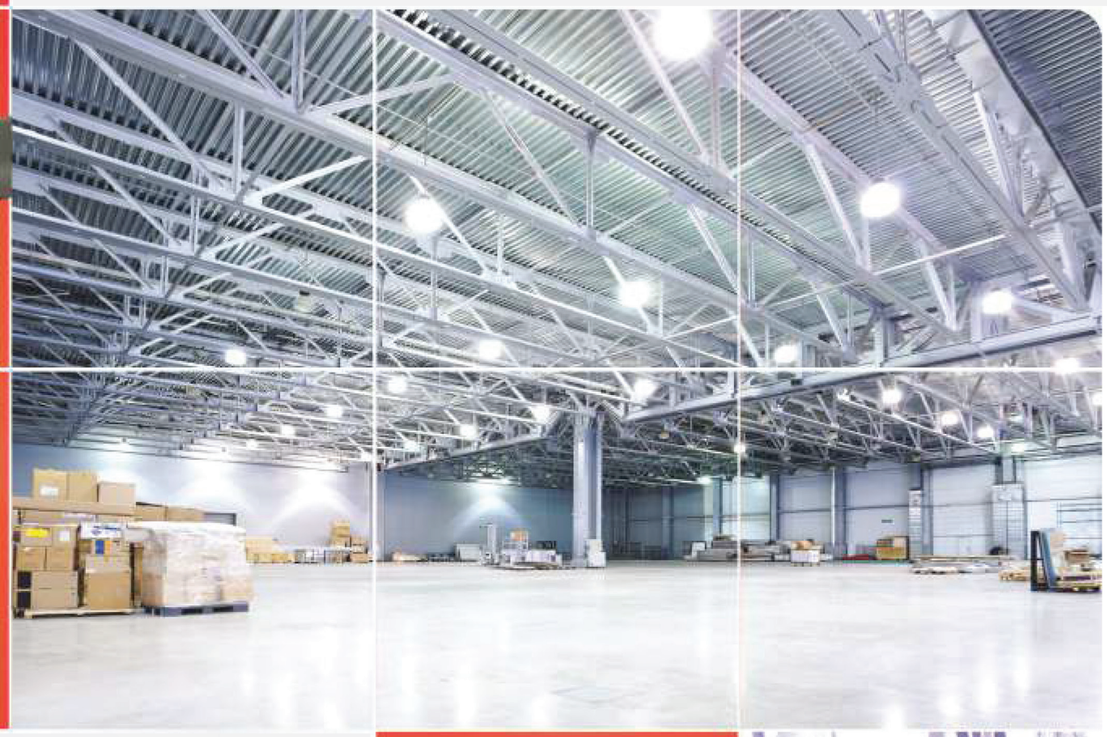
Insulation:
Unarmoured cables have no protective steel covering rather covered with a plastic coating. Cable insulation material used is of a high resistance to the flow of electric current to prevent leakage of current from a conductor. The insulation over the conductor is done by extrusion process.

Conductor :
(Copper / Aluminum)
Copper or Aluminum used for the conductors, are obtained in the form of 8.0 mm copper or 9.5 aluminum rods. After testing rods are drawn into wires of required sizes. These wires are formed into final conductor in the stranding machines under strict 'Quality Assurance Program'.

LT 1.1 KV Copper Control Cables
(Upto 61 cores)

Insulation:
The Cable provides PVC insulation by extrusion. The insulation is either general purpose Type A for 70 degree C or heat resisting Type C for 85 degree C. The insulation lines are fitted with on-line spark tester to check any possible voids or breakage and to maintain concentric and uniform thickness.

Conductor
The conductor is made of high conductive electrolytic grade copper having 99.97% purity in form of solid / standard circular shape.



LT 1.1 KV Aerial Bunched Cables
(Aluminum Conductor)

Insulation:
The insulation material includes both ordinary polythene and cross linked polythene. The temperature condition in this country is quite suitable for this type of insulation.

Conductor:
The neutral, of the three insulated phase conductors, is made of aluminum alloy. The neutral also acts as messenger or strain member of the entire assembly. Usage of high strength aluminum alloy provides additional tensile strength.

LT 1.1 KV Armoured Power Cables
(Single core & Multi core)

Insultation
Armoured electrical contains insulated electrical service wires protected by a flexible steel cover. The insulation material used is of high resistance to the flow of electric current to prevent leakage of current from a conductor. The insulation over the conductor is done by extrusion process.

Conductor (Copper / Aluminum)
Copper or Aluminum used for the conductors, are obtained in the form of 8.0 mm copper or 9.5 aluminum rods. After testing rods are drawn into wires of required sizes. These wires are formed into final conductor in the stranding machines under strict 'Quality Assurance Program'.

Instrumentation Cables:
Flexible/stranded annealed bare class 2 or 5 cables. Overall shielded, armoured, unarmoured and pair shielded cables available.

PNS® WIRES & CABLES

“PNS” FR PVC / PVC Insulated Copper Conductor(Unsheathed) Single core Flexible Cables, 1100 Voltage Grade for General Purpose as per IS: 694

Nominal Cross Sectional area of Conductor	Number / Nom. Dia of conductor strands*	Thickness of Insulation (Nom.)	Approx Overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20° C
				Conduit Trunking	Unenclosed clipped directly to a surface or on cable trays	
sq.mm	mm	mm	mm	Amps	Amps	mm
0.5	16/0.2	0.6	2.2	4	4	39.00
0.75	24/0.2	0.6	2.5	7	7	26.00
1.0	14/0.3	0.6	2.6	11	12	18.10
1.5	22.03	0.7	3.0	13	16	12.10
2.5	36/0.3	0.7	3.6	18	22	7.41
4.0	56/0.3	0.8	4.3	24	29	4.95
6.0	84/0.3	0.8	4.9	31	37	3.3

90 meters length in carton packaging & 270 meters project lengths in polywrap packaging.
Conductor shall be class-II for 1.0, 1.5 & 2.5 sq mm & for other size shall be of class V as per IS: 8130
Construction : Plain Annealed Copper Conductor as per IS: 8130.
Insulation : Type A PVC with FR Property. The number & diameter of conductor strands are for reference only.
Conductor resistance as per IS: 8130 is the governing criteria.

Colour : Red/Yellow/Blue/Black/Green.
Any other colour on specific request can also be supplied.

“PNS” FR PVC / PVC Insulated Copper Conductor(Unsheathed) Single core Flexible Cables, 1100 Voltage Grade for Industrial Applications as per IS: 694

Nominal Cross Sectional area of Conductor	Number / Nom. Dia of conductor strands*	Thickness of Insulation (Nom.)	Approx Overall Diameter	Current Carrying Capacity 2 Cables Single Phase		Max. Conductor Resistance per KM at 20° C
				Conduit Trunking	Unenclosed clipped directly to a surface or on cable trays	
sq.mm	mm	mm	mm	Amps	Amps	mm
10	80/0.4	1.0	6.30	50	61	1.91
16	126/0.4	1.0	7.40	68	82	1.21
25	196/0.4	1.2	9.10	85	103	0.780
35	276/0.4	1.2	10.30	108	132	0.554
50	396/0.4	1.4	12.20	144	174	0.386
				Current Carrying Capacity Amps		
70	360/0.5	1.4	14.10	256		0.272
95	475/0.5	1.6	16.40	304		0.206
120	608/0.5	1.6	18.00	359		0.161
150	750/0.5	1.8	20.10	406		0.129
185	925/0.5	2.0	22.30	466		0.106

Conductor as per class- V. 100 meters packing length as per IS: 694 & in bigger packing on request.
Higher Sizes of Nominal Cross Sectional Area of Conductor are also available on request.
Construction : Plain Annealed Copper Conductor as per IS: 8130.
Insulation : Type A PVC with FR Property.

Colour : Red/ Yellow/ Blue / Black/ Green up to 16 sq mm.
Colour : Black 25 sq mm & above.
Any other colour on specific request can also be supplied.

* The number & diameter of conductor strands are for reference only. Conductor resistance as per IS: 8130 is the governing criteria.

“PNS” PVC Insulated Copper Conductor and PVC Sheathed Multi Core Round Flexible Cable, 1100 Voltage Grade for Industrial Applications as per IS: 694

Nominal Cross Sectional area of Conductor	Number / Nom. Dia of conductor strands*	Thickness of Insulation (Nom.)	Nominal Thickness of Sheath			Approx Overall Diameter			Current Rating AC	Core Dia	Conductor Dia	Max. Conductor Resistance per KM at 20° C
			Two Core	Three Core	Four Core	Two Core	Three Core	Four Core				
sq.mm	mm	mm	mm	mm	mm	mm	mm	mm	Amps	mm	mm	Ohms
0.5	16/0.2	0.6	0.9	0.9	0.9	6.2	6.6	7.2	5	2.20	0.94	39.0
0.75	24/0.2	0.6	0.9	0.9	0.9	6.5	6.9	7.6	8	2.50	1.20	26.0
1.0	32/0.2	0.6	0.9	0.9	0.9	6.9	7.3	8.2	13	2.60	1.31	19.5
1.5	30/0.25	0.6	0.9	0.9	0.9	7.6	8.2	9.3	18	2.90	1.60	13.3
2.5	50/0.25	0.7	1.0	1.0	1.0	9.0	9.6	10.5	24	3.50	2.08	7.98
4.0	56/0.30	0.8	1.0	1.0	1.0	10.3	10.9	12.3	31	4.30	2.60	4.95
6.0	84/0.30	0.8	1.15	1.15	1.4	12.6	13.4	15.2	33	5.10	3.50	3.30
10.0	80/0.40	1.0	1.4	1.4	1.4	16.0	17.0	18.8	45	6.60	4.60	1.91
16.0	126/0.40	1.0	1.4	1.4	1.4	18.8	20.1	22.2	60	8.00	6.00	1.21
25.0	196/0.40	1.2	2.0	2.0	2.0	24.0	25.6	28.2	75	10.0	7.60	0.078
35.0	276/0.40	1.2	2.0	2.0	2.0	26.3	28.0	31.0	95	11.1	8.70	0.554

Available in 100 meters length with black outer sheath & in bigger packing on request. Any colour on specific request can be supplied, in economical run.
Conductor shall be class-II for 1.0, 1.5 & 2.5 sq mm & for other size shall be of class V as per IS : 8130.
The number & diameter of conductor strands are for reference only. Conductor resistance as per IS : 8130 is the governing criteria.

“PNS” PVC Insulated Copper Conductor and PVC Sheathed Multi Core Round Flexible Cables, 1100 Voltage Grade for Industrial Applications as per IS :694

Area “sq mm”	0.5	0.75	1.0	1.5	2.5	4.0
General Construction No. of Wire in “mm”*	16/0.20	24/0.20	32/0.20	30/0.25	50/0.25	56/0.30
Conductor Dia in “mm”	0.94	1.20	1.34	1.64	2.08	2.61
Average Insulation Thickness in “mm”	0.60	0.60	0.60	0.60	0.70	0.80
Core Dia in “mm”	2.20	2.50	2.60	2.90	3.50	4.30
Max Conductor Resistance in “W/km” at 20° C	39.0	26.0	19.5	13.3	7.98	4.95
Recomended Current Rating in “Amp”	4	7	12	15	20	27

No. of Cores	Specification	0.5 sq mm	0.75 sq mm	1.0 sq mm	1.5 sq mm	2.5 sq mm	4.0 sq mm
6	Average Sheath Thickness In “mm”	0.90	1.00	1.00	1.00	1.10	1.20
	Approximate Overall Dia in “mm”	8.50	9.50	9.80	10.7	12.7	15.3
7	Average Sheath Thickness In “mm”	0.90	1.00	1.00	1.00	1.10	1.20
	Approximate Overall Dia in “mm”	8.50	9.50	9.80	10.7	12.7	15.3
8	Average Sheath Thickness In “mm”	1.00	1.00	1.00	1.10	1.20	1.30
	Approximate Overall Dia in “mm”	9.30	10.4	10.7	11.9	14.1	16.9
10	Average Sheath Thickness In “mm”	1.00	1.10	1.10	1.10	1.30	1.40
	Approximate Overall Dia in “mm”	10.8	12.2	12.6	13.8	16.6	20.0
12	Average Sheath Thickness In “mm”	1.00	1.10	1.10	1.10	1.30	1.40
	Approximate Overall Dia in “mm”	11.2	12.6	13.0	14.3	17.2	20.7

Available in 100 meters length with black outer sheath & in bigger packing on request. Any colour on specific requeste can be supplied, in economical run.
Conductor shall be class-II for 1.0, 1.5, & 2.5, sq mm & for other size shall be of class V as per IS: 8130.
The number & diameter of conductor strands are for reference only. Conductor resistance as per IS: 8130 is the governing criteria.

“PNS” PVC Insulated Copper Conductor and PVC Sheathed Three Core Flat Flexible Cables 1100 Voltage Grade for Submersible use as per IS: 694

Nominal area of conductor	Insulation			Sheath (overall Diamensions)		Maximum Conductor Resistance per K.M. at 20° C	Current Carrying Capacity at 40° C
	Number/Size of Wire for each Core	Tickness (Nom.)	Core Dia (Nom.)	Width	Thickness		
sq. mm	mm	mm	mm	(Nom.)mm	(Nom.)mm	Ohms	Amps
1.50	22/0.30	0.6	3.0	10.4	4.8	12.1	14
2.50	36/0.30	0.8	3.6	12.8	5.7	7.41	18
4.00	56/0.30	0.8	4.3	15.0	6.5	4.95	26
6.00	84/0.30	0.8	4.8	16.8	7.2	3.30	31
10.00	80/0.40	1.0	6.3	21.0	8.8	1.91	42

Available in 100 meters length with black outer sheath & in bigger packing on request. Any colour on specific requeste can be supplied, in economical run.
Conductor: class V as per IS: 8130.
The number & diameter of conductor strands are for reference only. Conductor resistance as per IS: 8130 is the governing criteria.

PNS® WIRES & CABLES

“PNS” Single Core PVC Insulated Armoured & Unarmoured Cable With Aluminium / Copper Conductor Conf. To IS : 1554 (P-1)/1988

Cross-Sectional Area	Cond. Min.No. of Wires		Nominal Tickness of PVC Insulation Min.		Min. Thickness of Inner-Sheath	Dimension of Arm Wire/Strip	Min. Tickness of Outer Sheath		Approx. Overall Diameter		Approx. Net. Wt. of Cable				Max. DC Resistance at 20 °C		Approx. AC Resistance at 90 °C		Approx Capacitance Per Phase		Current Rating						Short Circuit Rating for 1 sec.	
			Arm	Nom. Un-Arm			Arm	Un-Arm	Arm	Un-Arm	Arm-oured		Un-Armoured						Arm	Un-Arm	Direct In Ground		In Duct		In Air		KA (RMS)	
Sq.mm.	No.		mm.	mm	mm.	mm.	mm.	mm.	mm.	mm.	Kg/Km.		Kg/Km.		Ohm/Km.		Ohm/Km.		Uf/Km.		Amps		Amps		Amps			
AL/CU	AL	CU	AL/CU		AL/CU	-	AL/CU	AL/CU	AL/CU	AL/CU	AL	CU	AL	CU	AL	CU	AL	CU	AL/CU		AL	CU	AL	CU	AL	CU	AL	CU
1.5	-	1	1.0	1.0	NA	-	-	1.80	9.5	7	-	125	-	73	-	12.1	-	15.5	-	0.19	-	24	-	22	-	19	-	0.21
2.5	-	1	1.0	1.0	NA	-	-	1.80	10	7.5	-	143	-	87	-	7.41	-	9.5	-	0.24	-	32	-	29	-	24	-	0.36
4	1	1	1.0	1.0	NA	1.4	1.24	1.80	10.5	8	131	156	80	105	7.41	4.61	9.5	5.53	0.48	0.58	32	39	32	38	31	35	0.304	0.460
6	1	1	1.0	1.0	NA	1.4	1.24	1.80	11	9	152	189	100	135	4.61	3.08	5.53	3.70	0.56	0.68	39	49	37	48	35	44	0.456	0.690
10	1	7	1.0	1.0	NA	1.4	1.24	1.80	12	10	176	233	120	180	3.08	1.83	3.70	2.20	0.67	0.83	51	65	51	64	47	60	0.760	1.150
16	7	7	1.0	1.0	NA	1.4	1.24	1.80	12.5	11	209	300	160	260	1.91	1.15	2.29	1.38	0.81	1.01	66	85	65	83	64	82	1.220	1.840
25	7	7	1.2	1.2	NA	1.4	1.24	1.80	14.5	13	287	438	210	365	1.20	0.727	1.44	0.87	0.87	1.05	86	110	84	110	84	110	1.900	2.880
35	7	7	1.2	1.2	NA	1.4	1.24	1.80	15.5	14	331	547	250	460	0.868	0.524	1.04	0.63	1.00	1.22	100	130	100	125	105	130	2.660	4.030
50	7	7	1.4	1.4	NA	1.4	1.24	1.80	17	16	406	691	300	610	0.641	0.387	0.769	0.464	1.03	1.22	120	155	115	150	130	165	3.800	5.750
70	19	19	1.4	1.4	NA	1.4	1.24	1.80	19.5	17	523	953	400	830	0.443	0.268	0.532	0.322	1.21	1.43	140	190	135	175	155	205	5.320	8.050
95	19	19	1.6	1.6	NA	4x0.8	1.40	1.80	21	19	650	1230	500	1100	0.320	0.193	0.384	0.232	1.27	1.47	175	220	155	200	190	245	7.220	10.900
120	19	19	1.6	1.6	NA	4x0.8	1.40	2.20	23	21	750	1500	600	1350	0.253	0.1240	0.304	0.184	1.42	1.62	195	250	170	220	220	280	9.120	13.800
150	19	19	1.8	1.8	NA	4x0.8	1.40	2.20	24	23	900	1830	750	1680	0.206	0.153	0.247	0.1488	1.42	1.62	220	280	190	245	250	320	11.40	17.300
185	37	37	2.0	2.0	NA	4x0.8	1.40	2.20	27	25	1050	2200	900	2050	0.164	0.0754	0.197	0.1189	1.44	1.62	240	305	210	260	290	370	14.10	21.300
240	37	37	2.2	2.2	NA	4x0.8	1.40	2.20	30	28	1300	2800	1100	2600	0.125	0.0991	0.151	0.0912	1.53	1.72	270	345	225	285	335	425	18.20	27.600
300	37	37	2.4	2.4	NA	4x0.8	1.56	2.20	32	30	1600	3450	1350	3200	0.100	0.0601	0.122	0.0733	1.56	1.74	295	375	245	310	380	475	22.80	34.500

“PNS” 2 Core PVC Insulated Armoured & Unarmoured Cable With Aluminium / Copper Conductor Conf. To IS : 1554 (P-1)/1988

Cross-Sectional Area	Cond. Min.No. of Wires		Nominal Tickness of PVC Insulation Min.		Min. Thickness of Inner-Sheath	Dimension of Arm Wire/Strip	Min. Tickness of Outer Sheath		Approx. Overall Diameter		Approx. Net. Wt. of Cable				Max. DC Resistance at 20 °C		Approx. AC Resistance at 90 °C		Approx Capacitance Per Phase		Current Rating						Short Circuit Rating for 1 sec.	
			Arm	Nom. Un-Arm			Arm	Un-Arm	Arm	Un-Arm	Arm-oured		Un-Armoured						Arm	Un-Arm	Direct In Ground		In Duct		In Air		KA (RMS)	
Sq.mm.	No.		mm.	mm	mm.	mm.	mm.	mm.	mm.	mm.	Kg/Km.		Kg/Km.		Ohm/Km.		Ohm/Km.		Uf/Km.		Amps		Amps		Amps			
AL/CU	AL	CU	AL/CU		AL/CU	-	AL/CU	AL/CU	AL/CU	AL/CU	AL	CU	AL	CU	AL	CU	AL	CU	AL/CU		AL	CU	AL	CU	AL	CU	AL	CU
1.5	-	1	1.0	1.0	0.30	1.4	1.24	1.80	13	11	-	398	-	168	-	12.1	-	15.5	0.051	0.051	-	33	-	30	-	29	-	0.21
2.5	-	1	1.0	1.0	0.30	1.4	1.24	1.80	14	12	-	450	-	205	-	7.41	-	9.5	0.058	0.058	-	43	-	39	-	39	-	0.36
4	1	1	1.0	1.0	0.30	1.4	1.24	1.80	15	14	470	520	240	290	7.41	4.61	9.5	5.53	0.23	0.23	32	41	27	35	27	35	0.304	0.460
6	1	1	1.0	1.0	0.30	1.4	1.24	1.80	16	17	544	619	300	370	4.61	3.08	5.53	3.70	0.28	0.28	40	50	34	44	35	45	0.456	0.690
10	1	7	1.0	1.0	0.30	1.4	1.24	1.80	18	18	639	763	400	520	3.08	1.83	3.70	2.20	0.34	0.34	55	70	45	58	47	60	0.760	1.150
16	7	7	1.0	1.0	0.30	4x0.8	1.40	1.80	20	17	700	1000	430	630	1.91	1.15	2.29	1.38	0.40	0.40	70	90	58	75	59	78	1.220	1.840
25	7	7	1.2	1.2	0.30	4x0.8	1.40	2.00	23	19	900	1350	450	750	1.20	0.727	1.44	0.87	0.42	0.42	90	115	76	97	78	105	1.900	2.880
35	7	7	1.2	1.2	0.30	4x0.8	1.40	2.00	24	21	1000	1650	550	980	0.868	0.524	1.04	0.63	0.48	0.48	110	140	92	120	99	125	2.660	4.030
50	7	7	1.4	1.4	0.30	4x0.8	1.56	2.00	27	24	1300	2230	700	1300	0.641	0.387	0.769	0.464	0.49	0.49	135	165	115	145	125	155	3.800	5.750
70	19	19	1.4	1.4	0.40	4x0.8	1.56	2.00	31	26	1600	2900	850	1700	0.443	0.268	0.532	0.322	0.56	0.56	160	205	140	180	150	195	5.320	8.050
95	19	19	1.6	1.6	0.40	4x0.8	1.56	2.20	35	30	2000	3750	1150	2300	0.320	0.193	0.384	0.232	0.58	0.58	190	240	170	215	185	230	7.220	10.900
120	19	19	1.6	1.6	0.40	4x0.8	1.72	2.20	37	32	2400	4630	1300	2800	0.253	0.153	0.304	0.184	0.63	0.63	210	275	190	235	210	265	9.120	13.800
150	19	19	1.8	1.8	0.50	4x0.8	1.88	2.40	41	34	2800	5600	1600	3450	0.206	0.1240	0.247	0.1488	0.63	0.63	240	310	210	270	240	305	11.40	17.300
185	37	37	2.0	2.0	0.50	4x0.8	1.88	2.40	46	38	3400	6840	2000	4300	0.164	0.0991	0.197	0.1189	0.64	0.64	275	350	240	300	275	350	14.10	21.300
240	37	37	2.2	2.2	0.60	4x0.8	2.20	2.60	51	42	4200	8650	2500	5500	0.125	0.0754	0.151	0.0912	0.67	0.67	320	405	275	345	325	410	18.20	27.600
300	37	37	2.4	2.4	0.60	4x0.8	2.36	2.80	56	46	5050	10630	3000	6700	0.100	0.0601	0.122	0.0733	0.68	0.68	355	450	305	385	365	465	22.80	34.500

“PNS” 3 Core PVC Insulated Armoured & Unarmoured Cable With Aluminium / Copper Conductor Conf. To IS : 1554 (P-1)/1988

Cross-Sectional Area	Cond. Min.No. of Wires		Nominal Tickness of PVC Insulation Min.		Min. Thickness of Inner-Sheath	Dimension of Arm Wire/Strip	Min. Tickness of Outer Sheath		Approx. Overall Diameter		Approx. Net. Wt. of Cable				Max. DC Resistance at 20 °C		Approx. AC Resistance at 90 °C		Approx Capacitance Per Phase		Current Rating						Short Circuit Rating for 1 sec.	
			Arm	Nom. Un-Arm			Arm	Un-Arm	Arm	Un-Arm	Arm-oured		Un-Armoured						Arm	Un-Arm	Direct In Ground		In Duct		In Air		KA (RMS)	
Sq.mm.	No.		mm.	mm	mm.	mm.	mm.	mm.	mm.	mm.	Kg/Km.		Kg/Km.		Ohm/Km.		Ohm/Km.		Uf/Km.		Amps		Amps		Amps			
AL/CU	AL	CU	AL/CU		AL/CU	-	AL/CU	AL/CU	AL/CU	AL/CU	AL	CU	AL	CU	AL	CU	AL	CU	AL/CU		AL	CU	AL	CU	AL	CU	AL	CU
1.5	-	1	1.0	1.0	0.30	1.4	1.24	1.80	14	11	-	440	-	197	-	12.1	-	15.5	0.15	0.15	-	25	-	23	-	22	-	0.21
2.5	-	1	1.0	1.0	0.30	1.4	1.24	1.80	15	12	-	514	-	246	-	7.41	-	9.5	0.18	0.18	-	34	-	31	-	30	-	0.36
4	1	1	1.0	1.0	0.30	1.4	1.24	1.80	16	16	513	588	270	340	7.41	4.61	5.53	5.53	0.23	0.23	28	36	23	30	23	30	0.304	0.460
6	1	1	1.0	1.0	0.30	1.4	1.24	1.80	17	18	581	731	360	470	4.61	3.08	5.53	3.70	0.28	0.28	35	45	30	38	30	39	0.456	0.690
10	1	7	1.0	1.0	0.30	1.4	1.24	1.80	19	19	678	864	440	650	3.08	1.83	3.70	2.20	0.34	0.34	46	60	39	50	40	52	0.760	1.150
16	7	7	1.0	1.0	0.30	4x0.8	1.40	1.80	21	19	700	1000	460	730	1.91	1.15	2.29	1.38	0.40	0.40	60	77	50	64	51	66	1.220	1.840
25	7	7	1.2	1.2	0.30	4x0.8	1.40	2.00	22	22	900	1350	620	1080	1.20	0.727	1.44	0.87	0.42	0.42	76	99	63	81	70	90	1.900	2.880
35	7	7	1.2	1.2	0.30	4x0.8	1.40	2.00	23	24	1000	1650	740	1400	0.868	0.524	1.04	0.63	0.48	0.48	92	120	77	99	86	110	2.660	4.030
50	7	7	1.4	1.4	0.30	4x0.8	1.56	2.00	26	27	1300	2230	940	1870	0.641	0.387	0.769	0.464	0.49	0.49	110	145	95	125	105	135	3.800	5.750
70	19	19	1.4	1.4	0.40	4x0.8	1.56	2.20	30	30	1600	2900	1200	2500	0.443	0.268	0.532	0.322	0.56	0.56	135	175	115	150	130	165	5.320	8.050
95	19	19	1.6	1.6	0.40	4x0.8	1.56	2.20	33	34	2000	3750	1600	3350	0.320	0.193	0.384	0.232	0.58	0.58	165	210	140	175	155	200	7.220	10.900
120	19	19	1.6	1.6	0.40	4x0.8	1.72	2.20	36	37	2400	4630	1900	4100	0.253	0.153	0.304	0.184	0.63	0.63	185	240	155	195	180	230	9.120	13.800
150	19	19	1.8	1.8	0.50	4x0.8	1.88	2.40	42	40	2800	5600	2300	5100	0.206	0.1240	0.247	0.1488	0.63	0.63	210	270	175	225	205	265	11.40	17.300
185	37	37	2.0	2.0	0.50	4x0.8	1.88	2.60	45	44	3400	6840	2750	6200	0.164	0.0991	0.197	0.1189	0.64	0.64	235	300	200	255	240	305	14.10	21.300
240	37	37	2.2	2.2	0.60	4x0.8	2.20	2.80	51	50	4200	8650	3500	7950	0.125	0.0754	0.151	0.0912	0.67	0.67	275	345	235	295	280	355	18.20	27.600
300	37	37	2.4	2.4	0.60	4x0.8	2.36	3.00	56	55	5050	10630	4300	9900	0.100	0.0601	0.122	0.0733	0.68	0.68	305	385	260	335	315	400	22.80	34.500

“PNS” 3.5 Core PVC Insulated Armoured & Unarmoured Cable With Aluminium / Copper Conductor Conf. To IS : 1554 (P-1)/1988

Cross-Sectional Area	Cond. Min.No. of Wires		Nominal Tickness of PVC Insulation Min.		Min. Thickness of Inner-Sheath	Dimension of Arm Wire/Strip	Min. Tickness of Outer Sheath		Approx. Overall Diameter		Approx. Net. Wt. of Cable				Max. DC Resistance at 20 °C		Approx. AC Resistance at 90 °C		Approx Capacitance Per Phase		Current Rating						Short Circuit Rating for 1 sec.	
			Arm	Nom. Un-Arm			Arm	Un-Arm	Arm	Un-Arm	Arm-oured		Un-Armoured						Arm	Un-Arm	Direct In Ground		In Duct		In Air		KA (RMS)	
Sq.mm.	No.		mm.	mm	mm.	mm.	mm.	mm.	mm.	mm.	Kg/Km.		Kg/Km.		Ohm/Km.		Ohm/Km.		Uf/Km.		Amps		Amps		Amps			
AL/CU	AL	CU	AL/CU		AL/CU	-	AL/CU	AL/CU	AL/CU	AL/CU	AL	CU	AL	CU	AL	CU	AL	CU	AL/CU		AL	CU	AL	CU	AL	CU	AL	CU
3X25 / 16	7	7	1.20/1.00	1.20/1.00	0.3	4x0.8	1.40	2.0	24	24	1000	1550	700	1264	1.2	0.727	1.44	0.87	0.42	0.42	76	99	63	81	70	90	1.90	2.88
3X35/ 16	7	7	1.20/1.00	1.20/1.00	0.3	4x0.8	1.40	2.0	26	26	1200	1950	850	1600	0.868	0.524	1.04	0.63	0.48	0.48	92	120	77	99	86	110	2.66	4.03
3X50/ 25	7	7	1.40/1.20	1.40/1.20	0.3	4x0.8	1.56	2.0	30	29	1500	2600	1050	2100	0.641	0.387	0.769	0.464	0.49	0.49	110	145	95	125	105	135	3.80	5.75
3X70/ 35	19	19	1.40/1.20	1.40/1.20	0.4	4x0.8	1.56	2.2	34	32	1800	3300	1400	2900	0.443	0.268	0.532	0.322	0.56	0.56	135	175	115	150	130	165	5.32	8.05
3X95/ 50	19	19	1.60/1.40	1.60/1.40	0.4	4x0.8	1.56	2.2	37	36	2300	4350	1800	3900	0.320	0.193	0.384	0.232	0.58	0.58	165	210	140	175	155	200	7.22	10.90
3X120/ 70	19	19	1.60/1.40	1.60/1.40	0.5	4x0.8	1.72	2.4	41	40	2800	5450	2200	4850	0.253	0.153	0.304	0.184	0.63	0.63	185	240	155	195	180	230	9.12	13.80
3X150/ 70	19	19	1.80/1.40	1.80/1.40	0.5	4x0.8	1.88	2.4	45	44	3200	6400	2600	5800	0.206	0.1240	0.247	0.1488	0.63	0.63	210	270	175	225	205	265	11.40	17.30
3X185/ 95	37	37	2.00/1.60	2.00/1.60	0.5	4x0.8	2.04	2.6	49	48	3900	7900	3200	7200	0.164	0.0991	0.197	0.1189	0.64	0.64	235	300	200	255	240	305	14.10	21.30
3X240/ 120	37	37	2.20/1.60	2.20/1.60	0.6	4x0.8	2.20	3.0	55	54	4800	10000	4100	9300	0.125	0.0754	0.151	0.0912	0.67	0.67	275	345	235	295	280	355	18.20	27.60
3X300/ 150	37	37	2.40/1.80	2.40/1.80	0.6	4x0.8	2.36	3.2	61	62	5800	12300	5000	11500	0.100	0.0601	0.122	0.0733	0.68	0.68	305	385	260	335	315	400	22.80	34.50

PNS® WIRES & CABLES

“PNS” 4 Core PVC Insulated Armoured & Unarmoured Cable With Aluminium / Copper Conductor Conf. To IS : 1554 (P-1)/1988

Cross-Sectional Area	Cond. Min.No. of Wires		Nominal Tickness of PVC Insulation Min.		Min. Thickness of Inner-Sheath	Dimension of Arm Wire/Strip	Min. Tickness of Outer Sheath		Approx. Overall Diameter		Approx. Net. Wt. of Cable				Max. DC Resistance at 20 °C		Approx. AC Resistance at 90 °C		Approx Capacitance Per Phase		Current Rating						Short Circuit Rating for 1 sec.	
			Arm	Un-Arm			Arm	Un-Arm	Arm	Un-Arm	Arm-oured		Un-Armoured						Arm	Un-Arm	Direct In Ground		In Duct		In Air		KA (RMS)	
Sq.mm.	No.		mm.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	Kg/Km.		Kg/Km.		Ohm/Km.		Ohm/Km.		Uf/Km.		Amps		Amps		Amps			
AL/CU	AL	CU	AL/CU		AL/CU	-	AL/CU	AL/CU	AL/CU	AL/CU	AL	CU	AL	CU	AL	CU	AL	CU	AL/CU		AL	CU	AL	CU	AL	CU	AL	CU
1.5	-	1		1.0	0.30	1.4	1.24	1.8	15	11	-	450	-	206	-	12.10	-	15.5	0.15	0.15	-	25	-	23	-	22	-	0.21
2.5	-	1		1.0	0.30	1.4	1.24	1.8	16	12	-	523	-	255	-	7.41	-	9.5	0.18	0.18	-	34	-	31	-	30	-	0.36
4	1	1	1.0	1.0	0.30	1.4	1.24	1.8	18	16	650	800	300	400	7.41	4.61	9.5	5.53	0.23	0.23	28	36	23	30	23	30	0.304	0.460
6	1	1	1.0	1.0	0.30	1.4	1.24	1.8	21	18	880	1030	390	540	4.61	3.08	5.53	3.70	0.28	0.28	35	45	30	38	30	39	0.456	0.690
10	1	7	1.0	1.0	0.30	1.4	1.4	1.8	21	20	750	998	540	788	3.08	1.83	3.70	2.20	0.34	0.34	46	60	39	50	40	52	0.760	1.150
16	7	7	1.0	1.0	0.30	4X0.8	1.4	2.0	22	23	860	1260	560	950	1.91	1.15	2.29	1.38	0.4	0.40	60	77	50	64	51	66	1.220	1.840
25	7	7	1.2	1.2	0.30	4X0.8	1.4	2.0	25	26	1100	1720	750	1370	1.20	0.727	1.44	0.87	0.42	0.42	76	99	63	81	70	90	1.900	2.880
35	7	7	1.2	1.2	0.30	4X0.8	1.4	2.0	28	30	1300	2170	940	1800	0.868	0.524	1.04	0.63	0.48	0.48	92	120	77	99	86	110	2.660	4.030
50	7	7	1.4	1.4	0.40	4X0.8	1.56	2.2	32	34	1600	2850	1250	2500	0.641	0.387	0.769	0.464	0.49	0.49	110	145	95	125	105	135	3.800	5.750
70	19	19	1.4	1.4	0.40	4X0.8	1.56	2.2	35	38	2000	3740	1550	3300	0.443	0.268	0.532	0.322	0.56	0.56	135	175	115	150	130	165	5.320	8.050
95	19	19	1.6	1.6	0.40	4X0.8	1.72	2.4	40	43	2600	5000	2050	4400	0.320	0.193	0.384	0.232	0.58	0.58	165	210	140	175	155	200	7.220	10.900
120	19	19	1.6	1.6	0.50	4X0.8	1.88	2.4	43	46	3050	6030	2400	5380	0.253	0.153	0.304	0.184	0.63	0.63	185	240	155	195	180	230	9.120	13.800
150	19	19	1.8	1.8	0.50	4X0.8	1.88	2.6	48	51	3600	7325	2950	6670	0.206	0.1240	0.247	0.1488	0.63	0.63	210	270	175	225	205	265	11.40	17.300
185	37	37	2.0	2.0	0.60	4X0.8	2.04	2.8	52	55	4300	8890	3650	8250	0.164	0.0991	0.197	0.1189	0.64	0.64	235	300	200	255	240	305	14.10	21.300
240	37	37	2.2	2.2	0.60	4X0.8	2.36	3.0	69	60	5400	11355	4600	10550	0.125	0.0754	0.151	0.0912	0.67	0.67	275	345	235	295	280	355	18.20	27.600
300	37	37	2.4	2.4	0.70	4X0.8	2.52	3.4	67	66	6600	14050	5500	12950	0.100	0.0601	0.122	0.0733	0.68	0.68	305	385	260	335	315	400	22.80	34.500

“PNS” 1.5 sq.mm PVC Insulated Armoured & Unarmoured Control Cable With Copper Conductor Conf. To IS : 1554 (P-1)/1988

No. of Cores X Cross-Sectional Area	Cond. Min.No. of Wires	Nominal Tickness of PVC Insulation	Min. Thickness of Inner-Sheath	Dimension of Arm Wire/Strip	Min. Tickness of Outer Sheath		Approx. Overall Diameter		Approx. Net. Wt. of Cable		Max. DC Resistance at 20 °C	Approx. AC Resistance at 90 °C	Approx Capacitance Per Phase	Current Rating			Short Circuit Rating for 1 sec.
					Arm	Un-Arm	Arm	Un-Arm	Arm	Un-Arm				Direct In Ground	In Duct	In Air	
Sq.mm.	No.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	Kg/Km.	Kg/Km.	Ohm/Km.	Ohm/Km.	Uf/Km.	Amps	Amps	Amps	KA (RMS)
2x1.5	1.00	0.9	0.30	1.4	1.24	1.80	15.0	13.0	333	124	12.1	15.2	0.2	23	20	20	0.173
3x1.5	1.00	0.9	0.30	1.4	1.24	1.80	16.0	14.0	380	152	12.1	15.2	0.2	21	17	17	0.173
4x1.5	1.00	0.9	0.30	1.4	1.24	1.80	17.0	14.5	428	181	12.1	15.2	0.2	21	17	17	0.173
5x1.5	1.00	0.9	0.30	1.4	1.24	1.80	18.0	15.5	475	214	12.1	15.2	0.2	21	17	17	0.173
6x1.5	1.00	0.9	0.30	1.4	1.24	1.80	19.0	17.0	523	238	12.1	15.2	0.2	15	13	13	0.173
7x1.5	1.00	0.9	0.30	1.4	1.24	1.80	19.0	17.0	537	252	12.1	15.2	0.2	14	13	13	0.173
10x1.5	1.00	0.9	0.30	4x0.8	1.40	1.80	22.0	20.5	713	333	12.1	15.2	0.2	13	11	11	0.173
12x1.5	1.00	0.9	0.30	4x0.8	1.40	2.00	22.5	21.0	722	380	12.1	15.2	0.2	12	10	10	0.173
14x1.5	1.00	0.9	0.30	4x0.8	1.40	2.00	23.5	22.5	745	428	12.1	15.2	0.2	11	10	10	0.173
16x1.5	1.00	0.9	0.30	4x0.8	1.40	2.00	24.5	23.5	760	475	12.1	15.2	0.2	11	9	9	0.173
19x1.5	1.00	0.9	0.30	4x0.8	1.40	2.00	25.5	24.5	808	570	12.1	15.2	0.2	10	9	9	0.173
24x1.5	1.00	0.9	0.30	4x0.8	1.40	2.00	29.5	28.5	998	689	12.1	15.2	0.2	9	8	8	0.173
30x1.5	1.00	0.9	0.30	4x0.8	1.56	2.00	31.0	30.5	1140	817	12.1	15.2	0.2	9	7	7	0.173
37x1.5	1.00	0.9	0.30	4x0.8	1.56	2.00	33.5	32.5	1330	998	12.1	15.2	0.2	8	7	7	0.173

“PNS”2.5 Sq.mm PVC Insulated Armoured & Unarmoured Control Cable With Copper Conductor Conf. To IS : 1554 (P-1)/1988

No. of Cores X Cross-	Cond. Min.No. of Wires	Nominal Tickness of PVC	Min. Thickness of Inner-	Dimension of Arm Wire/Strip	Min. Tickness of Outer Sheath		Approx. Overall Diameter		Approx. Net. Wt. of Cable		Max. DC Resistance at 20 °C	Approx. AC Resistance at	Approx Capacitance Per	Current Rating			Short Circuit Rating for
					Arm	Un-Arm	Arm	Un-Arm	Arm	Un-Arm				Direct In Ground	In Duct	In Air	
Sq.mm.	No.	mm.	mm.	mm.	mm.	mm.	mm.	mm.	Kg/Km.	Kg/Km.	Ohm/Km.	Ohm/Km.	Uf/Km.	Amps	Amps	Amps	KA (RMS)
2x2.5	1.00	0.9	0.30	1.4	1.24	1.80	15.0	13.0	404	152	7.41	9.34	0.22	32	27	27	0.288
3x2.5	1.00	0.9	0.30	1.4	1.24	1.80	16.0	14.0	451	214	7.41	9.34	0.22	27	24	24	0.288
4x2.5	1.00	0.9	0.30	1.4	1.24	1.80	17.0	14.5	504	238	7.41	9.34	0.22	27	24	**24**	0.288
5x2.5	1.00	0.9	0.30	1.4	1.24	1.80	18.0	15.5	570	285	7.41	9.34	0.22	27	24	24	0.288
6x2.5	1.00	0.9	0.30	1.4	1.24	1.80	19.0	17.0	641	323	7.41	9.34	0.22	20	18	18	0.288
7x2.5	1.00	0.9	0.30	1.4	1.24	1.80	19.0	17.0	665	356	7.41	9.34	0.22	20	17	17	0.288
10x2.5	1.00	0.9	0.30	4x0.8	1.40	1.80	22.0	20.5	741	475	7.41	9.34	0.22	18	15	15	0.288
12x2.5	1.00	0.9	0.30	4x0.8	1.40	2.00	22.5	21.0	808	570	7.41	9.34	0.22	17	14	14	0.288
14x2.5	1.00	0.9	0.30	4x0.8	1.40	2.00	23.5	22.5	903	618	7.41	9.34	0.22	16	13	13	0.288
16x2.5	1.00	0.9	0.30	4x0.8	1.40	2.00	24.5	23.5	998	713	7.41	9.34	0.22	15	13	13	0.288
19x2.5	1.00	0.9	0.30	4x0.8	1.40	2.00	25.5	24.5	1093	808	7.41	9.34	0.22	14	12	12	0.288
24x2.5	1.00	0.9	0.30	4x0.8	1.40	2.00	29.5	28.5	1330	998	7.41	9.34	0.22	13	11	11	0.288
30x2.5	1.00	0.9	0.30	4x0.8	1.56	2.00	31.0	30.5	1615	1188	7.41	9.34	0.22	12	10	10	0.288
37x2.5	1.00	0.9	0.30	4x0.8	1.56	2.00	33.5	32.5	1900	1473	7.41	9.34	0.22	11	10	10	0.288

“PNS”Single Core XLPE insulated armoured & unarmoured cable with Aluminium / Copper conductor conf. to IS : 7098 (P-1)/1988

Cross-Sectional Area	Cond. Min. No. of wires		Thickness of XLPE Insulation Min.		Thik-ness of inner Sheath	Dimension of Arm Wire/Strip	Thickness of outersheath		Approx. overall diameter		Approx. Net. Wt. of Cable				Max. D.C. Resistance at 20 deg. C		Approx A.C. Resistence at 90 deg.C		Approx Capacitance per phase		Current Rating						Short Circuit rating for 1 sec.	
			arm	Un-arm			arm	Un-arm	arm	Un-arm	Armoured		Unarmoured						arm	Un-arm	Direct in Ground		In Duct		In Air			
Sq. mm.	No		mm	mm	mm	mm	mm	mm	mm	mm	Kg / Km		Kg / Km		Ohm / Km		Ohm / Km		Uf / Km		Amps		Amps		Amps		KA (rms)	
Al/Cu	Al	Cu	Al/Cu	Al/Cu	Al/Cu	-	Al/Cu	Al/Cu	Al/Cu	Al/Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al/Cu		Al	Cu	Al	Cu	Al	Cu	Al	Cu
1.5	-	1	1	0.7	NA	-	-	1.8	9.5	7.0	-	117	-	65	-	12.1	-	15.5	-	0.19	-	0.19	-	24	-	22	-	0.21
2.5	-	1	1	0.7	NA	-	-	1.8	10.0	7.5	-	134	-	78	-	7.41	-	9.5	-	0.24	-	0.24	-	32	-	29	-	0.36
4	1	1	1	0.7	NA	1.4	1.24	1.8	10.5	8.0	131	156	78	97	7.41	4.61	9.5	5.9	-	0.29	32	0.29	32	41	31	40	0.38	0.57
6	2	1	1	0.7	NA	1.4	1.24	1.8	11.0	8.5	152	189	87	124	4.61	3.08	7.9	3.94	-	0.34	40	0.34	40	51	39	51	0.57	0.86
10	1	7	1	0.7	NA	1.4	1.24	1.8	12.0	9.5	176	233	105	167	3.08	1.83	3.94	2.34	0.32	0.43	53	0.43	53	68	53	71	0.64	1.4
16	7	7	1	0.7	NA	1.4	1.24	1.8	12.5	10.5	209	300	134	225	1.91	1.15	2.44	1.47	0.38	0.51	68	0.51	68	87	73	95	1.5	2.3
25	7	7	1.2	0.9	NA	1.4	1.24	1.8	14.5	11.0	287	438	169	320	1.2000	0.7270	1.530	0.931	0.380	0.487	86	0.487	86	112	98	126	2.4	3.6
35	7	7	1.2	0.9	NA	1.4	1.24	1.8	15.5	11.5	331	547	203	419	0.8680	0.5240	1.110	0.671	0.423	0.545	103	0.545	103	133	121	152	3.3	5.0
50	7	7	1.3	1	NA	1.4	1.24	1.8	17.0	13.5	406	691	258	543	0.6410	0.3870	0.818	0.496	0.464	0.586	122	0.586	122	157	150	189	4.7	7.1
70	19	19	1.4	1.1	NA	4x0.8	1.24	1.8	19.5	15.5	523	953	341	771	0.4430	0.2680	0.865	0.344	0.518	0.643	149	0.643	149	192	187	240	6.6	10.0
95	19	19	1.4	1.1	NA	4x0.8	1.4	1.8	20.0	17.0	655	1147	429	1009	0.3200	0.1930	0.409	0.248	0.587	0.731	178	0.731	178	230	230	297	9.0	13.6
120	19	19	1.5	1.2	NA	4x0.8	1.4	1.8	22.0	19.0	787	1398	53	1267	0.2530	0.1530	0.323	0.197	0.616	0.755	203	0.755	203	260	268	346	11.3	17.1
150	19	19	1.7	1.4	NA	4x0.8	1.4	2.0	24.0	21.0	907	1706	652	1574	0.2060	0.1240	0.264	0.160	0.607	0.724	228	0.724	228	293	309	390	14.2	21.4
185	37	37	1.9	1.6	NA	4x0.8	1.4	2.0	26.0	23.0	1067	2071	786	1914	0.1640	0.0991	0.210	0.129	0.604	0.705	257	0.705	257	329	360	460	17.4	26.4
240	37	37	2	1.7	NA	4x0.8	1.4	2.0	29.0	26.0	1322	2575	989	2410	0.1250	0.0754	0.161	0.099	0.657	0.764	299	0.764	299	383	433	552	22.6	34.3
300	37	37	2.1	1.8	NA	4x0.8	1.56	2.0	31.0	28.0	1552	3213	1161	2982	0.1000	0.0601	0.129	0.080	0.689	0.94	338	0.94		431	501	640	28.3	42.9

“PNS” 2 Core XLPE insulated armoured & unarmoured cable with Aluminium / Copper conductor conf. to IS : 7098 (P-1)/1988

Cross-Sectional Area	Cond. Min. No. of wires		Thickness of XLPE Insulation (Nom.)	Thik-ness of inner Sheath	Dimension of Arm Wire/Strip	Thickness of outersheath		Approx. overall diameter		Approx. Net. Wt. of Cable				Max. D.C. Resistance at 20 deg. C		Approx A.C. Resistence at 90 deg.C		Approx Capacitance per phase		Current Rating						Short Circuit rating for 1 sec.	
						Arm	Un-arm	Arm	Un-arm	Armoured		Unarmoured						Arm	Un-arm	Direct in Ground		In Duct		In Air			
Sq. mm.	No		mm	mm	mm	mm	mm	mm	mm	Kg / Km		Kg / Km		Ohm / Km		Ohm / Km		Uf / Km		Amps		Amps		Amps		KA (rms)	
Al/Cu	Al	Cu	Al/Cu	Al/Cu	-	Al/Cu	Al/Cu	Al/Cu	Al/Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al/Cu		Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu
1.5	-	1	0.7	0.3	1.4	1.24	1.8	13.0	11.0	-	383	-	152	-	12.1	-	15.5	0.051		-	33	-	30	-	29	-	0.21		
2.5	-	1	0.7	0.3	1.4	1.24	1.8	14.0	12.0	-	431	-	187	-	7.41	-	9.5	0.058		-	43	-	39	-	39	-	0.36		
4	1	1	0.7	0.3	1.4	1.24	1.8	15.0	13.0	470	520	190	240	7.41	4.61	9.5	5.9	0.065		43	56	39	50	39	51	0.38	0.57		
6	1	1	0.7	0.3	1.4	1.24	1.8	16.0	14.0	544	619	229	304	4.61	3.08	5.9	3.94	0.071		55	71	50	64	50	64	0.57	0.86		
10	1	7	0.7	0.3	1.4	1.24	1.8	18.0	15.0	639	763	288	412	3.08	1.83	3.94	2.34	0.081		74	92	64	83	67	88	0.94	1.4		
16	7	7	0.7	0.3	1.4	1.4	1.8	17.0	15.0	586	492	283	465	1.91	1.15	2.44	1.417	0.088		91	116	82	104	88	113	1.5	2.3		
25	7	7	0.9	0.3	4x0.8	1.4	2.0	19.0	18.0	650	953	320	623	1.2000	0.7270	1.530	0.931	0.089		120	152	108	137	117	153	2.4	3.6		
35	7	7	0.9	0.3	4x0.8	1.4	2.0	21.0	20.0	750	1184	390	824	0.8680	0.5240	1.110	0.671	0.096		143	180	129	162	145	186	3.3	5.0		
50	7	7	1.0	0.3	4x0.8	1.4	2.0	24.0	22.0	890	1463	480	1053	0.6410	0.3870	0.818	0.496	0.098		167	218	150	196	176	226	4.7	7.1		
70	19	19	1.1	0.3	4x0.8	1.4	2.0	27.0	26.0	1090	1954	630	1494	0.4430	0.2680	0.565	0.344	0.10		204	264	184	238	221	284	6.6	10.0		
95	19	19	1.1	0.4	4x0.8	1.56	2.2	30.0	29.0	1360	2393	820	1853	0.3200	0.1930	0.409	0.248	0.11		245	314	221	283	271	348	9.0	13.6		
120	19	19	1.2	0.4	4x0.8	1.56	2.2	33.0	32.0	1590	3055	990	2455	0.2530	0.1530	0.323	0.197	0.11		278	357	250	321	316	402	11.3	17.1		
150	19	19	1.4	0.4	4x0.8	1.72	2.2	36.0	35.0	1900	3753	1190	3043	0.2060	0.1240	0.264	0.160	0.11		315	403	284	363	362	461	14.2	21.4		
185	37	37	1.6	0.5	4x0.8	1.72	2.4	40.0	39.0	2280	4340	1490	3757	0.1640	0.0991	0.210	0.129	0.11		365	453	320	408	420	533	17.5	26.4		
240	37	37	1.7	0.5	4x0.8	1.88	2.6	43.0	42.0	2530	5386	1900	4756	0.1250	0.0754	0.161	0.099	0.11		407	518	366	466	497	633	22.6	34.3		
300	37	37	1.8	0.6	4x0.8	2.04	2.8	50.0	48.0	3330	6990	2330	5990	0.1000	0.0601	0.129	0.080	0.012		463	583	417	525	578	732	28.3	42.9		

PNS® WIRES & CABLES

“PNS” 3 Core XLPE insulated armoured & unarmoured cable with Aluminium / Copper conductor conf. to IS : 7098 (P-1)/1988

Cross-Sectional Area	Cond. Min. No. of wires		Thickness of XLPE Insulation (Nom.)	Thik-ness of inner Sheath	Dimension of Arm	Thickness of outersheath		Approx. overall diameter		Approx. Net. Wt. of Cable				Max. D.C. Resistance at 20 deg. C		Approx A.C. Resistence at 90 deg.C		Approx Capacitance per phase		Current Rating						Short Circuit rating for 1 sec.	
										Armoured		Unarmoured								Direct in Ground		In Duct		In Air			
Sq. mm.	No		mm	mm	mm	mm	mm	mm	mm	Kg / Km		Kg / Km		Ohm / Km		Ohm / Km		Uf / Km		Amps		Amps		Amps		KA (rms)	
Al/Cu	Al	Cu	Al/Cu	Al/Cu	-	Al/Cu	Al/Cu	Al/Cu	Al/Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al/Cu		Al	Cu	Al	Cu	Al	Cu	Al	Cu
1.5	-	1	0.7	0.3	1.4	1.24	1.8	14	11	-	417	-	173	-	12.1	-	15.5	0.15		-	25	-	23	-	22	-	0.21
2.5	-	1	0.7	0.3	1.4	1.24	1.8	15	12	-	486	-	218	-	7.41	-	9.5	0.18		-	34	-	31	-	30	-	0.36
4	1	1	0.7	0.3	1.4	1.24	1.8	16	14	513	588	208	283	7.41	4.61	9.5	5.9	0.22		34	44	31	40	31	40	0.38	0.57
6	1	1	0.7	0.3	1.4	1.24	1.8	17	15	581	731	233	510	4.61	3.08	5.9	3.94	0.31		43	55	39	50	40	51	0.57	0.86
10	1	7	0.7	0.3	1.4	1.24	1.8	19	17	678	864	324	653	3.08	1.83	3.94	2.34	0.36		57	73	51	66	53	70	0.94	1.4
16	7	7	0.7	0.3	4x0.8	1.24	1.8	21	18	596	1109	360	865	1.91	1.15	2.44	1.47	0.41		73	97	66	87	70	90	1.5	2.3
25	7	7	0.9	0.3	4x0.8	1.40	2.0	22	20	790	1245	410	1161	1.2000	0.7270	1.530	0.931	0.47		94	122	85	110	96	123	2.4	3.6
35	7	7	0.9	0.3	4x0.8	1.40	2.0	23	22	930	1581	510	1489	0.8680	0.5240	1.110	0.671	0.50		113	146	102	131	117	151	3.3	5.0
50	7	7	1.0	0.3	4x0.8	1.40	2.0	26	25	1090	1949	630	2166	0.6410	0.3870	0.818	0.496	0.53		133	172	120	155	142	183	4.7	7.1
70	19	19	1.1	0.4	4x0.8	1.56	2.2	30	29	1400	2696	870	2868	0.4430	0.2680	0.565	0.344	0.61		164	211	148	190	179	231	6.6	10.0
95	19	19	1.1	0.4	4x0.8	1.56	2.2	33	32	1720	3468	1120	3557	0.3200	0.1930	0.409	0.248	0.63		196	253	176	228	221	285	9.0	13.6
120	19	19	1.2	0.4	4x0.8	1.56	2.2	36	35	2030	4227	1360	4459	0.2530	0.1530	0.323	0.197	0.60		223	287	201	258	257	330	11.3	17.1
150	19	19	1.4	0.5	4x0.8	1.72	2.4	42	39	2430	5209	1680	5491	0.2060	0.1240	0.264	0.160	0.60		249	321	224	289	292	375	14.2	21.4
185	37	37	1.6	0.5	4x0.8	1.88	2.6	45	44	2930	6331	2090	6973	0.1640	0.0991	0.210	0.129	0.63		282	361	254	325	337	430	17.5	26.4
240	37	37	1.7	0.6	4x0.8	2.04	2.8	51	49	3650	7933	2690	8780	0.1250	0.0754	0.161	0.099	0.67		326	416	293	374	399	508	22.6	34.3
300	37	37	1.8	0.6	4x0.8	2.2	3.0	56	54	4360	9850	3290	11556	0.1000	0.0601	0.129	0.080	0.67		367	464	330	418	456	575	28.3	42.9

“PNS” 3.5 Core XLPE insulated aromoured & unarmoured cable with Aluminium/Copper Conductor conf. to IS: 7098 (P-1)/1988

Area	Cond. Min. No. of wires		Thickness of XLPE Insulation		Thik-ness of inner Sheath	Dimension of Arm	Thickness of outersheath		Approx. overall diameter		Approx. Net. Wt. of Cable				Max. D.C. Resistance at 20 deg. C		Approx A.C. Resistence at 90 deg.C		Approx Capacitance per phase	Current Rating						Short Circuit rating for 1 sec.	
			Min.	Nom.							Armoured		Unarmoured							Direct in Ground		In Duct		In Air			
			arm	Un-arm		Wire/Strip	arm	Un-arm	arm	Un-arm									Uf / Km	Amps		Amps		Amps		KA (rms)	
Sq. mm.	No		mm	mm	mm	mm	mm	mm	mm	mm	Kg / Km		Kg / Km		Ohm / Km		Ohm / Km										
Al/Cu	Al	Cu	Al/Cu	Al/Cu	Al/Cu	-	Al/Cu	Al/Cu	Al/Cu	Al/Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al/Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu
25	7	7	0.9	/ 07	0.3	4X0.8	1.4	2.0	23.0	22.0	890	1409	480	1033	1.2000	0.7270	1.530	0.931	0.41	94	122	85	110	96	123	2.4	3.6
35	7	7	0.9	/ 0.7	0.3	4X0.8	1.4	2.0	25.0	24.0	1030	1765	580	1410	0.8680	0.5240	1.110	0.671	0.47	113	146	102	131	117	151	3.3	5.0
50	7	7	1.0	/ 0.9	0.3	4X0.8	1.4	2.0	28.0	27.0	1460	2230	740	1848	0.6410	0.3870	0.818	0.496	0.5	1333	172	120	155	142	183	4.7	7.1
70	19	19	1.1	/ 1.0	0.4	4X0.8	1.56	2.2	33.0	32.0	1600	3112	1000	2629	0.4430	0.2680	0.565	0.344	0.53	164	211	148	190	179	231	6.6	10.0
95	19	19	1.1	/ 0.9	0.4	4X0.8	1.56	2.2	36.0	35.0	1970	4018	1290	3416	0.3200	0.1930	0.409	0.248	0.61	196	253	176	228	221	285	9.0	13.6
120	19	19	1.2	/ 1.1	0.4	4X0.8	1.72	2.2	40.0	39.0	2390	5035	1600	4330	0.2530	0.1530	0.323	0.197	0.63	223	287	201	258	257	330	11.3	17.1
150	19	19	1.4	/ 1.1	0.5	4X0.8	1.72	2.4	45.0	43.0	2770	6022	1930	5362	0.2060	0.1240	0.264	0.160	0.6	249	321	224	289	292	375	14.2	21.4
185	37	37	1.6	/ 1.1	0.5	4X0.8	1.88	2.6	50.0	48.0	3360	7425	2420	6664	0.1640	0.0991	0.210	0.129	0.6	282	361	254	325	337	430	17.5	26.4
240	37	37	1.7	/ 1.2	0.6	4X0.8	2.04	2.8	56.0	55.0	4190	9268	3100	8448	0.1250	0.0754	0.161	0.099	0.63	326	416	293	374	399	508	22.6	34.3
300	37	37	1.8	/ 1.4	0.6	4X0.8	2.2	3.0	61.0	60.0	4990	11237	3800	10347	0.1000	0.0601	0.129	0.080	0.67	367	464	330	418	456	575	28.3	42.9

“PNS”4 Core XLPE insulated armoured & unarmoured cable with Aluminium / Copper Conductor conf. to IS: 7098 (P-1)/ 1988

Area	Cond. Min. No. of wires		Thickness of XLPE Insulation		Thik-ness of inner Sheath	Dimension of Arm	Thickness of outersheath		Approx. overall diameter		Approx. Net. Wt. of Cable				Max. D.C. Resistance at 20 deg. C		Approx A.C. Resistence at 90 deg.C		Approx Capacitance per phase		Current Rating						Short Circuit rating for 1 sec.	
			Min.	Nom.							Armoured		Unarmoured								Direct in Ground		In Duct		In Air			
			arm	Un-arm		Wire/Strip	arm	Un-arm	arm	Un-arm									arm	Un-arm	Amps		Amps		Amps		KA (rms)	
Sq. mm.	No		mm	mm	mm	mm	mm	mm	mm	mm	Kg / Km		Kg / Km		Ohm / Km		Ohm / Km		Uf / Km									
Al/Cu	Al	Cu	Al/Cu		Al/Cu	-	Al/Cu	Al/Cu	Al/Cu	Al/Cu	Al	Cu	Al	Cu	Al	Cu	Al	Cu	Al/Cu		Al	Cu	Al	Cu	Al	Cu	Al	Cu
1.5	-	1	0.7		0.3	1.4	1.24	1.8	15.0	11	-	417	-	173	-	12.1	-	15.5	0.15		-	25	-	23	-	22	-	0.21
2.5	-	1	0.7		0.3	1.4	1.24	1.8	16.0	12	-	486	-	218	-	7.41	-	9.5	0.18		-	34	-	31	-	30	-	0.36
4	1	1	0.7		0.30	1.4	1.24	1.8	17.0	14	513	588	208	283	7.41	4.61	9.5	5.9	0.22		34	44	31	40	31	40	0.38	0.57
6	1	1	0.7		0.30	1.4	1.24	1.8	18.0	15	581	731	233	510	4.61	3.08	5.9	3.94	0.31		43	55	39	50	40	51	0.57	0.86
10	1	7	0.7		030	1.4	1.24	1.8	20.0	17	678	864	324	653	3.08	1.83	3.94	2.34	0.36		57	73	51	66	53	70	0.94	1.4
16	7	7	0.7		0.30	4X0.8	1.4	1.8	22.0	18	596	1109	360	865	1.91	1.15	2.44	1.47	0.41		73	97	66	87	70	90	1.5	2.3
25	7	7	0.90		0.30	4X0.8	1.4	2.0	24.0	20	790	1245	410	1161	1.2000	0.7270	1.530	0.931	0.47		94	122	85	110	96	123	2.4	3.6
35	7	7	0.90		0.30	4X0.8	1.4	2.0	26.0	22	930	1581	510	1489	0.8680	0.5240	1.110	0.671	0.50		113	146	102	131	117	151	3.3	5.0
50	7	7	1.00		0.30	4X0.8	1.56	2.0	29.0	25	1090	1949	630	2166	0.6410	0.3870	0.818	0.496	0.53		133	172	120	155	142	183	4.7	7.1
70	19	19	1.10		0.4	4X0.8	1.56	2.2	33.0	29	1400	2696	870	2868	0.4430	0.2680	0.565	0.344	0.61		164	211	148	190	179	231	6.6	10.0
95	19	19	1.10		0.4	4X0.8	1.56	2.2	36.0	32	1720	3468	1120	3557	0.3200	0.1930	0.409	0.248	0.63		196	253	176	228	221	285	9.0	13.6
120	19	19	1.20		0.5	4X0.8	1.72	2.4	41.0	35	2030	4227	1360	4459	0.2530	0.1530	0.323	0.197	0.60		223	287	201	258	257	330	11.3	17.1
150	19	19	1.40		0.5	4X0.8	1.88	2.6	45.0	39	2430	5209	1680	5491	0.2060	0.1240	0.264	0.160	0.60		249	321	224	289	292	375	14.2	21.4
185	37	37	1.60		0.6	4X0.8	2.04	2.8	50.0	44	2930	6331	2090	6973	0.1640	0.0991	0.210	0.129	0.63		282	361	254	325	337	430	17.5	26.4
240	37	37	1.70		0.6	4X0.8	2.2	3	56.0	49	3650	7933	2690	8780	0.1250	0.0754	0.161	0.099	0.67		326	416	293	374	399	508	22.6	34.3
300	37	37	1.80		0.7	4X0.8	2.52	3.2	62.0	54	4360	9850	3290	11556	0.1000	0.0601	0.129	0.088	0.67		367	464	330	418	456	575	28.3	42.9

“PNS” XLPE insulated armoured & unarmoured control cable with Copper Conductor conf. to IS : 7098 (P-1)/1988

No. of Cores X Area	Cond. Min. No. of wires	Thickness of XLPE Insulation	Thik-ness of inner Sheath	Dimension of Arm	Thickness of outersheath		Approx. overall diameter		Approx. Net. Wt. of Cable		Max. D.C. Resistance at 20 deg. C	Approx A.C. Resistence at 90 deg.C	Approx Capacitance per phase	Current Rating			Short Circuit rating for 1 sec.
									Armoured	Unarmoured				Direct in Ground	In Duct	In Air	
Sq. mm.	No	mm	mm	mm	mm	mm	mm	mm	Kg / Km	Kg / Km	Ohm / Km	Ohm / Km	Uf / Km	Amps	Amps	Amps	KA (rms)
2X1.5	1.0	0.7	0.3	1.4	1.24	1.8	14	112.0	411	183	12.1	14.5	0.1	23	20	20	0.713
3X1.5	1.0	0.7	0.3	1.4	1.24	1.8	14	12.0	450	212	12.1	14.5	0.1	21	17	17	0.173
4X1.5	1.0	0.7	0.3	1.4	1.24	1.8	15	13.0	508	247	12.1	14.5	0.1	21	17	17	0.173
5X1.5	1.0	0.7	0.3	1.4	1.24	1.8	16	14.0	542	278	12.1	14.5	0.1	21	17	17	0.173
6X1.5	1.0	0.7	0.3	1.4	1.24	1.8	17	15.0	607	322	12.1	14.5	0.1	15	13	13	0.173
7X1.5	1.0	0.7	0.3	1.4	1.24	1.8	17	16.0	621	332	12.1	14.5	0.1	14	13	13	0.173
10X1.5	1.0	0.7	0.3	1.4	1.40	1.8	21	19.0	838	456	12.1	14.5	0.1	13	11	11	0.173
12X1.5	1.0	0.7	0.3	4X0.8	1.24	1.8	20	19.0	723	501	12.1	14.5	0.1	12	10	10	0.173
14X1.5	1.0	0.7	0.3	4X0.8	1.40	1.8	21	20.0	822	558	12.1	14.5	0.1	11	10	10	0.173
16X1.5	1.0	0.7	0.3	4X0.8	1.40	1.8	22	21.0	912	626	12.1	14.5	0.1	11	9	9	0.173
19X1.5	1.0	0.7	0.3	4X0.8	1.40	2.0	23	23.0	987	724	12.1	14.5	0.1	10	9	9	0.173
24X1.5	1.0	0.7	0.3	4X0.8	1.40	2.0	26	26.0	125	900	12.1	14.5	0.1	9	8	8	0.173
27X1.5	1.0	0.7	0.3	4X0.8	1.40	2.0	27	27.0	1291	968	12.1	14.5	0.1	9	8	8	0.173
30X1.5	1.0	0.7	0.3	4X0.8	1.40	2.0	28	28.0	1396	1051	12.1	14.5	0.1	9	7	7	0.173
37X1.5	1.0	0.7	0.3	4X0.8	1.40	2.0	30	29.0	1608	1243	12.1	14.5	0.1	8	7	7	0.173
2X2.5	1.0	0.7	0.3	1.4	1.24	1.8	15	13.0	477	230	7.41	8.87	0.1	32	27	27	0.288
3X2.5	1.0	0.7	0.3	1.4	1.24	1.8	16	14.0	521	282	7.41	8.87	0.1	27	24	24	0.288
4X2.5	1.0	0.7	0.3	1.4	1.24	1.8	17	15.0	614	335	7.41	8.87	0.1	27	24	24	0.288
5X2.5	1.0	0.7	0.3	1.4	1.24	1.8	18	16.0	674	366	7.41	8.87	0.1	27	24	24	0.288
6X2.5	1.0	0.7	0.3	1.4	1.24	1.8	19	17.0	757	426	7.41	8.87	0.1	21	18	18	0.288
7X2.5	1.0	0.7	0.3	1.4	1.24	1.8	19	17.0	776	451	7.41	8.87	0.1	20	17	17	0.288
10X2.5	1.0	0.7	0.3	1.4	1.40	1.8	20	21.0	908	622	7.41	8.87	0.1	18	15	15	0.288
12X2.5	1.0	0.7	0.3	4X0.8	1.24	1.8	23	20.0	972	708	7.41	8.87	0.1	17	14	14	0.288
14X2.5	1.0	0.7	0.3	4X0.8	1.40	1.8	24	23.0	1079	795	7.41	8.87	0.1	16	13	13	0.288
16X2.5	1.0	0.7	0.3	4X0.8	1.40	1.8	25	24.0	1197	892	7.41	8.87	0.1	15	12	12	0.288
19X2.5	1.0	0.7	0.3	4X0.8	1.40	2.0	27	26.0	1336	1010	7.41	8.87	0.1	14	12	12	0.288
24X2.5	1.0	0.7	0.3	4X0.8	1.40	2.0	30	30.0	1651	1264	7.41	8.87	0.1	13	11	11	0.288
27X2.5	1.0	0.7	0.3	4X0.8	1.40	2.0	31	30.0	1750	1366	7.41	8.87	0.1	12	10	10	0.288
30X2.5	1.0	0.7	0.3	4X0.8	1.40	2.0	33	31.0	1923	1487	7.41	8.87	0.1	12	10	10	0.288
37X2.5	1.0	0.7	0.3	4X0.8	1.40	2.2	35	34.0	2269	1826	7.41	8.87	0.1	11	9	9	0.288

ADVANTAGES OF PVC CABLES

- A non hygroscopic insulation almost unaffected by moisture.
- Non migration of compound permitting vertical installation.
- Complete protection against most forms of electrolytic and chemical corrosion.
- A tough and resilient sheath with excellent fire resisting qualities.
- Good ageing characteristics.
- Not affected by vibration.

ADVANTAGES OF XLPE CABLES

- Higher current rating.
- Higher Short circuit rating.
- Longer service life.
- For a short time it can withstand maximum 130 ºC and is favourable to endure short circuit stresses.
- It is less sensitive to the setting of network protection.
- Because of the thermosetting process taking place due the effect of cross linking, the crack resistance is increased.
- Due to the chemical cross linking internal stresses are reduced. Consequently the material is less sensitive during manufacturing process to the setting of cooling gradient.
- The thermal resistivity of cross linked material is favourably low, compared to thermoplastic material.
- The low dielectric loss is a significant advantage.
- The excellent mechanical features of the insulation improves the protection against external effects.
- The resistance of XLPE to acids, alkalies is outstanding and is often compensating the adverse environmental influences.

PNS® WIRES & CABLES

Basic Assumption For Current Rating And Current Factors

SCOPE

The current ratings of cables as indicated in various tables have been calculated on certain assumed conditions. In actual practice this conditions may be different. Therefore to determine the actual current ratings as per installation conditions, the tabulated ratings shall be multiplied with appropriate factors.

BASIC ASSUMPTION OF CURRENT RATINGS

Maximum permissible temperature	90ºC for XLPE insulation, 70ºC for general purpose PVC, 85ºC for HR PVC
Ground/Duct temperature	30º C
Ambient temperature	40º C
Thermal resistivity of soil	150º C cm / w
Thermal resistivity of Dielectric	650 º C cm / w for PVC, 350º C cm / w for XLPE
Depth of laying – for 1.1 KV cables	750mm.
Single core cables installed in one circuit in the following arrangement	
Multicore cables installed in single circuit	

RATING FACTORS

Rating factors related to variation in ambient air temperature

Air temperature in Deg. C		20	25	30	35	40	45	50	55
	Normal PVC	1.32	1.25	1.16	1.09	1.00	0.90	0.80	0.80
Rating factors	HR PVC	1.22	1.17	1.12	1.06	1.00	0.94	0.87	0.80
	XLPE	1.20	1.16	1.11	1.06	1.00	0.95	0.88	0.81

Rating factors related to variation in ground thermal resistivity of soil for 3 single core cables laid direct in ground. Average value

Air temperature in Deg. C		15	20	25	30	35	40	45	50
	Normal PVC	1.17	1.12	1.06	1.00	0.94	0.	0.79	0.71
Rating factors	HR PVC	1.13	1.09	1.04	1.00	0.95	0.90	0.85	0.80
	XLPE	1.12	1.08	1.04	1.00	0.96	0.91	0.87	0.82

Rating factors related to variation in ground thermal resistivity of soil for 3 single core cables laid direct in ground. Average value

Thermal Res. In Deg. C cm / w		100	120		150	200		250	300
Rating factors		1.20	1.10		1.00	0.90		0.81	0.74

Rating factors related to variation in ground thermal resistivity of soil for multi core cables laid direct in ground. Average value

Thermal Res. In Deg. C cm / w		100	120		150	200		250	300
Rating factors		1.16	1.08		1.00	0.90		0.82	0.76

Rating factors related to variation in ground thermal resistivity of soil for multi core cables laid direct in ground. Average value

For cross sectional area of conductor < 25 sq.mm

Depth of laying (cm)	75	90	105	120	150	180 & ABOVE
Rating factors	1.00	0.99	0.98	0.97	0.96	0.95

For cross sectional area of conductor 25 to 300 sq.mm

Depth of laying (cm)	75	90	105	120	150	180 & ABOVE
Rating factors	1.00	0.98	0.97	0.96	0.94	0.93

PNS® WIRES & CABLES

NOTES

NOTES

PNS® WIRES & CABLES