

CELEBRATING
50
YEARS
OF EXCELLENCE



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NIRMAL
CABLES
Re-Imagining Connectivity



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COMPANY PROFILE

Group Nirmal is a leading manufacturer of high-quality steel wires, boasting an annual capacity of 180,000 metric tonnes and a turnover of 1,500 crores. Operating across five state-of-the-art facilities, our main products include Galvanized & Ungalvanized Steel Wires, Aluminum Conductors, Pre-Stressed Concrete Wires, and more.

Established in 1971 by Shri Ramautar Saraf, Central Store Supplies (P) Ltd began as a wire drawing unit in West Bengal. In 1985, Nirmal Wires Pvt. Ltd was founded, venturing into steel wire galvanizing. The torch passed to his sons, who expanded into Welding Electrodes and Hot Rolled products in the 1990s. Today, led by the third generation, our portfolio includes Tricon® bars and a state-of-the-art facility in Deulti, boosting production to 120,000 TPA by 2021. With exports to 40+ countries, we offer over 100 SKUs, including innovative products like Niznal and PVC Coated Wires.



*Re-Imagining
Tomorrow*



2000+
Satisfied Clients



2 Star
Export House



6 STATE-OF-THE-ART
Manufacturing Units



Delivering Globally
40+ Countries



ISO 9001:2015
Certified Company



Annual Production
Capacity of 216000 MT



CONSTRUCTION

CONDUCTOR

Conductors are crafted from electrolytic grade aluminum / copper, adhering to IS:8130 standards. They come in compact circular or compact shaped, solid / stranded circular forms.

INSULATION

Nirmal XLPE cables use specially made from high grade cross-linked polyethylene for insulation by extrusion process.

CORE IDENTIFICATION

Cores are color-coded as follows:

Single core: Red, Black, Yellow, Blue, or natural

Two core: Red and Black

Three core: Red, Yellow, and Blue

Four core: Red, Yellow, Blue, and Black

Three and a half core: Red, Yellow, Blue, and a reduced neutral core in Black

Five core: Red, Yellow, Blue, Black, and Grey

Six core and above: Two adjacent cores (counting and direction core) in each layer are Blue and Yellow. Remaining cores are Grey.

Core numbering and different colors are also used for control cables.

LAYING UP

In multicore cables, cores are laid-up as per the above colour scheme, interstices are filled wherever necessary to make the laid-up cores circular.

INNER SHEATH

Laid-up cores are bedded over with thermoplastic material for protection against mechanical and electrical damage.

ARMOURING

Armouring is provided over the inner sheath to guard against mechanical damage. Armouring is generally of galvanised steel wires or strips (in single core cables used in AC system armouring is by non-magnetic hard drawn aluminium wires / strips). Round steel wires are used where the diameter over the inner sheath does not exceed 13 mm, flat steel strip armour is used above 13 mm dia. Round wire of different sizes can be provided against specific request.

OUTER SHEATH

Specially formulated heat resistant (HR) PVC compound conforming to the requirement to type ST2 of IS:5831-1984, extruded to form the outer sheath.

OPERATING CHARACTERISTIC

A. Max. Conductor Temperature for continuous operaton: 90°C

B. Ambient Air Temperature: 40°C

C. Standard Ground Temperature: 30°C

D. Thermal Resistivity of Soil: 150°C Cm/Watt

E. Thermal Resistivity: 350°C Cm/Watt

F. Depth of Laying (for Cables laid direct in ground): 75 Cm

G. Minimum Bending Radius (for Multi Core Cables): 12D (D-Dia of Cable)

H. Max. Conductor temperature during short circuit: 250°C

I. Type of Installation

i. 3 Core Cable – Installed Independently – Three cables in Trefoil

ii. Single Core Cables – Touching each other



QUALITY CONTROL SYSTEM

1. TESTS ON RAW MATERIAL STAGE:

Nirmal XLPE Cables use top-quality raw materials, rigorously tested in their lab to meet industry standards. Key materials include:

Aluminum wire
XLPE / PVC compound
Steel Strip / Wire

2. PRODUCTION SHOP PREVENTIVE TEST (PROCESS INSPECTION):

Nirmal Group takes a proactive quality control approach with process inspections at every stage of cable production. This ongoing monitoring allows for immediate corrective actions if defects are found. Process inspections for XLPE cables include:

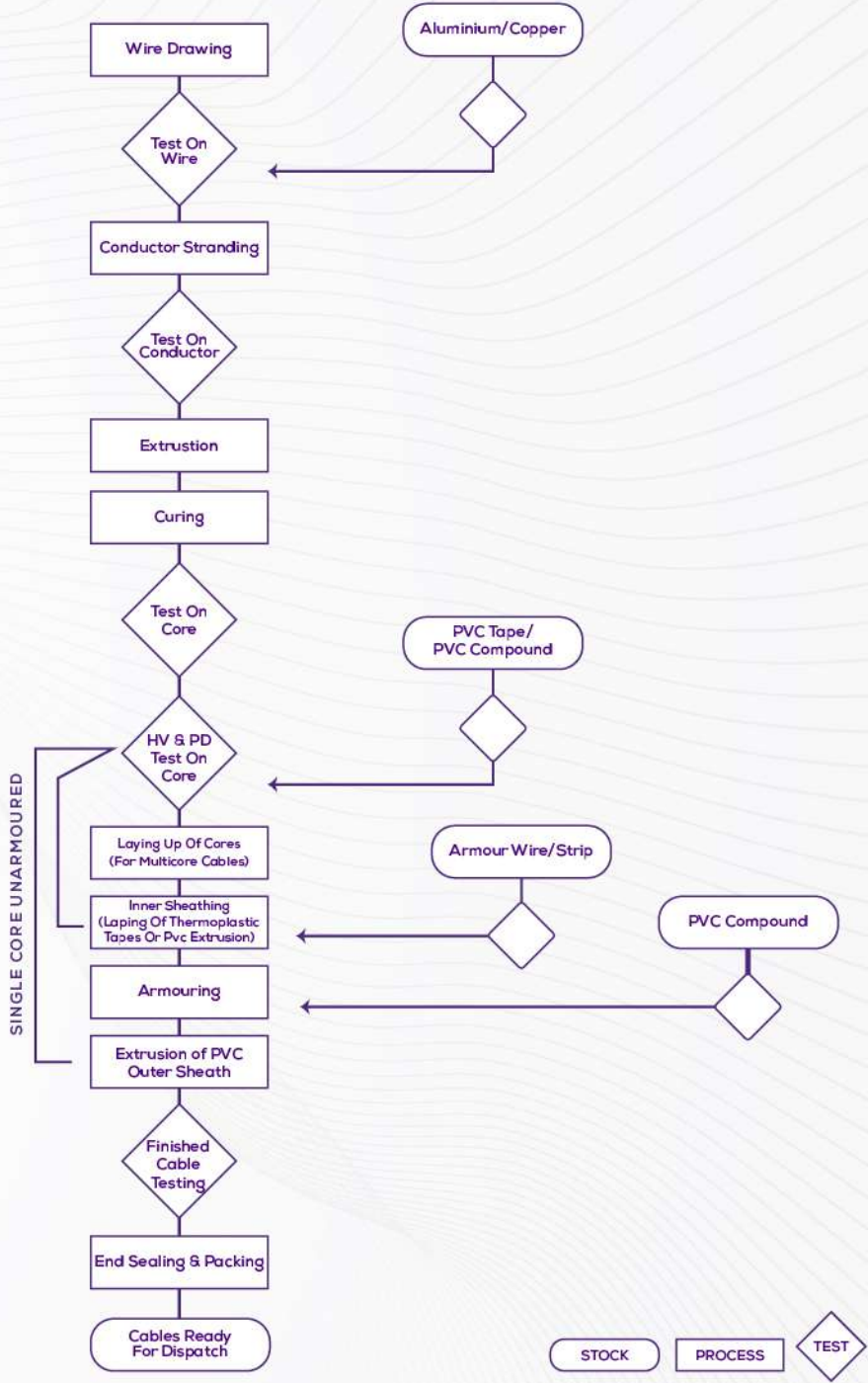
Conductor stranding
Insulation
Curing
Laying up
Inner sheath
Armouring
Outer sheath

3. FINISHED CABLE TEST:

Nirmal Cables operates a fully equipped, air-conditioned lab with cutting-edge testing equipment / gadgets gear. They conduct various tests on finished cables, following IS:7098 Part-I standards. This final stage guarantees that every Nirmal XLPE Cable meets top-notch quality standards before reaching customers.

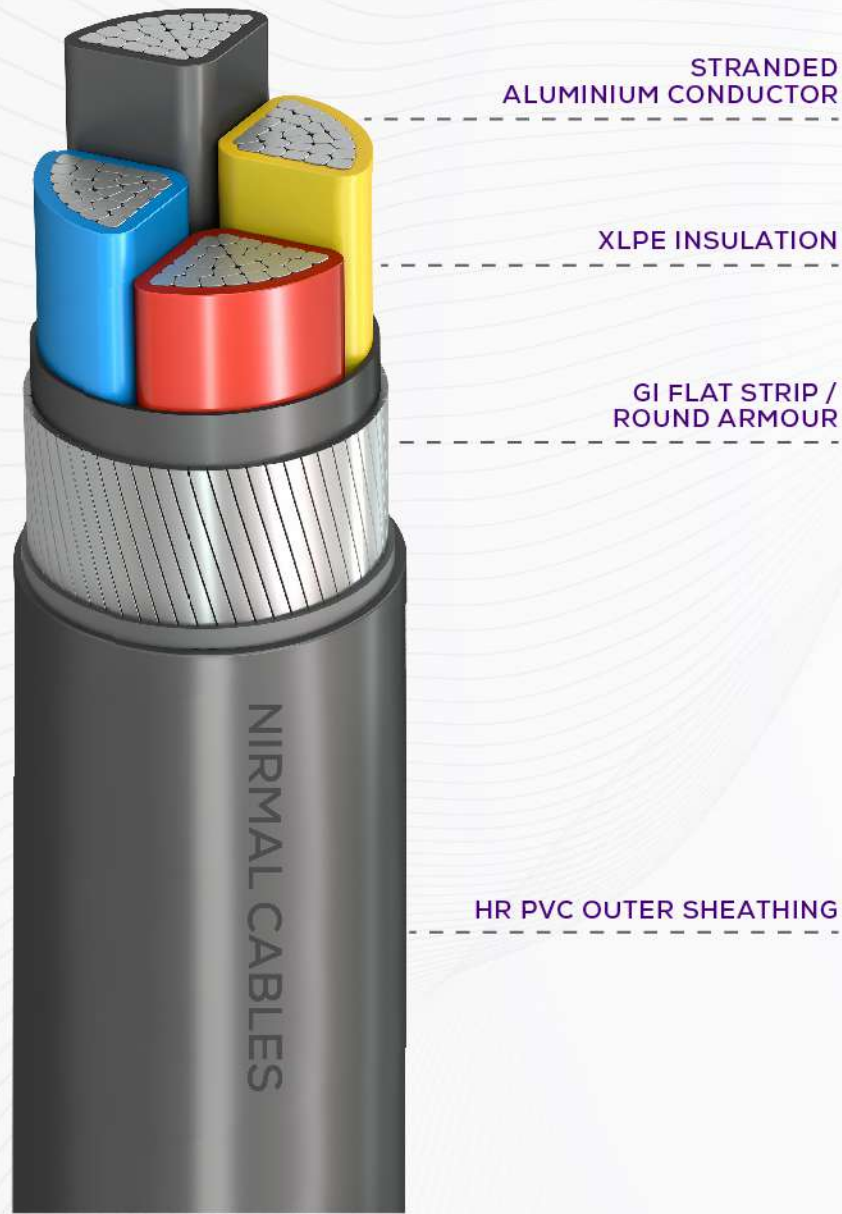
FLOW CHART

Flow Chart manufacturing process & quality control checks for XLPE cables



Quality assurance checks are conducted at every stage of manufacturing in accordance with our Quality Assurance Plan.

NIRMAL XLPE CABLE



The advent of XLPE (Cross-Linked Polyethylene) insulated cables in the mid-sixties marked a significant milestone in the world of electrical wiring and transmission. These innovative cables were developed to address the shortcomings of traditional PVC insulated cables, including issues like thermal degradation, inadequate moisture resistance and their thermoplastic properties.

APPLICATIONS:

XLPE cables are suitable for use in AC systems, both single-phase and three-phase, with rated voltages up to 1100 Volts. They can also be used in DC systems with rated voltages up to 1500 Volts to earth. These cables offer versatile solutions for a wide range of electrical applications.

ADVANTAGES OF XLPE:

- Enhanced Electrical Resilience
- Increased Short-Circuit Tolerance
- Improved Electrical, Mechanical, and Thermal Performance
- Simplified Jointing and Termination

TECHNICAL ADVANTAGES OF XLPE CABLES:

- Enhanced Current Capacity
- Thermosetting Properties
- Improved Insulation
- Moisture Resilience
- Surge Current Durability
- Low Dielectric Losses
- Chemical Resilience
- Extended Lifespan
- High Temperature Tolerance

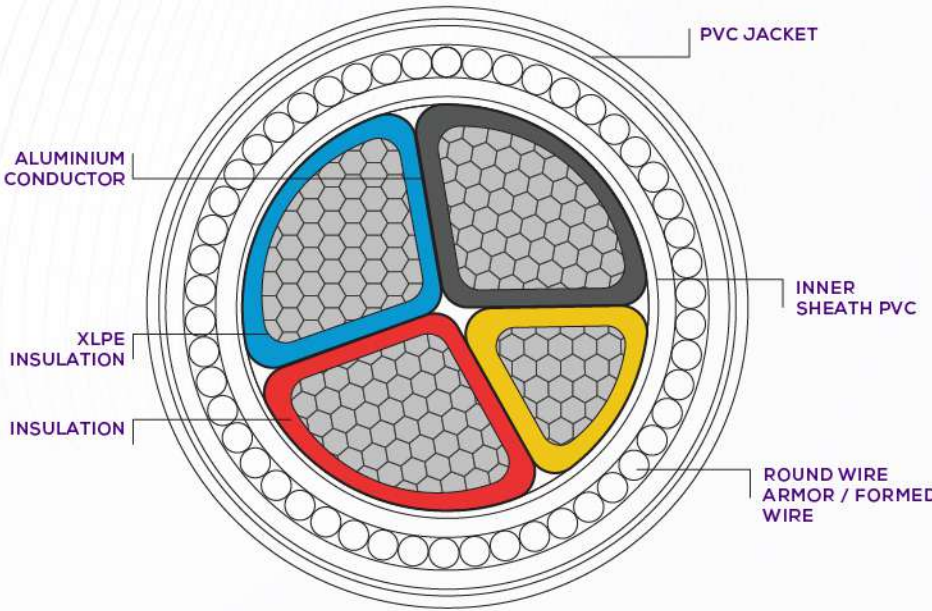
COMMERCIAL ADVANTAGES OF XLPE CABLES:

Cost-Efficient Installation: XLPE cables offer cost savings in laying and installation due to their smaller diameter and higher weight, reducing material and labor expenses.

Space Efficiency: With a smaller cable diameter and a more flexible bending radius, XLPE cables require less space for installation, further lowering installation charges.

Downsizing Potential: One size lower XLPE cable can be used compared to PVC insulated cables because of XLPE's lower density. This can lead to cost savings without compromising performance.

Considerable Voltage Drop: For longer cable lengths, it's important to consider voltage drop, ensuring efficient power transmission even over extended distances.



SELECTION OF CABLES

When choosing power cables, several crucial factors should be taken into account, ensuring the optimal transportation of electrical energy from one point to another. Key considerations include:

- Maximum Operating Voltage
- Fault Level
- Load Capacity
- Overloading Conditions
- Route Length and Voltage Drop
- Installation Mode
- Flame Retardant Properties

All sizes of NIRMAL XLPE cables are designed to meet standard operating conditions, taking into consideration the geographical and climatic conditions in India and abroad. These standards are aligned with the general applications of power for utilities, distribution and generation purposes.

Our cables are manufactured in compliance with Indian and international specifications for XLPE insulated cables. We are also capable of accommodating specific customer requirements.

BASIC ASSUMPTIONS FOR CURRENT RATING:

The current rating is determined based on the following assumptions:
Maximum Conductor Temperature: 90°C
Thermal Resistivity of Soil: 1.5 K-m / W
Ground Temperature: 30°C
Ambient Air Temperature: 40°C
Depth of Laying (measured to): 750 mm

SINGLE CORE ALUMINM CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE CONFORMING TO IS 7098 PART-1

Nominal Size of conductor	Formof Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Outer Sheath	Unarmoured Cable			Nominal Thickness of XLPE Insulation For Armoured Cable	Formed Wire / Strip Armoured Cable				Round Wire Armoured Cable				Current Rating		Nominal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Diameter of Cable	Approx Weight of Cable		Nominal Dimension of Aluminium Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Overall of Cable	Approx Weight of Cable	Nominal Dimension of Aluminium Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Overall Diameter of Cable	Approx Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
10	Stranded	0.7	-NA-	1.8	9.5	90	1	-	-	-	-	-	-	-	-	69	64	1000
16	Stranded	0.7	-NA-	1.8	10	115	1	-	-	-	-	1.4	1.24	12.5	190	89	84	1000
25	Stranded	0.9	-NA-	1.8	12	155	1.2	-	-	-	-	1.4	1.24	14	247	115	112	1000
35	Stranded	0.9	-NA-	1.8	13	180	1.2	-	-	-	-	1.4	1.24	15	290	137	137	1000
50	Stranded	1	-NA-	1.8	14	240	1.3	-	-	-	-	1.4	1.24	16.5	342	161	165	1000
70	Stranded	1.1	-NA-	1.8	15.5	310	1.4	-	-	-	-	1.4	1.24	18.5	428	198	209	1000
95	Stranded	1.1	-NA-	1.8	17.5	385	1.4	4 x 0.8	1.4	18.6	494	1.6	1.4	20.2	560	243	264	1000
120	Stranded	1.2	-NA-	1.8	19.5	470	1.5	4 x 0.8	1.4	20.4	589	1.6	1.4	22.5	665	276	308	1000
150	Stranded	1.4	-NA-	2	21.5	600	1.7	4 x 0.8	1.4	22.5	694	1.6	1.4	24	779	308	350	1000
185	Stranded	1.6	-NA-	2	23.5	710	1.9	4 x 0.8	1.4	24.5	827	1.6	1.4	26.5	921	349	406	1000
240	Stranded	1.7	-NA-	2	26	900	2	4 x 0.8	1.4	26.6	1026	1.6	1.4	29	1121	404	480	1000
300	Stranded	1.8	-NA-	2	28.5	1158	2.1	4 x 0.8	1.56	29.6	1235	1.6	1.56	31.5	1349	454	551	1000
400	Stranded	2	-NA-	2.2	31.5	1385	2.4	4 x 0.8	1.56	33	1548.5	2	1.56	35.5	1739	518	647	500
500	Stranded	2.2	-NA-	2.2	35.5	1650	2.6	4 x 0.8	1.56	36.7	1909.5	2	1.56	39.5	2128	588	751	500
630	Stranded	2.4	-NA-	2.2	39.5	2100	2.8	4 x 0.8	1.72	40.5	2413	2	1.72	43	2660	663	868	500
800	Stranded	2.6	-NA-	2.4	44.5	2730	3.1	4 x 0.8	1.72	46	2992.5	2	1.88	47.9	3296.5	740	992	500
1000	Stranded	2.8	-NA-	2.6	48.5	3350	3.3	4 x 0.8	1.88	50	3667	2.5	2.04	54.37	4142	812	1117	500

TWO CORE ALUMINM CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE CONFORMING TO IS 7098 PART-1

Nominal Size of conductor	Formof Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Outer Sheath	Unarmoured Cable			Formed Wire / Strip Armoured Cable				Round Wire Armoured Cable				Current Rating		Nominal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Diameter of Cable	Approx Weight of Cable	Nominal Dimension of Aluminium Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Overall of Cable	Approx Weight of Cable	Nominal Dimension of Aluminium Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Overall of Cable	Approx Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
10	Stranded	0.7	0.3	1.8	16	225	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18	551	68	64	1000
16	Stranded	0.7	0.3	1.8	14	225	-NA-	-NA-	-NA-	-NA-	1.4	1.4	17	480.16	89	83	1000
25	Stranded	0.9	0.3	2	17	330	4 x 0.8	1.4	18.6	509.13	1.6	1.4	20	671.85	114	109	1000
35	Stranded	0.9	0.3	2	19	410	4 x 0.8	1.4	20	605.51	1.6	1.4	22	775.55	136	133	1000
50	Stranded	1	0.3	2	21	510	4 x 0.8	1.4	22.5	753.28	1.6	1.4	24	937.37	161	162	1000
70	Stranded	1.1	0.3	2	23	675	4 x 0.8	1.56	22.5	989	1.6	1.56	27	1186.85	197	204	1000
95	Stranded	1.1	0.4	2.2	26.5	893	4 x 0.8	1.56	28	1204.3	2	1.56	28.68	1572.78	235	251	1000
120	Stranded	1.2	0.4	2.2	28.5	1050	4 x 0.8	1.56	30.5	1408.2	2	1.56	33	1849.49	266	287	500
150	Stranded	1.4	0.4	2.2	32	1215	4 x 0.8	1.72	31.79	1690.2	2	1.72	36	2182.96	296	328	500
185	Stranded	1.6	0.5	2.4	35.5	1510	4 x 0.8	1.72	34.95	2004	2	1.88	37.7	2597.6	335	379	500
240	Stranded	1.7	0.5	2.6	39.5	1900	4 x 0.8	1.88	38.69	2480	2.5	2.04	45	3418.52	385	448	500
300	Stranded	1.8	0.6	2.8	43.5	2360	4 x 0.8	2.04	42.53	2964	2.5	2.2	46.22	4019.07	432	513	500
400	Stranded	2	0.6	3	49	3100	4 x 0.8	2.36	48.24	3676	2.5	2.36	51.61	4854	487	593	500
500	Stranded	2.2	0.7	3.4	55.5	4000	4 x 0.8	2.52	56.5	4599	3.15	2.68	61.5	6517	548	683	500
630	Stranded	2.4	0.7	3.6	61.5	4997	4 x 0.8	2.68	62.5	5662	3.15	2.84	67.5	7790	612	784	500

SINGLE CORE ALUMINM CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE CONFORMING TO IS 7098 PART-1

Nominal Size of conductor	Formof Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Outer Sheath	Unarmoured Cable			Nominal Thickness of XLPE Insulation For Armoured Cable	Formed Wire / Strip Armoured Cable				Round Wire Armoured Cable				Current Rating		Nominal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Diameter of Cable	Approx Weight of Cable		Nominal Dimension of Aluminium Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Overall of Cable	Approx Weight of Cable	Nominal Dimension of Aluminium Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Overall Diameter of Cable	Approx Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
10	Stranded	0.7	-NA-	1.8	9.5	90	1	-	-	-	-	-	-	-	-	69	64	1000
16	Stranded	0.7	-NA-	1.8	10	115	1	-	-	-	-	1.4	1.24	12.5	190	89	84	1000
25	Stranded	0.9	-NA-	1.8	12	155	1.2	-	-	-	-	1.4	1.24	14	247	115	112	1000
35	Stranded	0.9	-NA-	1.8	13	180	1.2	-	-	-	-	1.4	1.24	15	290	137	137	1000
50	Stranded	1	-NA-	1.8	14	240	1.3	-	-	-	-	1.4	1.24	16.5	342	161	165	1000
70	Stranded	1.1	-NA-	1.8	15.5	310	1.4	-	-	-	-	1.4	1.24	18.5	428	198	209	1000
95	Stranded	1.1	-NA-	1.8	17.5	385	1.4	4 x 0.8	1.4	18.6	494	1.6	1.4	20.2	560	243	264	1000
120	Stranded	1.2	-NA-	1.8	19.5	470	1.5	4 x 0.8	1.4	20.4	589	1.6	1.4	22.5	665	276	308	1000
150	Stranded	1.4	-NA-	2	21.5	600	1.7	4 x 0.8	1.4	22.5	694	1.6	1.4	24	779	308	350	1000
185	Stranded	1.6	-NA-	2	23.5	710	1.9	4 x 0.8	1.4	24.5	827	1.6	1.4	26.5	921	349	406	1000
240	Stranded	1.7	-NA-	2	26	900	2	4 x 0.8	1.4	26.6	1026	1.6	1.4	29	1121	404	480	1000
300	Stranded	1.8	-NA-	2	28.5	1158	2.1	4 x 0.8	1.56	29.6	1235	1.6	1.56	31.5	1349	454	551	1000
400	Stranded	2	-NA-	2.2	31.5	1385	2.4	4 x 0.8	1.56	33	1548.5	2	1.56	35.5	1739	518	647	500
500	Stranded	2.2	-NA-	2.2	35.5	1650	2.6	4 x 0.8	1.56	36.7	1909.5	2	1.56	39.5	2128	588	751	500
630	Stranded	2.4	-NA-	2.2	39.5	2100	2.8	4 x 0.8	1.72	40.5	2413	2	1.72	43	2660	663	868	500
800	Stranded	2.6	-NA-	2.4	44.5	2730	3.1	4 x 0.8	1.72	46	2992.5	2	1.88	47.9	3296.5	740	992	500
1000	Stranded	2.8	-NA-	2.6	48.5	3350	3.3	4 x 0.8	1.88	50	3667	2.5	2.04	54.37	4142	812	1117	500

TWO CORE ALUMINM CONDUCTOR, XLPE INSULATED, UNARMoured & ARMoured CABLE CONFORMING TO IS 7098 PART -1

Nominal Size of conductor	Form of Conductor Circular	Nominal Thickness of XLPE Insulation For U/A	Minimum Thickness of PVC Outer Sheath	Unarmoured Cable			Formed Wire / Strip Armoured Cable				Round Wire Armoured Cable				Current Rating		Nominal Delivery Length
				Nominal Thickness of PVC Outer Sheath	Approx Overall Diameter of Cable	Approx Weight of Cable	Nominal Dimension of Aluminium Flat Strip	Minimum Thickness of PVC Outer Sheath	Approx Overall of Cable	Approx Weight of Cable	Nominal Dimension of Aluminium Round Wire	Minimum Thickness of PVC Outer Sheath	Approx Overall of Cable	Approx Weight of Cable	In Ground	In Air	
Sq.mm	mm	mm	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	mm	mm	mm	Kgs./Km	Amps.	Amps.	Mtrs.
10	Stranded	0.7	0.3	1.8	16	225	-NA-	-NA-	-NA-	-NA-	1.4	1.24	18	551	68	64	1000
16	Stranded	0.7	0.3	1.8	14	225	-NA-	-NA-	-NA-	-NA-	1.4	1.4	17	480.16	89	83	1000
25	Stranded	0.9	0.3	2	17	330	4 x 0.8	1.4	18.6	509.13	1.6	1.4	20	671.85	114	109	1000
35	Stranded	0.9	0.3	2	19	410	4 x 0.8	1.4	20	605.51	1.6	1.4	22	775.55	136	133	1000
50	Stranded	1	0.3	2	21	510	4 x 0.8	1.4	22.5	753.28	1.6	1.4	24	937.37	161	162	1000
70	Stranded	1.1	0.3	2	23	675	4 x 0.8	1.56	22.5	989	1.6	1.56	27	1186.85	197	204	1000
95	Stranded	1.1	0.4	2.2	26.5	893	4 x 0.8	1.56	28	1204.3	2	1.56	28.68	1572.78	235	251	1000
120	Stranded	1.2	0.4	2.2	28.5	1050	4 x 0.8	1.56	30.5	1408.2	2	1.56	33	1849.49	266	287	500
150	Stranded	1.4	0.4	2.2	32	1215	4 x 0.8	1.72	31.79	1690.2	2	1.72	36	2182.96	296	328	500
185	Stranded	1.6	0.5	2.4	35.5	1510	4 x 0.8	1.72	34.95	2004	2	1.88	37.7	2597.6	335	379	500
240	Stranded	1.7	0.5	2.6	39.5	1900	4 x 0.8	1.88	38.69	2480	2.5	2.04	45	3418.52	385	448	500
300	Stranded	1.8	0.6	2.8	43.5	2360	4 x 0.8	2.04	42.53	2964	2.5	2.2	48.22	4019.07	432	513	500
400	Stranded	2	0.6	3	49	3100	4 x 0.8	2.36	48.24	3676	2.5	2.36	51.61	4854	487	593	500
500	Stranded	2.2	0.7	3.4	55.5	4000	4 x 0.8	2.52	56.5	4599	3.15	2.68	61.5	6517	548	683	500
630	Stranded	2.4	0.7	3.6	61.5	4997	4 x 0.8	2.68	62.5	5662	3.15	2.84	67.5	7790	612	784	500

NIRMAL
PVC POWER CABLE



The PVC Power Cable is a specialized electrical cable that combines the advantages of FR / HRRF / LSOH PVC insulation with a protective PVC (Polyvinyl Chloride) covering. This cable features a conductor made of compact or non-compact round aluminum strands, ensuring better electrical conductivity. The FR / HRRF / LSOH PVC insulation provides superior electrical performance, while the PVC outer layer offers additional protection.

APPLICATIONS:

These insulated cables with protective coverings are well-suited for a wide range of applications, including power supply circuits and distribution networks. Their versatility spans from substations and large industrial facilities to small commercial buildings, making them an ideal choice for diverse electrical installations.

MANUFACTURING SPECIFICATIONS:

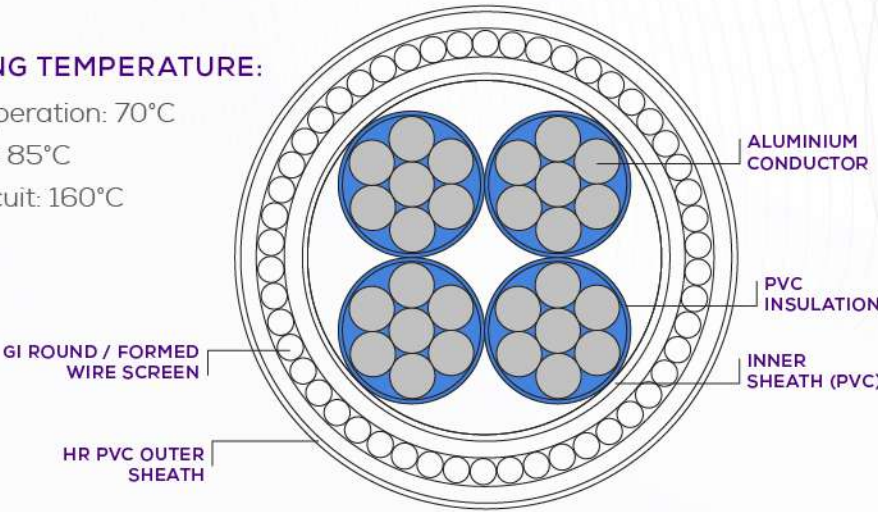
- 1. Conductor:** The conductor is composed of aluminum strands with Class 2 stranding.
- 2. Insulation:** The insulation material used is FR / HRRF / LSOH PVC, designed to with stand continuous conductor working temperatures up to 70°C.
- 3. Identification:** Conductors are distinguished by the colors red, yellow, blue and black for easy identification during installation and use.

VOLTAGE CLASS:

0.6 / 1.1KV

OPERATING TEMPERATURE:

- Normal operation: 70°C
- Overload: 85°C
- Short-circuit: 160°C



SINGLE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED ALUMINIUM WIRE / STRIP ARMoured & PVC SHEATHED
CABLES CONFORMING TO IS:1554 PART-1:1988

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Armour		Nominal Thickness Of Outer Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc. Conductor Resistance at 20°C	Current Ratings					
		Aluminium Wire Dia	Aluminium Strip Thickness					Direct In Ground		In Duct		In Air	
								2 Cables	3 Cables	2 Cables	3 Cables	2 Cables	3 Cables
Sq.mm	mm	mm	mm	mm	mm	kg/mm	Ohm/Km	Amps	Amps	Amps	Amps	Amps	Amps
*4	1.3	1.4	-	1.24	11	155	7.41	36	31	33	30	32	27
*6	1.3	1.4	-	1.24	12	175	4.61	44	39	42	37	41	35
*10	1.3	1.4	-	1.24	13	205	3.08	50	51	56	51	56	47
16	1.3	1.4	-	1.24	14	230	1.91	75	66	71	65	72	64
25	1.5	1.4	-	1.24	15	300	1.2	97	86	93	84	99	84
35	1.5	1.4	-	1.24	16	350	0.868	97	100	110	100	120	105
50	1.7	1.4	-	1.24	18	430	0.641	120	120	130	115	150	130
70	1.7	1.4	-	1.4	20	530	0.443	145	140	155	135	185	155
95	1.9	-	4 x 0.8	1.4	21	610	0.32	170	175	180	155	215	190
120	1.9	-	4 x 0.8	1.4	22	710	0.253	205	195	200	170	240	220
150	2.1	-	4 x 0.8	1.4	24	840	0.206	230	220	220	190	270	250
185	2.3	-	4 x 0.8	1.4	26	1020	0.164	265	240	240	210	305	290
240	2.5	-	4 x 0.8	1.4	29	1250	0.125	300	270	270	225	350	335
300	2.7	-	4 x 0.8	1.56	32	1500	0.1	335	295	295	245	395	380
400	3.0	-	4 x 0.8	1.56	36	1910	0.078	370	325	335	275	455	435
500	3.4	-	4 x 0.8	1.56	40	2350	0.061	410	345	355	295	490	480
630	3.9	-	4 x 0.8	1.72	44	2920	0.047	435	390	395	320	560	550
800	3.9	-	4 x 0.8	1.88	48	3510	0.037	525	440	420	350	650	640
1000	3.9	-	4 x 0.8	2.04	53	4300	0.029	570	490	445	380	735	720

SINGLE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED UNARMoured PVC SHEATHED
CABLES CONFORMING TO IS:1554 PART-1:1988

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Nominal Thickness Of Outer Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc. Conductor Resistance at 20°C	Current Ratings					
						Direct In Ground		In Duct		In Air	
						2 Cables	3 Cables	2 Cables	3 Cables	2 Cables	3 Cables
Sq.mm	mm	mm	mm	kgs/km	Ohm/Km	Amps.	Amps.	Amps.	Amps.	Amps.	Amps.
*1.5	0.8	1.8	7	55	18.1	21	17	19	17	18	15
*2.5	0.9	1.8	7.5	65	12.1	28	24	25	24	25	21
*4	1	1.8	8	75	7.41	36	31	33	30	32	27
*6	1	1.8	9	90	4.61	44	39	42	37	41	35
*10	1	1.8	10	105	3.08	54	51	56	51	56	47
16	1	1.8	11	140	1.91	75	66	71	65	72	64
25	1.2	1.8	12.5	195	1.2	97	86	93	84	99	84
35	1.2	1.8	13.5	235	0.868	120	100	110	100	120	105
50	1.4	1.8	15	305	0.641	145	120	130	115	150	130
70	1.4	1.8	17	385	0.443	170	140	155	135	185	155
95	1.6	1.8	19	515	0.32	205	175	180	155	215	190
120	1.6	2	21	610	0.253	230	195	200	170	240	220
150	1.8	2	22.5	735	0.206	265	220	220	190	270	250
185	2	2	25	885	0.164	300	240	240	210	305	290
240	2.2	2	28	1100	0.125	335	270	270	225	350	335
300	2.4	2	30	1335	0.1	370	295	295	245	395	380
400	2.6	2.2	34	1665	0.078	410	325	335	275	455	435
500	3	2.2	38	2130	0.061	435	345	355	295	490	480
630	3.4	2.4	43	2685	0.047	485	390	395	320	560	550
800	3.4	2.4	47	3255	0.037	525	440	420	350	650	640
1000	3.4	2.6	51.5	3980	0.029	570	490	445	380	735	720

**TWIN CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, ARMoured PVC SHEATHED CABLES
CONFORMING TO IS:1554 PART-1 AMENDED UPTO DATE**

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Nominal Thickness Of Inner Sheath	Armour		Minimum Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc Conductor Resistance at 20°C	Current Ratings		
			Galv. Round steel Wire Nominal	Galv. Flat steel Strip Nominal Thickness					Direct In Ground	In Duct	In Air
Sq.mm	mm	mm	mm	mm	mm	mm	kgs./Km	Ohm/Km	Amps.	Amps.	Amps.
*1.5	0.8	0.3	1.4	-	1.24	12.5	320	18.1	18	16	16
*2.5	0.9	0.3	1.4	-	1.24	13.5	380	12.1	25	21	21
*4	1	0.3	1.4	-	1.24	15	450	7.41	32	27	27
*6	1	0.3	1.4	-	1.24	16	500	4.61	40	34	35
*10	1	0.3	1.4	-	1.24	18	600	3.08	55	45	47
16	1	0.3	-	0.8	1.4	18	500	1.91	70	58	59
25	1.2	0.3	-	0.8	1.4	20	650	1.2	90	76	78
35	1.2	0.3	-	0.8	1.4	21.5	750	0.868	110	92	99
50	1.4	0.3	-	0.8	1.4	24.5	950	0.641	135	115	125
70	1.4	0.3	-	0.8	1.56	28	1150	0.443	160	140	150
95	1.6	0.4	-	0.8	1.56	31	1460	0.32	190	170	185
120	1.6	0.4	-	0.8	1.56	33	1670	0.253	210	190	210
150	1.8	0.4	-	0.8	1.72	37	2010	0.206	240	210	240
185	2	0.5	-	0.8	1.88	40.5	2450	0.164	275	240	275
240	2.2	0.5	-	0.8	2.04	45	2950	0.125	320	275	325
300	2.4	0.6	-	0.8	2.2	50	3560	0.1	355	305	365
400	2.6	0.7	-	0.8	2.36	56	4500	0.078	385	345	420
500	3	0.7	-	0.8	2.68	62.5	5600	0.061	410	370	450

**TWIN CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, UNARMoured, PVC
SHEATHED CABLES CONFORMING TO IS:1554 PART-1 AMENDED UPTO DATE**

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Nominal Thickness Of Inner Sheath	Nominal Thickness Of Outer Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc Conductor Resistance at 20°C	Current Ratings		
							Direct In Ground	In Duct	In Air
Sq.mm	mm	mm	mm	mm	kgs./Km	Ohm/Km	Amps.	Amps.	Amps.
*1.5	0.8	0.3	1.8	11	115	18.1	18	16	16
*2.5	0.9	0.3	1.8	12	150	12.1	25	21	21
*4	1	0.3	1.8	13.5	185	7.41	32	27	27
*6	1	0.3	1.8	14.5	220	4.61	40	34	35
*10	1	0.3	1.8	16	275	3.08	55	45	47
16	1	0.3	1.8	17.5	285	1.91	70	58	59
25	1.2	0.3	2	19.5	405	1.2	90	76	78
35	1.2	0.3	2	20.5	490	0.868	110	92	99
50	1.4	0.3	2	24	650	0.641	135	115	125
70	1.4	0.3	2	27	800	0.443	160	140	150
95	1.6	0.4	2.2	28.5	1065	0.32	190	170	185
120	1.6	0.4	2.2	33	1250	0.253	210	190	210
150	1.8	0.4	2.4	34	1550	0.206	240	210	240
185	2	0.5	2.4	37	1880	0.164	275	240	275
240	2.2	0.5	2.6	42.5	2400	0.125	320	275	325
300	2.4	0.6	2.8	45.5	2920	0.1	355	305	365
400	2.6	0.7	3.2	51.5	3815	0.078	385	345	420
500	3	0.7	3.4	57	4750	0.061	410	370	450

**THREE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, ARMoured PVC SHEATHED CABLES
CONFORMING TO IS:1554 PART-1 AMENDED UPTO DATE**

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Nominal Thickness Of Inner Sheath	Armour		Minimum Thickness of Outer Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc Conductor Resistance at 20°C	Current Ratings		
			Galv. Round steel Wire Nominal	Galv. Flat steel Strip Nominal Thickness					Direct In Ground	In Duct	In Air
Sq.mm	mm	mm	mm	mm	mm	mm	Kgs./Km	Ohm/Km	Amps.	Amps.	Amps.
*1.5	0.8	0.3	1.4	-	1.24	12.5	375.1	8.1	16	14	13
*2.5	0.9	0.3	1.4	-	1.24	14	425	12.1	21	18	18
*4	1	0.3	1.4	-	1.24	15.5	500	7.41	28	23	23
*6	1	0.3	1.4	-	1.24	17	575	4.61	35	30	30
*10	1	0.3	1.4	-	1.4	19	700	3.08	46	39	40
16	1	0.3	-	0.8	1.4	20	650	1.91	60	50	51
25	1.2	0.3	-	0.8	1.4	22	800	1.2	76	63	70
35	1.2	0.3	-	0.8	1.4	25	950	0.868	92	77	86
50	1.4	0.3	-	0.8	1.56	27	1200	0.641	110	95	105
70	1.4	0.4	-	0.8	1.56	31	1500	0.443	135	115	130
95	1.6	0.4	-	0.8	1.56	34	1900	0.32	165	140	155
120	1.6	0.4	-	0.8	1.72	38	2240	0.253	185	155	180
150	1.8	0.5	-	0.8	1.88	42	2700	0.206	210	175	205
185	2	0.5	-	0.8	1.88	46	3200	0.164	235	200	240
240	2.2	0.6	-	0.8	2.2	52	3990	0.125	275	235	280
300	2.4	0.6	-	0.8	2.36	56.5	4850	0.1	305	260	315
400	2.6	0.7	-	0.8	2.52	64	6100	0.078	335	290	375
500	3	0.7	-	0.8	2.84	72	7600	0.061	350	310	410

**THREE CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, ARMoured PVC
SHEATHED CABLES CONFORMING TO IS:1554 PART-1 AMENDED UPTO DATE**

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Nominal Thickness Of Inner Sheath	Nominal Thickness Of Outer Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc Conductor Resistance at 20°C	Current Ratings		
							Direct In Ground	In Duct	In Air
Sq.mm	mm	mm	mm	mm	Kgs./Km	Ohm/Km	Amps.	Amps.	Amps.
*1.5	0.8	0.3	1.8	11.5	130	18.1	16	14	13
*2.5	0.9	0.3	1.8	12.5	170	12.1	21	18	18
*4	1	0.3	1.8	13.5	210	7.41	28	23	23
*6	1	0.3	1.8	15	255	4.61	35	30	30
*10	1	0.3	1.8	16.5	325	3.08	46	39	40
16	1	0.3	1.8	17.5	360	1.91	60	50	51
25	1.2	0.3	2	22	520	1.2	76	63	70
35	1.2	0.3	2	23	640	0.868	92	77	86
50	1.4	0.3	2	27	850	0.641	110	95	105
70	1.4	0.4	2.2	31	1110	0.443	135	115	130
95	1.6	0.4	2.2	33	1425	0.32	165	140	155
120	1.6	0.4	2.2	36	1690	0.253	185	155	180
150	1.8	0.5	2.4	41	2120	0.206	210	175	205
185	2	0.5	2.6	45	2600	0.164	235	200	240
240	2.2	0.6	2.8	50	3290	0.125	275	235	280
300	2.4	0.6	3	55.5	4050	0.1	305	260	315
400	2.6	0.7	3.4	63.5	5290	0.078	335	290	375
500	3	0.7	3.8	71	6570	0.061	350	310	410

3½ CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, ARMOURED PVC SHEATHED CABLES
CONFORMING TO IS:1554 PART-1 AMENDED UPTO DATE

Nominal Cross Sectional Area		Nominal Thickness Of Insulation		Minimum Thickness of Outer Inner Sheath	Armour	Minimum Thickness Of Outer Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc Conductor Resistance at 20°C		Current Ratings		
Main	Neutral	Main	Neutral		Galv. Flat Steel strip Nominal Thickness				Main	Neutral	Direct In Ground	In Duct	In Air
Sq. mm	Sq. mm	mm	mm	mm	mm	mm	mm	Kgs./Km	Ohm/Km	Ohm/Km	Amps.	Amps.	Amps.
25	16	1.2	1	0.3	0.8	1.4	23.5	900	1.2	1.91	76	63	70
35	16	1.2	1	0.3	0.8	1.4	26	1030	0.868	1.91	92	77	86
50	25	1.4	1.2	0.3	0.8	1.56	30	1350	0.641	1.2	100	95	105
70	35	1.4	1.2	0.4	0.8	1.56	32.5	1725	0.443	0.868	135	115	130
95	50	1.6	1.4	0.4	0.8	1.56	36.5	2130	0.32	0.641	165	140	155
120	70	1.6	1.4	0.5	0.8	1.72	40.5	2580	0.253	0.443	185	155	180
150	70	1.8	1.4	0.5	0.8	1.88	44	3050	0.206	0.443	210	175	205
185	95	2	1.6	0.5	0.8	2.04	50	3650	0.164	0.32	235	200	240
240	120	2.2	1.6	0.6	0.8	2.2	55	4580	0.125	0.253	275	235	280
300	150	2.4	1.8	0.6	0.8	2.36	61	5500	0.1	0.206	305	260	315
400	185	2.6	2	0.7	0.8	2.68	68	7000	0.078	0.164	335	290	375
500	240	3	2.2	0.7	0.8	2.84	75	8600	0.061	0.125	350	310	410

3½ CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, UNARMOURED PVC SHEATHED CABLES
CONFORMING TO IS:1554 PART-1 AMENDED UPTO DATE

Nominal Cross Sectional Area		Nominal Thickness Of Insulation		Minimum Thickness Of Outer Inner Sheath	Nominal Thickness Of Outer Inner Sheath	Approx. Overall Diameter	Approx.Weight of Cable	Max. Dc Conductor Resistance at 20°C		Current Ratings		
Main	Neutral	Main	Neutral					Main	Neutral	Direct In Ground	In Duct	In Air
Sq. mm	Sq. mm	Sq. mm	Sq. mm	mm	mm	mm	Kgs./Km	Ohm/Km	Ohm/Km	Amps.	Amps.	Amps.
25	16	1.2	1	0.3	2	22.5	615	1.2	1.91	76	63	70
35	16	1.2	1	0.3	2	25	715	0.868	1.91	92	77	86
50	25	1.4	1.2	0.3	2.2	29	955	0.641	1.2	110	95	105
70	35	1.4	1.2	0.4	2.2	33	1290	0.443	0.868	135	115	130
95	50	1.6	1.4	0.4	2.2	36.5	1640	0.32	0.641	165	140	155
120	70	1.6	1.4	0.5	2.4	39	2020	0.253	0.443	185	155	180
150	70	1.8	1.4	0.5	2.4	42.5	2380	0.206	0.443	210	175	205
185	95	2	1.6	0.5	2.6	47	2945	0.164	0.32	235	200	240
240	120	2.2	1.6	0.6	3	54	3800	0.125	0.253	275	235	280
300	150	2.4	1.8	0.6	3.2	58	4650	0.1	0.206	305	260	315
400	185	2.6	2	0.7	3.4	65	6000	0.078	0.164	335	290	375
500	240	3	2.2	0.7	3.8	74	7400	0.061	0.125	350	310	410

FOUR CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, ARMOURED PVC SHEATHED CABLES
CONFORMING TO IS:1554 PART I AMENDED UPTO DATE

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Nominal Thickness Of Inner Sheath	Armour		Minimum Thickness Of Outer Inner Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc Conductor Resistance at 20°C	Current Ratings		
			Galv. Round Steel Wire Nominal Dia	Galv. Flat Steel strip Nominal Thickness					Direct In Ground	In Duct	In Air
Sq. mm	mm	mm	mm	mm	mm	mm	Kgs./Km	Ohm/Km	Amps.	Amps.	Amps.
*1.5	0.8	0.3	1.4	- 1	0.24	15	400	18.1	16	14	13
*2.5	0.9	0.3	1.4	-	1.24	16.5	480	12.1	21	18	18
*4	1	0.3	1.4	-	1.24	18	550	7.41	28	23	23
*6	1	0.3	1.4	-	1.24	19.5	650	4.61	35	30	30
*10	1	0.3	-	0.8	1.4	20	660	3.08	46	39	40
16	1	0.3	-	0.8	1.4	23	750	1.91	60	50	51
25	1.2	0.3	-	0.8	1.4	24	950	1.2	76	63	70
35	1.2	0.3	-	0.8	1.4	27	1165	0.868	92	77	86
50	1.4	0.4	-	0.8	1.56	31	1540	0.641	110	95	105
70	1.4	0.4	-	0.8	1.56	35	1800	0.443	135	115	130
95	1.6	0.4	-	0.8	1.72	38	2400	0.32	165	140	155
120	1.6	0.5	-	0.8	1.88	42	2800	0.253	185	155	180
150	1.8	0.5	-	0.8	1.88	46	3350	0.206	210	175	205
185	2	0.6	-	0.8	2.04	51	4000	0.164	235	200	240
240	2.2	0.6	-	0.8	2.36	58	5050	0.125	275	235	280
300	2.4	0.7	-	0.8	2.52	66	6200	0.1	305	260	315
400	2.6	0.7	-	0.8	2.84	72	7850	0.078	335	290	375
500	3	0.7	-	0.8	3	80	9600	0.061	350	310	410

FOUR CORE, ALUMINIUM CONDUCTOR, PVC INSULATED, INNER SHEATHED, UNARMOURED PVC SHEATHED CABLES CONFORMING TO IS:1554 PART I AMENDED UPTO DATE

Nominal Cross Sectional Area	Nominal Thickness Of Insulation	Nominal Thickness Of Inner Sheath	Nominal Thickness Of Outer Inner Sheath	Approx. Overall Diameter	Approx. Weight of Cable	Max. Dc Conductor Resistance at 20°C	Current Ratings		
							Direct In Ground	In Duct	In Air
Sq. mm	mm	mm	mm	mm	Kgs./Km	Ohm/Km	Amps.	Amps.	Amps.
*1.5	0.8	0.3	1.8	12.5	150	18.1	16	14	13
*2.5	0.9	0.3	1.8	14	180	12.1	21	18	18
*4	1	0.3	1.8	15.5	220	7.41	28	23	23
*6	1	0.3	1.8	17	260	4.61	35	30	30
*10	1	0.3	1.8	19	340	3.08	46	39	40
16	1	0.3	2	21.5	460	1.91	60	50	51
25	1.2	0.3	2	24	600	1.2	76	63	70
35	1.2	0.3	2	26.5	800	0.868	92	77	86
50	1.4	0.4	2.2	32.5	1100	0.641	110	95	105
70	1.4	0.4	2.2	33.5	1400	0.443	135	115	130
95	1.6	0.4	2.4	38.5	1850	0.32	165	140	155
120	1.6	0.5	2.4	41.5	2250	0.253	185	155	180
150	1.8	0.5	2.6	46	2750	0.206	210	175	205
185	2	0.6	2.6	50.5	3400	0.164	235	200	240
240	2.2	0.6	3	58	4300	0.125	275	235	280
300	2.4	0.7	3.4	64	5300	0.1	305	260	315
400	2.6	0.7	3.6	72	6900	0.078	335	290	375
500	3	0.7	4	80	8600	0.061	350	310	410

NIRMAL

LT AERIAL BUNCH CABLE



LT Aerial Bunch Cables, rated at 1.1 KV, are crucial for utility providers' power distribution networks. They hang overhead on electrical poles, efficiently delivering power to consumers in both urban and rural areas. The distinctive feature enables intermittent tapping at various points along the cable, enhancing the versatility.

CONSTRUCTION OF INSULATION:

LT Aerial Bunch Cables are versatile with phase conductors for single/three-phase systems and optional lighting conductors. These consist of concentrically stranded aluminum wires (7 or 19 wires). The messenger conductor is a treated alloy (Silicon, Magnesium, and Aluminum, 7 or 19 wires) supporting the cable's weight. Insulation uses Silane grafted polyethylene with catalyst-induced cross-linking via ROH radicals for better performance. Occasionally, a separate neutral conductor may be added, and the messenger conductor can serve as both earth and neutral for adaptability.

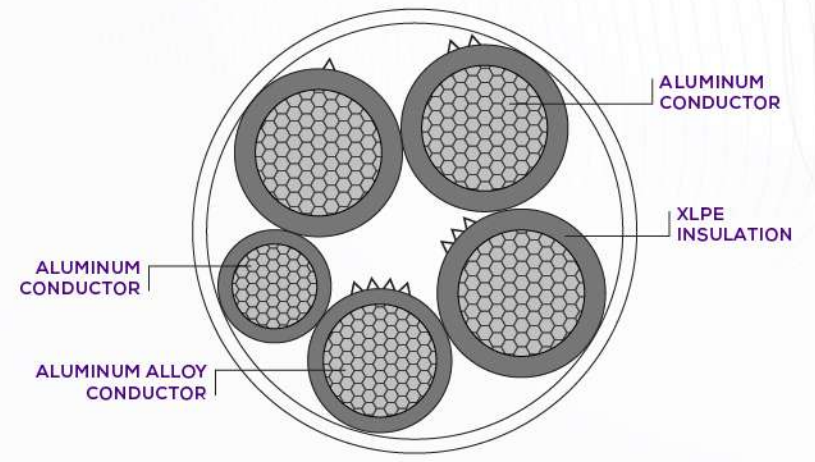
THIS CONSTRUCTION OFFERS SEVERAL ADVANTAGES:

Lightweight: Aerial bunch cables are lighter, simplifying handling and installation.

Versatile Installation: They can be installed on various structures like poles and walls, offering deployment flexibility.

Easy Termination: Simplified live wire terminations and branch-off joints improve installation efficiency.

Anti-Theft: The construction deters power theft, enhancing security and distribution reliability.



AERIAL BUNCHED CABLE: 1.1 KV GRADE STRANDED & COMPACTED ALUMINIUM PHASE CONDUCTOR, AND STRANDED MESSENGER CONDUCTOR WITH ALL ALUMINIUM ALLOY, ALLOY PHASE CONDUCTOR IS INSULATED WITH XLPE (SIOPLAS) COMPOUND, MESSENGER IS EITHER INSULATED OR BARE. REFERRED SPECIFICATION IS:14255-1995 UP TO THE LATEST AMENDMENT.

Sl No	Description and Type of Cable	Number of Wires		Thickness of XLPE Insulation		Approx overall Diameter	Approx Weight of Cable	Breaking Load of Messenger	Maximum D.C Resistance Ohms/Km		AC Current Rating Amps
		Phase	Messenger	Phase	Messenger				Phase	Messenger	
				mm	mm	mm	Kg/KM	KN (min)			In air at 40°c
	With insulated messenger conductor										
1	1 C x 16 mm ² + 25 mm ² (insulaed)	7	7	1.2	1.2	20	165	7	1.91	1.38	72
2	3 C x 16 mm ² + 25 mm ² (insulaed)	7	7	1.2	1.2	20	301	7	1.91	1.38	64
3	1 C x 25 mm ² + 25 mm ² (insulaed)	7	7	1.2	1.2	20.4	195	7	1.2	1.38	99
4	3 C x 25 mm ² + 25 mm ² (insulaed)	7	7	1.2	1.2	25	390	7	1.2	1.38	84
5	1 C x 35 mm ² + 25 mm ² (insulaed)	7	7	1.2	1.2	27.3	227	7	0.868	1.38	120
6	3 C x 35 mm ² + 25 mm ² (insulaed)	7	7	1.2	1.2	27.4	486	7	0.868	1.38	105
7	1 C x 35 mm ² + 35 mm ² (insulaed)	7	7	1.2	1.2	28	259	9.8	0.868	0.986	120
8	3 C x 35 mm ² + 35 mm ² (insulaed)	7	7	1.2	1.2	28.4	518	9.8	0.868	0.986	120
9	1 C x 50 mm ² + 35 mm ² (insulaed)	7	7	1.5	1.2	29	317	9.8	0.641	0.986	150
10	3 C x 50 mm ² + 35 mm ² (insulaed)	7	7	1.5	1.2	32.3	692	9.8	0.641	0.986	150
11	3 C x 70 mm ² + 50 mm ² (insulaed)	7	7	1.5	1.5	37.5	939	14	0.443	0.686	155
12	3 C x 70 mm ² + 70 mm ² (insulaed)	7	7	1.5	1.5	39	1002	19.7	0.443	0.492	155
13	3 C x 95 mm ² + 70 mm ² (insulaed)	19	7	1.5	1.5	42.7	1237	19.7	0.32	0.492	190
14	3 C x 120 mm ² + 70 mm ² (insulaed)	19	7	1.6	1.5	46	1482	19.7	0.253	0.492	220
15	3 C x 150 mm ² + 70 mm ² (insulaed)	19	7	1.8	1.5	50	1791	19.7	0.206	0.492	250
	Without insulated messenger conductor										
1	1 C x 16 mm ² + 25 mm ² (bare)	7	7	1.2	NA*	18.5	137	7	1.91	1.38	72
2	3 C x 16 mm ² + 25 mm ² (bare)	7	7	1.2	-do-	19.3	272	7	1.91	1.38	64
3	1 C x 25 mm ² + 25 mm ² (bare)	7	7	1.2	-do-	19.5	167	7	1.2	1.38	99
4	3 C x 25 mm ² + 25 mm ² (bare)	7	7	1.2	-do-	25	362	7	1.2	1.38	84
5	1 C x 35 mm ² + 25 mm ² (bare)	7	7	1.2	-do-	22	362	7	0.868	1.38	120
6	3 C x 35 mm ² + 25 mm ² (bare)	7	7	1.2	-do-	23.5	458	7	0.868	1.38	105
7	1 C x 35 mm ² + 35 mm ² (bare)	7	7	1.2	-do-	24.6	226	10.1	0.868	0.986	120
8	3 C x 35 mm ² + 35 mm ² (bare)	7	7	1.2	-do-	25	485	10.1	0.868	0.986	105
9	1 C x 50 mm ² + 35 mm ² (bare)	7	7	1.5	-do-	26	284	10.1	0.641	0.986	105
10	3 C x 50 mm ² + 35 mm ² (bare)	7	7	1.5	-do-	26.8	659	10.1	0.641	0.986	130
11	3 C x 70 mm ² + 50 mm ² (bare)	7	7	1.5	-do-	31.2	890	14	0.443	0.686	155
12	3 C x 70 mm ² + 70 mm ² (bare)	7	7	1.5	-do-	34.4	946	19.7	0.443	0.492	155
13	3 C x 95 mm ² + 70 mm ² (bare)	19	7	1.5	-do-	36	1179	19.7	0.32	0.492	190
14	3 C x 120 mm ² + 70 mm ² (bare)	19	7	1.6	-do-	38	1425	19.7	0.253	0.492	220
15	3 C x 150 mm ² + 70 mm ² (bare)	19	7	1.8	-do-	40	1735	19.7	0.206	0.492	250

AERIAL BUNCHED CABLE: 1.1 KV GRADE STRANDED & COMPACTED ALUMINIUM PHASE CONDUCTOR, AND STRANDED MESSENGER CONDUCTOR WITH ALL ALUMINIUM ALLOY, ALLOY PHASE CONDUCTOR IS INSULATED WITH XLP (SIOPLAS) COMPOUND, MESSENGER IS EITHER INSULATED OR BARE WITH LIGHTING CONDUCTOR OF 16MM². REFERRED SPECIFICATION IS:14255-1995 UPTO THE LATEST AMENDMENT.

SI No	Description and Type of Cable	Number of Wires		Thickness of XLPE Insulation		Approx overall Diameter	Approx Weight of Cable	Breaking Load of Messenger	Maximum D.C Resistance Ohms/Km		AC Current Rating Amps
		Phase	Messenger	Phase	Messenger						
				mm	mm	mm	Kg/KM	KN (min)	Phase	Messenger	In air at 40°C
	With insulated messenger conductor										
1	3 C x 16 mm ² + 25 mm ² (insulaed)+16 mm ²	7	7	1.2	1.2	23.5	369	7	1.91	1.38	62
2	3 C x 25 mm ² + 25 mm ² (insulaed)+16 mm ²	7	7	1.2	1.2	25	457	7	1.2	1.38	82
3	3 C x 35 mm ² + 25 mm ² (insulaed)+16 mm ²	7	7	1.2	1.2	27.5	554	7	0.868	1.38	103
4	3 C x 35 mm ² + 35 mm ² (insulaed)+16 mm ²	7	7	1.2	1.2	28.4	586	10.1	0.868	0.986	103
5	3 C x 50 mm ² + 35 mm ² (insulaed)+16 mm ²	7	7	1.5	1.2	32.5	760	10.1	0.641	0.986	127
6	3 C x 70 mm ² + 50 mm ² (insulaed)+16 mm ²	7	7	1.5	1.5	37.5	1007	14	0.443	0.689	154
7	3 C x 70 mm ² + 70 mm ² (insulaed)+16 mm ²	7	7	1.5	1.5	39.5	1070	19.7	0.443	0.492	154
8	3 C x 95 mm ² + 70 mm ² (insulaed)+16 mm ²	7	7	1.5	1.5	42.5	1304	19.7	0.32	0.492	188
9	3 C x 120 mm ² + 70 mm ² (insulaed)+16 mm ²	7	7	1.6	1.5	46.8	1550	19.7	0.253	0.492	218
10	3 C x 150 mm ² + 70 mm ² (insulaed)+16 mm ²	7	7	1.8	1.5	50.8	1860	19.7	0.206	0.492	248
	Without insulated messenger conductor										
1	1 C x 16 mm ² + 25 mm ² (bare)+16 mm ²	7	7	1.2	NA*	19.5	340	7	1.91	1.38	62
2	3 C x 16 mm ² + 25 mm ² (bare)+16 mm ²	7	7	1.2	-do-	20.5	429	7	1.2	1.38	82
3	1 C x 25 mm ² + 25 mm ² (bare)+16 mm ²	7	7	1.2	-do-	23.5	526	7	0.868	1.38	103
4	3 C x 25 mm ² + 25 mm ² (bare)+16 mm ²	7	7	1.2	-do-	25	553	10.1	0.868	0.986	103
5	1 C x 35 mm ² + 25 mm ² (bare)+16 mm ²	7	7	1.5	-do-	26.8	727	10.1	0.641	0.986	127
6	3 C x 35 mm ² + 25 mm ² (bare)+16 mm ²	7	7	1.5	-do-	31.5	958	14	0.443	0.689	154
7	1 C x 35 mm ² + 35 mm ² (bare)+16 mm ²	7	7	1.5	-do-	34.5	1013	19.7	0.443	0.492	154
8	3 C x 35 mm ² + 35 mm ² (bare)+16 mm ²	7	7	1.5	-do-	37	1248	19.7	0.32	0.492	188
9	1 C x 50 mm ² + 35 mm ² (bare)+16 mm ²	7	7	1.5	-do-	39	1493	19.7	0.253	0.492	218
10	3 C x 50 mm ² + 35 mm ² (bare)+16 mm ²	7	7	1.5	-do-	40	1803	19.7	0.206	0.492	248

NIRMAL WIRES CERTIFICATION

Certificate IN22/0000214

The management system of

Nirmal Wires Private Limited

1-2, Tadmuri, 17th, Ambala, Dist. Bhiwani - 700 005, India.

has been assessed and is found to conform to the requirements of
ISO 9001:2015

For the following activities

The Scope of Registration appears on page 2 of this certificate

This certificate is valid from 22-Apr-2022 till 22-Apr-2025 and remains valid subject to satisfactory surveillance audits.

Issue: 1 On 06-Nov-2022 Apr-2022

The details of the certificate are fully available on the SGS website.

Authorized by:

SGS India Registrar Ltd.

Chowpatty (Punjab) Road, Naraina, 110 028 New Delhi, India

Tel: +91 (0) 11 261 6651 Fax: +91 (0) 11 261 6652

Notwithstanding to the responsibility of the client, the certificate holder remains responsible for compliance with the requirements of the standard. The certificate holder is responsible for maintaining the management system and for ensuring that the certificate holder is in compliance with the requirements of the standard. The certificate holder is responsible for ensuring that the certificate holder is in compliance with the requirements of the standard. The certificate holder is responsible for ensuring that the certificate holder is in compliance with the requirements of the standard.

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Certificate IN22500000214, continued

Nirmal Wires Private Limited

ISO 9001:2015

Control Scope:

Manufacture of Supplier of Galvanized Steel Wire (mild & Galvanized-iron, Medium & Light Duty Coils), Six strand Grey Wire (Mild & Galvanized), High Tensile Galvanized Steel (SS&S Coils/Wire & Strands), High Tensile Galvanized Steel (Strands for Forthright), High Tensile Irons, Cable Strapping Wires, For Stainless Coils/Wire, For Stress Strands, Spring Steel wires, High tensile wires, Heavy Duty Bars, wires, 20/22mm, 24mm, 26mm, 28mm, 30mm, 32mm, 36mm, 40mm, 42mm, 45mm, 48mm, 50mm, 55mm, 60mm, 65mm, 70mm, 75mm, 80mm, 85mm, 90mm, 95mm, 100mm, 105mm, 110mm, 115mm, 120mm, 125mm, 130mm, 135mm, 140mm, 145mm, 150mm, 155mm, 160mm, 165mm, 170mm, 175mm, 180mm, 185mm, 190mm, 195mm, 200mm, 205mm, 210mm, 215mm, 220mm, 225mm, 230mm, 235mm, 240mm, 245mm, 250mm, 255mm, 260mm, 265mm, 270mm, 275mm, 280mm, 285mm, 290mm, 295mm, 300mm, 305mm, 310mm, 315mm, 320mm, 325mm, 330mm, 335mm, 340mm, 345mm, 350mm, 355mm, 360mm, 365mm, 370mm, 375mm, 380mm, 385mm, 390mm, 395mm, 400mm, 405mm, 410mm, 415mm, 420mm, 425mm, 430mm, 435mm, 440mm, 445mm, 450mm, 455mm, 460mm, 465mm, 470mm, 475mm, 480mm, 485mm, 490mm, 495mm, 500mm, 505mm, 510mm, 515mm, 520mm, 525mm, 530mm, 535mm, 540mm, 545mm, 550mm, 555mm, 560mm, 565mm, 570mm, 575mm, 580mm, 585mm, 590mm, 595mm, 600mm, 605mm, 610mm, 615mm, 620mm, 625mm, 630mm, 635mm, 640mm, 645mm, 650mm, 655mm, 660mm, 665mm, 670mm, 675mm, 680mm, 685mm, 690mm, 695mm, 700mm, 705mm, 710mm, 715mm, 720mm, 725mm, 730mm, 735mm, 740mm, 745mm, 750mm, 755mm, 760mm, 765mm, 770mm, 775mm, 780mm, 785mm, 790mm, 795mm, 800mm, 805mm, 810mm, 815mm, 820mm, 825mm, 830mm, 835mm, 840mm, 845mm, 850mm, 855mm, 860mm, 865mm, 870mm, 875mm, 880mm, 885mm, 890mm, 895mm, 900mm, 905mm, 910mm, 915mm, 920mm, 925mm, 930mm, 935mm, 940mm, 945mm, 950mm, 955mm, 960mm, 965mm, 970mm, 975mm, 980mm, 985mm, 990mm, 995mm, 1000mm, 1005mm, 1010mm, 1015mm, 1020mm, 1025mm, 1030mm, 1035mm, 1040mm, 1045mm, 1050mm, 1055mm, 1060mm, 1065mm, 1070mm, 1075mm, 1080mm, 1085mm, 1090mm, 1095mm, 1100mm, 1105mm, 1110mm, 1115mm, 1120mm, 1125mm, 1130mm, 1135mm, 1140mm, 1145mm, 1150mm, 1155mm, 1160mm, 1165mm, 1170mm, 1175mm, 1180mm, 1185mm, 1190mm, 1195mm, 1200mm, 1205mm, 1210mm, 1215mm, 1220mm, 1225mm, 1230mm, 1235mm, 1240mm, 1245mm, 1250mm, 1255mm, 1260mm, 1265mm, 1270mm, 1275mm, 1280mm, 1285mm, 1290mm, 1295mm, 1300mm, 1305mm, 1310mm, 1315mm, 1320mm, 1325mm, 1330mm, 1335mm, 1340mm, 1345mm, 1350mm, 1355mm, 1360mm, 1365mm, 1370mm, 1375mm, 1380mm, 1385mm, 1390mm, 1395mm, 1400mm, 1405mm, 1410mm, 1415mm, 1420mm, 1425mm, 1430mm, 1435mm, 1440mm, 1445mm, 1450mm, 1455mm, 1460mm, 1465mm, 1470mm, 1475mm, 1480mm, 1485mm, 1490mm, 1495mm, 1500mm, 1505mm, 1510mm, 1515mm, 1520mm, 1525mm, 1530mm, 1535mm, 1540mm, 1545mm, 1550mm, 1555mm, 1560mm, 1565mm, 1570mm, 1575mm, 1580mm, 1585mm, 1590mm, 1595mm, 1600mm, 1605mm, 1610mm, 1615mm, 1620mm, 1625mm, 1630mm, 1635mm, 1640mm, 1645mm, 1650mm, 1655mm, 1660mm, 1665mm, 1670mm, 1675mm, 1680mm, 1685mm, 1690mm, 1695mm, 1700mm, 1705mm, 1710mm, 1715mm, 1720mm, 1725mm, 1730mm, 1735mm, 1740mm, 1745mm, 1750mm, 1755mm, 1760mm, 1765mm, 1770mm, 1775mm, 1780mm, 1785mm, 1790mm, 1795mm, 1800mm, 1805mm, 1810mm, 1815mm, 1820mm, 1825mm, 1830mm, 1835mm, 1840mm, 1845mm, 1850mm, 1855mm, 1860mm, 1865mm, 1870mm, 1875mm, 1880mm, 1885mm, 1890mm, 1895mm, 1900mm, 1905mm, 1910mm, 1915mm, 1920mm, 1925mm, 1930mm, 1935mm, 1940mm, 1945mm, 1950mm, 1955mm, 1960mm, 1965mm, 1970mm, 1975mm, 1980mm, 1985mm, 1990mm, 1995mm, 2000mm, 2005mm, 2010mm, 2015mm, 2020mm, 2025mm, 2030mm, 2035mm, 2040mm, 2045mm, 2050mm, 2055mm, 2060mm, 2065mm, 2070mm, 2075mm, 2080mm, 2085mm, 2090mm, 2095mm, 2100mm, 2105mm, 2110mm, 2115mm, 2120mm, 2125mm, 2130mm, 2135mm, 2140mm, 2145mm, 2150mm, 2155mm, 2160mm, 2165mm, 2170mm, 2175mm, 2180mm, 2185mm, 2190mm, 2195mm, 2200mm, 2205mm, 2210mm, 2215mm, 2220mm, 2225mm, 2230mm, 2235mm, 2240mm, 2245mm, 2250mm, 2255mm, 2260mm, 2265mm, 2270mm, 2275mm, 2280mm, 2285mm, 2290mm, 2295mm, 2300mm, 2305mm, 2310mm, 2315mm, 2320mm, 2325mm, 2330mm, 2335mm, 2340mm, 2345mm, 2350mm, 2355mm, 2360mm, 2365mm, 2370mm, 2375mm, 2380mm, 2385mm, 2390mm, 2395mm, 2400mm, 2405mm, 2410mm, 2415mm, 2420mm, 2425mm, 2430mm, 2435mm, 2440mm, 2445mm, 2450mm, 2455mm, 2460mm, 2465mm, 2470mm, 2475mm, 2480mm, 2485mm, 2490mm, 2495mm, 2500mm, 2505mm, 2510mm, 2515mm, 2520mm, 2525mm, 2530mm, 2535mm, 2540mm, 2545mm, 2550mm, 2555mm, 2560mm, 2565mm, 2570mm, 2575mm, 2580mm, 2585mm, 2590mm, 2595mm, 2600mm, 2605mm, 2610mm, 2615mm, 2620mm, 2625mm, 2630mm, 2635mm, 2640mm, 2645mm, 2650mm, 2655mm, 2660mm, 2665mm, 2670mm, 2675mm, 2680mm, 2685mm, 2690mm, 2695mm, 2700mm, 2705mm, 2710mm, 2715mm, 2720mm, 2725mm, 2730mm, 2735mm, 2740mm, 2745mm, 2750mm, 2755mm, 2760mm, 2765mm, 2770mm, 2775mm, 2780mm, 2785mm, 2790mm, 2795mm, 2800mm, 2805mm, 2810mm, 2815mm, 2820mm, 2825mm, 2830mm, 2835mm, 2840mm, 2845mm,

Certificate IN2200000214, continued

Nirmal Wires Private Limited

ISO 9001:2015

Issued to:

Sites:

Nirmal Wires Private Limited
110 Racecourse, 1700 Luxorville, CVV Gyrasso, Kichala 708 009 India

Nirmal Wires Private Limited
Factory 511, Subhvaraj P.O. Racecourse P.S. Rajgurun, Gwalior 471003 India

This certificate was issued to the organization named in the scope of this certificate and is valid for the period of time specified in the scope of this certificate. The organization is required to maintain the quality management system in accordance with the requirements of the standard for the period of time specified in the scope of this certificate. The organization is required to maintain the quality management system in accordance with the requirements of the standard for the period of time specified in the scope of this certificate.

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