NYSHA®

MOBILITY TECH

Cables

- Building & House Wiring
  Single | Two | Three | Four Core Cables
- Instrumentation & Signal Cables
- Thermocouple Extension & Compensating Cables
- Solar DC Cables
- Fire Survival / Fire Resistant Wires & Cables
- Telecommunication Cables
- Co-Axial Cables
- Flexible Rubber Cables
- Coiled / Spiral Cables & Cords
- LAN Cables
- AWG CAT 5E UTP/ SFTP Cables
- Communication Unarm / Arm Cables
- FTTH Cables

UL REGISTERED FIRM 50257886 ISO 9001:2015 DQS

www.nyshamobilitytech.com

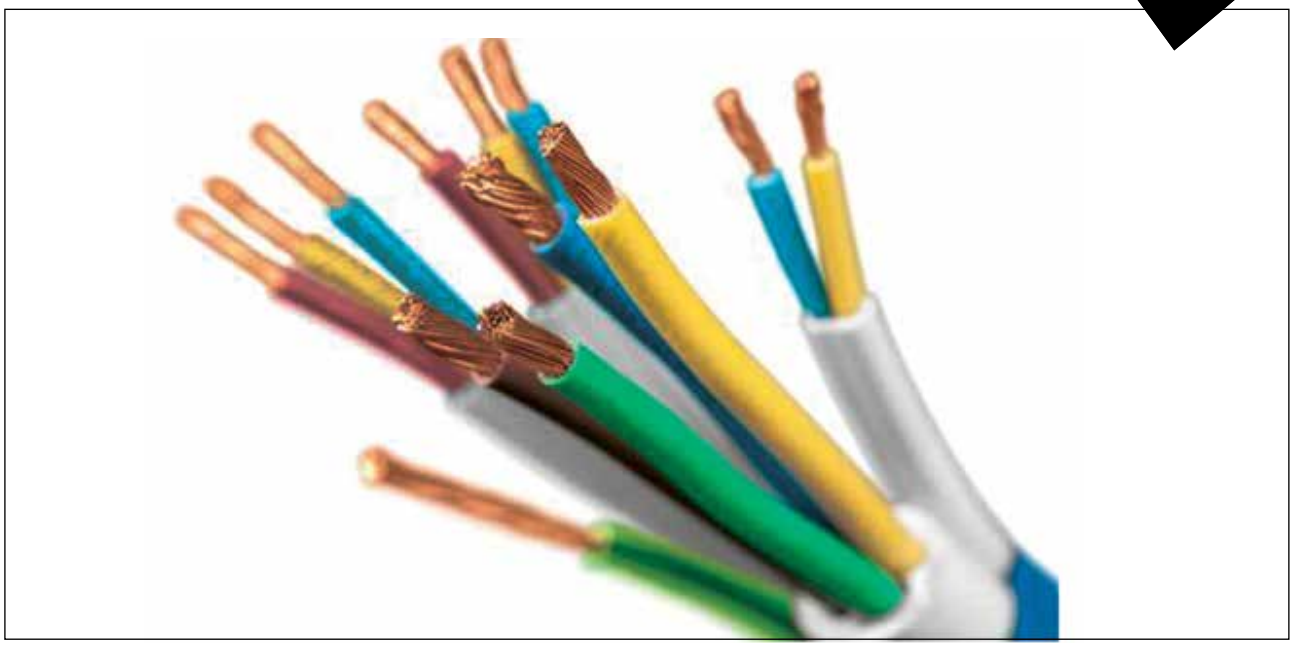
NYSHA®
MOBILITY TECH

Building & House Wiring

As per IS 694

TECHNICAL FEATURES

- Certified by Bureau of Indian Standards (BIS) as per IS 694: 2010.
- Suitable for electrical power & lighting, wiring for buildings such as Residential or Commercial Buildings, Hotels, Hospitals, and panel wiring.
- Conductor Material: Annealed Bare Copper / Annealed Tinned Copper.
- Insulation / Sheath Material: Polyvinyl chloride.
- Single and Multi Core Cables.
- Copper Purity of greater than 99.9% as per ASTM B 49.
- Copper construction as per IS 8130: 2013 – Class 5.
- Operating voltage up to 1100V.
- Operating Temperature: -20°C to 70°C or 85°C.
- Short Circuit Resistance up to 160°C.
- High Voltage Test: withstands 3kV for 5 minutes.
- Testing as per IS 5831: 1984.
- We can manufacture: Flame Retardant (FR), Flame Retardant with Low Smoke (FRLS), and Halogen-Free (LSZH).



Flame Retardant Properties				
Property	Ref Standard	Flame Retardant (FR)	Flame Retardant Low Smoke (FRLS)	Low Smoke Zero Halogen (LSZH)
Oxygen Index	ASTM D 2863 / IS 10810-58	>29%	>29%	>29%
Temperature Index	ASTM D 2863 / IS 10810-58	>250°C	>250°C	>250°C
Smoke Density Rating	ASTM D 2843		<60%	<20%
Halogen Acid Gas Generation	IEC 60754-1		<20%	<0.5%
Flame Test	IEC 60332-1	As per specification		

- Oxygen Index indicates the minimum oxygen percentage required for the combustion of the PVC at ambient room temperature.
- Temperature Index is the temperature at which combustion of the PVC occurs at normal atmospheric oxygen content of 21%.
- Smoke Density Rating indicates the reduction in light transmission caused by the smoke generated during the burning of the PVC.
- Acid Gas Generation indicates the amount of hydrochloric acid produced during the burning of the PVC.

NYSHA® MOBILITY TECH

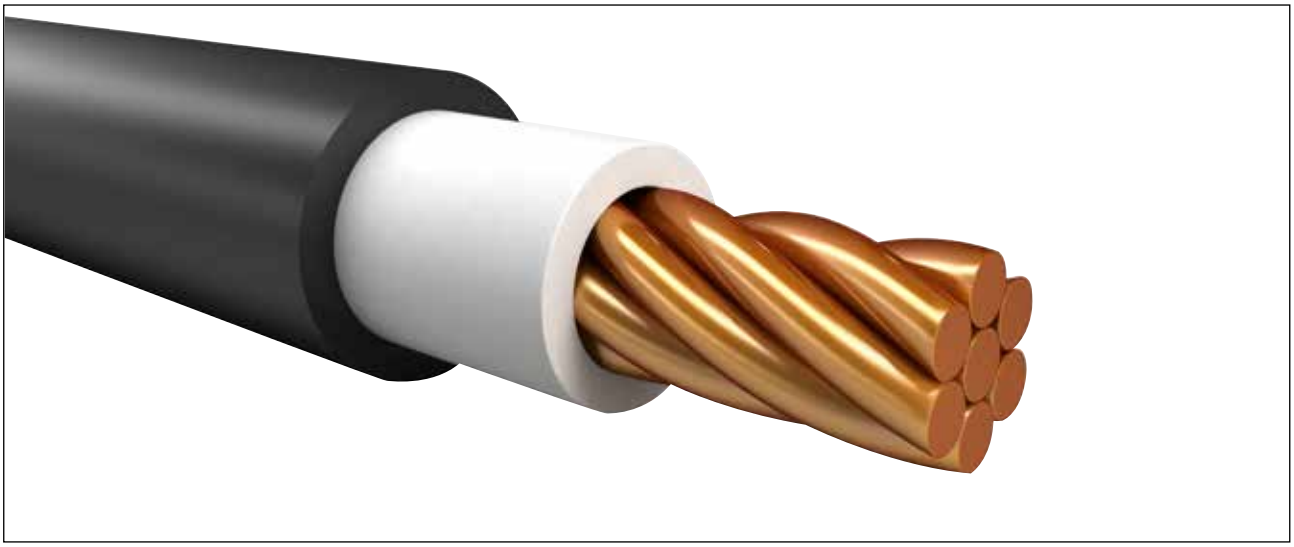
Single Core Cable

Copper Conductor & PVC Insulation – 1100V

No. of Cores x Nominal Cross Sectional Area of Conductor	Max DC Conductor Resistance at 20°C		Nominal Insulation Thickness	Max Overall Diameter of Cable	Current Rating
mm2	Bare (Ω/km)	Tinned (Ω/km)	mm	mm	Amps
1C x 0.5 sqmm	39.0	40.1	0.6	2.6	4
1C x 0.75 sqmm	26.0	26.7	0.6	2.8	8
1C x 1 sqmm	19.5	20.0	0.6	3.0	12
1C x 1.5 sqmm	13.3	13.7	0.7	3.4	16
1C x 2.5 sqmm	7.98	8.21	0.8	4.1	22
1C x 4 sqmm	4.95	5.09	0.8	4.8	29
1C x 6 sqmm	3.30	3.39	0.8	5.3	37
1C x 10 sqmm	1.91	1.95	1.0	7.0	51
1C x 16 sqmm	1.21	1.24	1.0	8.1	68
1C x 25 sqmm	0.780	0.795	1.2	10.2	86
1C x 35 sqmm	0.554	0.565	1.2	11.7	110
1C x 50 sqmm	0.386	0.393	1.4	13.9	145
1C x 70 sqmm	0.272	0.277	1.4	16.0	230
1C x 95 sqmm	0.206	0.210	1.6	18.2	280
1C x 120 sqmm	0.161	0.164	1.6	20.2	320
1C x 150 sqmm	0.129	0.132	1.8	22.5	375
1C x 185 sqmm	0.106	0.108	2.0	24.9	440
1C x 240 sqmm	0.0801	0.0817	2.2	28.4	530
1C x 300 sqmm	0.0641	0.0654	2.4	31.0	620
1C x 400 sqmm	0.0486	0.0495	2.6	33.2	740
1C x 500 sqmm	0.0384	0.0391	2.8	37.5	790
1C x 630 sqmm	0.0287	0.0292	3.0	42.0	880

Single Core Cable-Sheathed

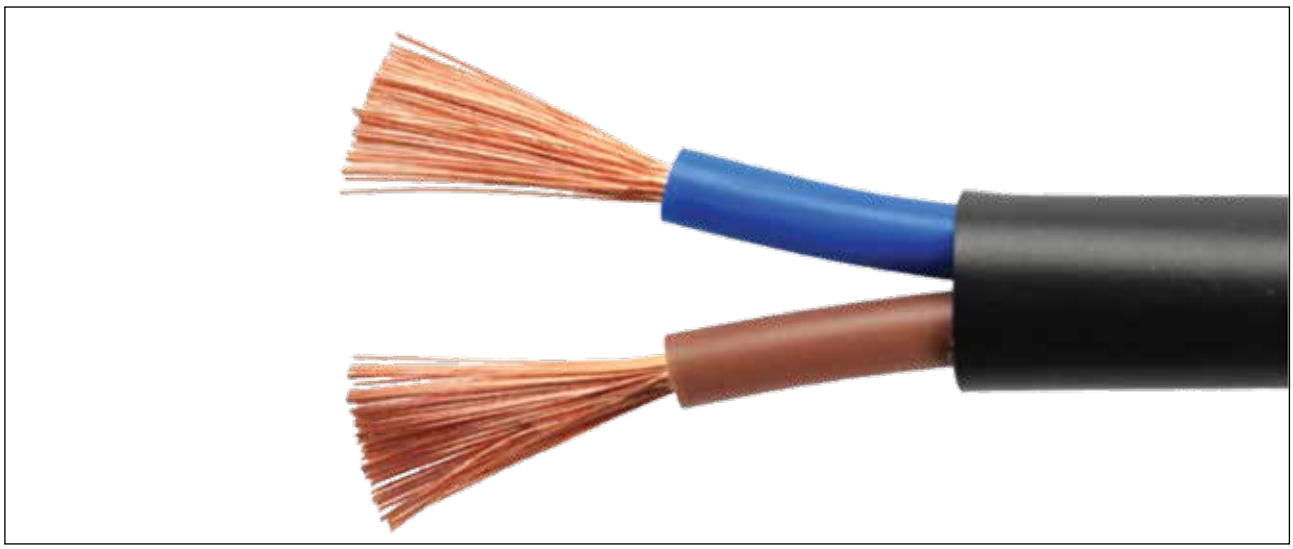
Copper Conductor, PVC Insulation & PVC Sheath – 1100V



No. of Cores x Nominal Cross Sectional Area of Conductor	Max DC Conductor Resistance at 20°C		Nominal Insulation Thickness	Nominal Sheath Thickness	Max Overall Diameter of Cable	Current Rating
mm2	Bare (Ω/km)	Tinned (Ω/km)	mm	mm	mm	Amps
1C x 0.5 sqmm	39.0	40.1	0.6	0.9	4.3	4
1C x 0.75 sqmm	26.0	26.7	0.6	0.9	4.5	8
1C x 1 sqmm	19.5	20.0	0.6	0.9	4.7	12
1C x 1.5 sqmm	13.3	13.7	0.6	0.9	5.4	16
1C x 2.5 sqmm	7.98	8.21	0.7	1.0	6.2	22
1C x 4 sqmm	4.95	5.09	0.8	1.0	6.8	29
1C x 6 sqmm	3.30	3.39	0.8	1.1	7.5	37
1C x 10 sqmm	1.91	1.95	1.0	1.3	9.4	51
1C x 16 sqmm	1.21	1.24	1.0	1.4	10.9	68
1C x 25 sqmm	0.780	0.795	1.2	1.4	13.6	86
1C x 35 sqmm	0.554	0.565	1.2	1.6	15.5	110
1C x 50 sqmm	0.386	0.393	1.4	2.0	18.1	145
1C x 70 sqmm	0.272	0.277	1.4	2.2	20.8	230
1C x 95 sqmm	0.206	0.210	1.6	2.4	23.6	280
1C x 120 sqmm	0.161	0.164	1.6	2.5	26.0	320

Two Core Cable

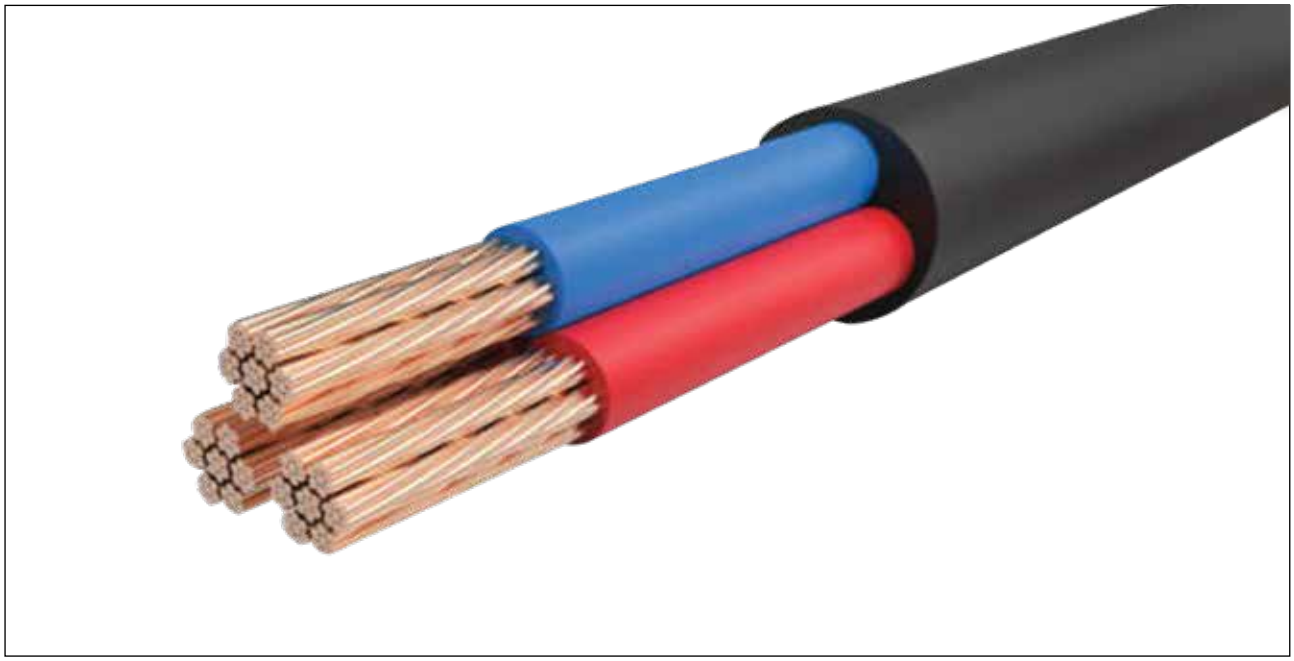
Copper Conductor, PVC Insulation & PVC Sheath – 1100V



No. of Cores x Nominal Cross Sectional Area of Conductor	Max DC Conductor Resistance at 20°C		Nominal Insulation Thickness	Nominal Sheath Thickness	Max Overall Diameter of Cable	Current Rating
mm2Bare (Ω/km)	Tinned (Ω/km)	mm	mm	mm	Amps	
2C x 0.5 sqmm	39.0	40.1	0.6	0.9	6.9	4
2C x 0.75 sqmm	26.0	26.7	0.6	0.9	7.3	8
2C x 1 sqmm	19.5	20.0	0.6	0.9	7.6	12
2C x 1.5 sqmm	13.3	13.7	0.6	0.9	8.9	16
2C x 2.5 sqmm	7.98	8.21	0.7	1.0	10.3	22
2C x 4 sqmm	4.95	5.09	0.8	1.0	11.6	29
2C x 6 sqmm	3.30	3.39	0.8	1.1	13.0	37
2C x 10 sqmm	1.91	1.95	1.0	1.3	16.5	51
2C x 16 sqmm	1.21	1.24	1.0	1.4	19.4	68
2C x 25 sqmm	0.780	0.795	1.2	1.4	23.8	86
2C x 35 sqmm	0.554	0.565	1.2	1.6	27.2	110
2C x 50 sqmm	0.386	0.393	1.4	2.0	32.0	145
2C x 70 sqmm	0.272	0.277	1.4	2.2	36.8	230
2C x 95 sqmm	0.206	0.210	1.6	2.4	41.8	280
2C x 120 sqmm	0.161	0.164	1.6	2.5	46.2	320

Three Core Cable

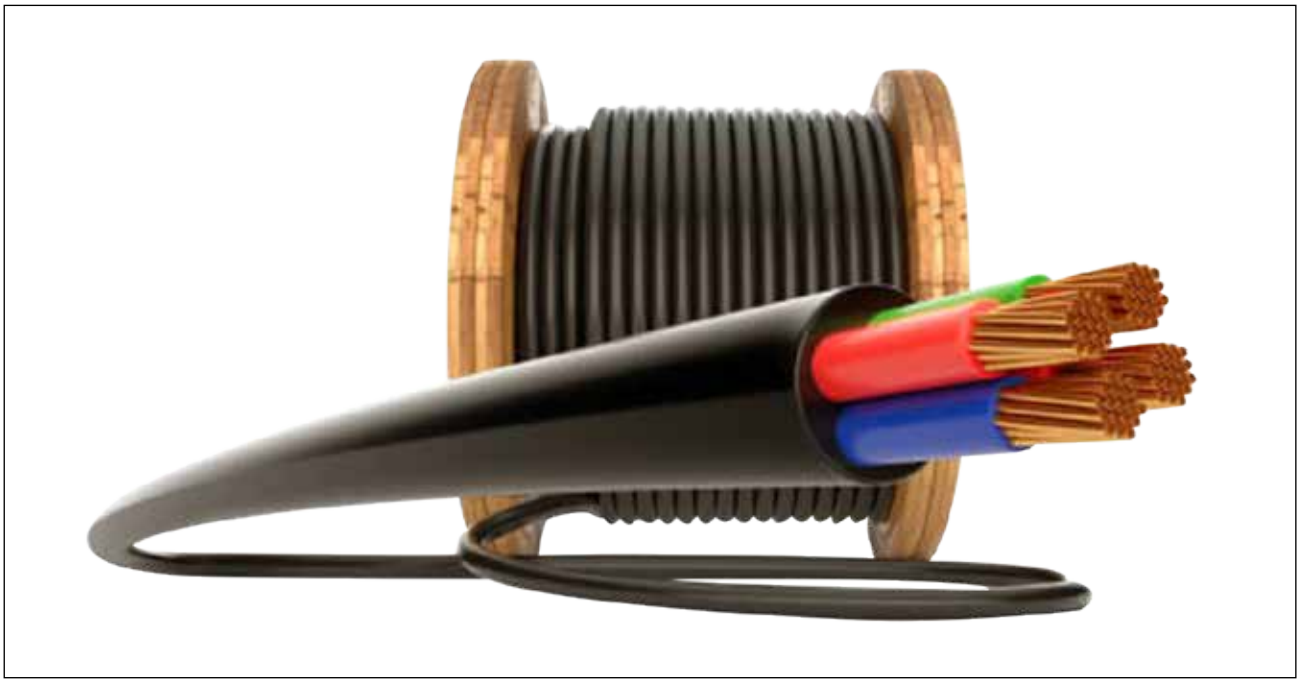
Copper Conductor, PVC Insulation & PVC Sheath – 1100V



No. of Cores x Nominal Cross Sectional Area of Conductor	Max DC Conductor Resistance at 20°C		Nominal Insulation Thickness	Nominal Sheath Thickness	Max Overall Diameter of Cable	Current Rating
mm2	Bare (Ω/km)	Tinned (Ω/km)	mm	mm	mm	Amps
3C x 0.5 sqmm	39.0	40.1	0.6	0.9	7.3	4
3C x 0.75 sqmm	26.0	26.7	0.6	0.9	7.7	8
3C x 1 sqmm	19.5	20.0	0.6	0.9	8.1	12
3C x 1.5 sqmm	13.3	13.7	0.6	0.9	9.4	16
3C x 2.5 sqmm	7.98	8.21	0.7	1.0	10.9	22
3C x 4 sqmm	4.95	5.09	0.8	1.0	12.4	29
3C x 6 sqmm	3.30	3.39	0.8	1.2	13.8	37
3C x 10 sqmm	1.91	1.95	1.0	1.4	17.7	51
3C x 16 sqmm	1.21	1.24	1.0	1.4	20.6	68
3C x 25 sqmm	0.780	0.795	1.2	1.5	25.6	86
3C x 35 sqmm	0.554	0.565	1.2	1.6	29.3	110
3C x 50 sqmm	0.386	0.393	1.4	2.0	34.6	145

Four Core Cable

Copper Conductor, PVC Insulation & PVC Sheath – 1100V



No. of Cores x Nominal Cross Sectional Area of Conductor	Max DC Conductor Resistance at 20°C		Nominal Insulation Thickness	Nominal Sheath Thickness	Max Overall Diameter of Cable	Current Rating
mm2	Bare (Ω/km)	Tinned (Ω/km)	mm	mm	mm	Amps
4C x 0.5 sqmm	39.0	40.1	0.6	0.9	8.0	4
4C x 0.75 sqmm	26.0	26.7	0.6	0.9	8.4	8
4C x 1 sqmm	19.5	20.0	0.6	0.9	8.8	12
4C x 1.5 sqmm	13.3	13.7	0.6	1.0	10.4	16
4C x 2.5 sqmm	7.98	8.21	0.7	1.0	12.0	22
4C x 4 sqmm	4.95	5.09	0.8	1.0	13.6	29
4C x 6 sqmm	3.30	3.39	0.8	1.2	15.5	37
4C x 10 sqmm	1.91	1.95	1.0	1.4	19.5	51
4C x 16 sqmm	1.21	1.24	1.0	1.4	23.0	68
4C x 25 sqmm	0.780	0.795	1.2	1.6	28.5	86
4C x 35 sqmm	0.554	0.565	1.2	1.7	32.7	110
4C x 50 sqmm	0.386	0.393	1.4	2.0	38.6	145

Please refer to IS 3961 for Derating factors for the Current Rating.

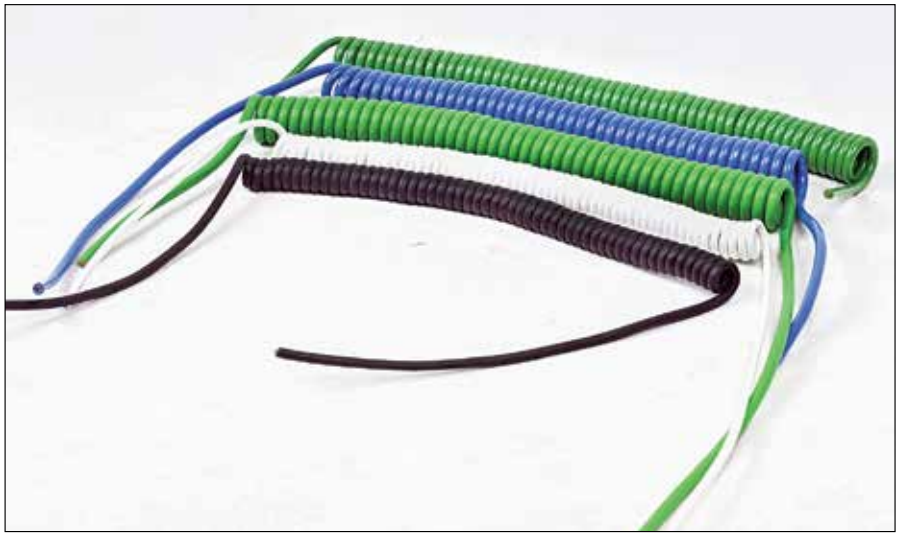
NYSHA SUPERFLEX
Coiled / Spiral Cables & Cords

FEATURES

- Coiled cables consist of a cable wound about a tubular axis.
- Types include coiled extension cords, automotive coiled cords etc.
- Typically designed and manufactured based on customer requirements.
- NYSHA SUPERFLEX Coil / Spiral Cords can improve wiring lifetime significantly by controlling and distributing motion in manual/automatic equipment across a range of applications.
- Enhanced materials such as TPE, TPEE, PU, Polyolefin, PVC, and custom blends are used to ensure high performance even in extreme external conditions.
- Customisable lengths, coil diameter, retracted length and overall design.
- Glossy or Matte finish on cable available.

APPLICATIONS

- Automotive applications like truck trailers, EV Charging Gun assemblies.
- Medical equipment like Ultrasound, X-Ray, patient monitoring.
- Production line tools.
- Manufacturing Robots.
- Bar code readers.
- Instrumentation and testing devices.



Instrumentation & Signal Cables

FEATURES

Instrumentation cables are designed for the transmission of Analog and Digital Signals in Control Systems.
Cables are designed and made to ensure an extremely high level of accuracy and sensitivity, with minimal electromagnetic noise, interference and cross-talk.
Individual pairs are colour coded for simple identification & hook-up. Individual pair shielding options are recommended for use in Intrinsically Safe Systems.

CHARACTERISTICS

- Signal protection between pairs.
- Electromagnetic protection from external interference.
- Aluminium Mylar Tape screening protects the signal/data transmission from electromagnetic interference.
- Flame & Fire Retardant options are designed to withstand extreme fire conditions, with minimal emission of toxic smoke and gases.
- Solid or stranded conductors provided based on flexibility requirement of customer.

APPLICATIONS

- Transmission of analog & digital signals in control systems.
- Audio, intercom, control, energy measurements, alarm circuits, DCS, SCADA etc.
- Primarily for indoor & dry locations.

CABLE CATEGORIES

G-Type Unarmoured	Collective Screen, Sheathed Cable.
G-Type Armoured	Collective Screen, Inner Sheath, Armour, Sheathed Cable.
F-Type Unarmoured	Individual Screen, Collective Screen, Sheathed Cable.
F-Type Armoured	Individual Screen, Collective Screen, Inner Sheath, Armour, Sheathed Cable.

Conductor Construction

Nominal Area of Conductor	No. of wires / Dia of wires		
	Solid (Class 1)	Stranded (Class 2)	Flexible Stranded (Class 5)
Sqmm	Nos. / mm	Nos. / mm	Nos. / mm
0.5	1 / 0.80	7 / 0.30	16 / 0.20
0.75	1 / 0.98	7 / 0.37	24 / 0.20
1	1 / 1.13	7 / 0.43	32 / 0.20
1.5	1 / 1.38	7 / 0.52	30 / 0.25
2.5	1 / 1.78	7 / 0.67	50 / 0.25

Cable Construction

Process	Features / Material
Conductor	Electrolytic grade Annealed Bare or Tin-plated Copper Wires
Insulation	PVC / FRLS-PVC / HR-PVC / PE / XLPE / LSZH / FEP / PTFE / EPR or as per requirement
Core & Pair Identification	Insulation colouring, number printing, Ring marking or a combination of the above
Pairing	Twisting of two cores to form a pair
Screen on Individual Pair (if required)	Pair screened with Aluminium Mylar Tape of 100% coverage with Tinned Copper Drain Wire
Laying	Pairs laid up suitably with polyester binder tape if required
Collective Screen	Laid up cable screened with Aluminium Mylar Tape of 100% coverage with Tinned
Sheath	Copper Drain Wire PVC / FR-PVC / FRLS-PVC / HR-PVC / LSZH / FEP / PTFE or as per requirement

Individual and/or Collective Braid Shielding, Pair Jacketing etc can be provided as well

Electrical & Transmission Characteristics

Electrical & Transmission Characteristics	Reference Standard
Conductor Resistance	IS 8130
Dielectric Constant	IS 5608 Part 1 or BS 5308 Part 1 & 2
Volume Resistivity	IS 5608 Part 2 or BS 5308 Part 1 & 2
Mutual Capacitance	IS 5608 Part 3 or BS 5308 Part 1 & 2
Characteristic Impedance	IEC 189 or BS 5308 Part 1 & 2
Cross Talk / Attenuation	VDE 0815
Inductance	VDE 0816 or BS 5308 Part 1 & 2

Fire Performance

Property	Ref Standard	Flame Retardant (FR)	Flame Retardant Low Smoke (FRLS)	Low Smoke Zero Halogen (LSZH)
Oxygen Index	ASTM D 2863 / IS 10810-58	>29%	>29%	>29%
Temperature Index	ASTM D 2863 / IS 10810-58	>250°C	>250°C	>250°C
Smoke Density Rating	ASTM D 2843		<60%	<20%
Halogen Acid Gas Generation	IEC 60754-1		<20%	<0.5%
Flame Test	IEC 60332-1	As per specification		

Fire Survival Cables can be provided in all of the above styles.

Ring Marking & Ring Colours

Unit	Ring Marking	Colour of Ring Marking
1, 5, 9		Ring colour for unit 1 to 4 is Pink
2, 6, 10		Ring colour for unit 5 to 8 is Orange
3, 7, 11		Ring colour for unit 9 to 12 is Violet
4, 8, 12		

Thermocouple Extension & Compensating Cables

CHARACTERISTICS

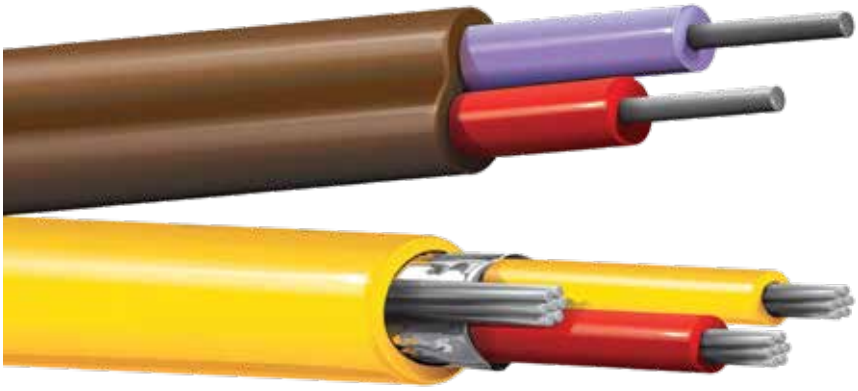
- Used in thermocouples to carry extremely precise signals from thermocouple sensor to reading device
- Voltage Rating: up to 300V
- Temperature Rating: 70°C, 85°C, 105°C or higher as per requirement
- Can be made with FR, FRLS, LSZH, High Temperature ratings as well

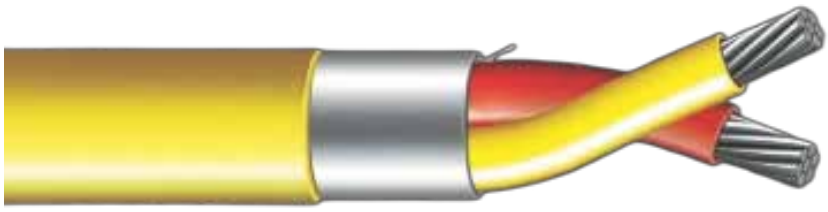
CABLE CONSTRUCTION

- Conductor : Solid or stranded conductor of the respective thermocouple extension/compensating alloys
- Insulation : With PVC to form a core
- Twisting : Two cores twisted together form a pair, with Aluminium Mylar tape for shielding if required
- Laying : Multiple pairs laid up together, with an Aluminium Mylar tape for shielding
- Sheathing : With PVC

Technical Data

		Extension				Compensating		
Type of Cable		**Kx**	**Tx**	**Jx**	**EX Vx**	**Kx (A)**	**Sx**	**Rx**
Conductor Material	Positive	Chromel	Copper	Iron	Chromel	Copper	Copper	Copper
	Negative	Alumel	Constantan	Constantan	Constantan	Constantan	Copper-Alloy	Copper-Alloy
Temp Range		0°C - 200°C	0°C - 100°C	0°C - 200°C	0°C - 200°C	0°C - 100°C	0°C - 200°C	0°C -
Tolerance		± 2.2°C	± 1°C	± 2.2°C	± 1.7°C	± 2.2°C	± 0.057mV	± 0.057mV





REFERENCE STANDARDS

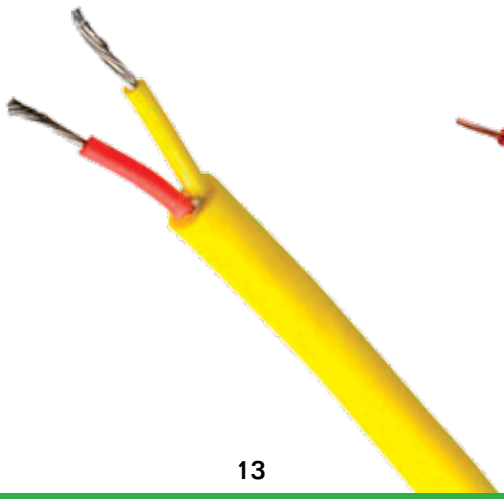
ANSI.MC.96.1 / IS: 8784 / BS: 4937 / IEC: 584-3 / DIN: 43713 / NFC 42-324
CTI-UNI: 7938 / IEC: 784 – Part III & Customer Specification.

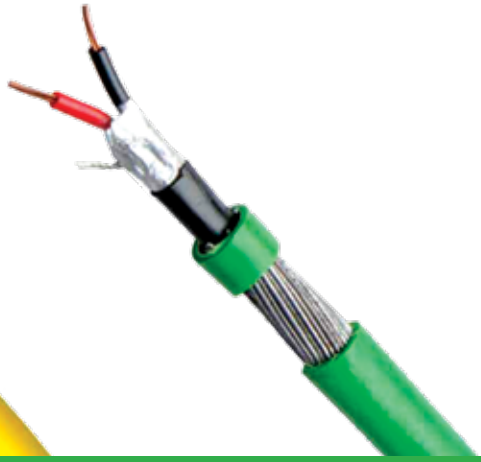
SPECIAL VARIANTS AVAILABLE

- PVC / FRLS-PVC / HR-PVC / XLPE / LSZH / FEP / PTFE / EPR and more Insulation available.
- PVC / FR-PVC / FRLS-PVC / HR-PVC / LSZH / FEP / PTFE / CSP / PCP and more Sheath available.

CORE IDENTIFICATION

	ANSI.MC.96.1			IS : 8784			BS : 4937		
Type	Overall	+ ve	- ve	Overall	+ ve	- ve	Overall	+ ve	- ve
Kx									
Jx									
Tx									
Ex									
Kx (A)									
Sx / Rx									





Solar DC Cables

FEATURES

- Temperature Rating: -40°C to 120°C.
- Extremely good mechanical properties.
- Resistant to UV, Ozone and hydrolysis.
- Resistant to moisture & chemicals.
- Excellent weatherproof properties.
- Flexible.
- Armoured and Multicore cables available on request.
- As per EN 50618.

APPLICATION

- Connecting photovoltaic system components inside and outside buildings and equipment.

TECHNICAL DATA

- Conductor : Annealed Tinned Copper (as per IEC 60228 Class 5).
- Insulation : Cross Linked Special Halogen Free Flame Retardant compound.
- Sheath : Cross Linked Special Halogen Free Flame Retardant compound.
- Voltage Rating : 1000V (AC) / 1800V (DC).
- Weather & UV Resistance : Complies with HD 605/A1.
- Flame Retardant : Complies with IEC 60332-1-2.
- Halogen Free : Complies with IEC 60754-1.
- Ozone Resistance : Complies with EN 50396.
- Acid/Brine Resistance : Complies with EN 60811-2-1.
- Bending Radius : 5 x Cable Outer Diameter.

Area of Cross Section	Conductor Strand Size (Max)	Max Conductor DC Resistance at 20°C	Outer Diameter (Approx)	Current Carrying Capacity	
				Air	Ground
sqmm	**mm**	**Ω/km**	**mm**	**amps**	
2.5	0.25	8.21	4.6	41	39
4	0.3	5.09	5.3	55	52
6	0.3	3.39	5.8	70	67
10	0.4	1.95	7.9	98	93
16	0.4	1.24	9.0	132	125
25	0.4	0.795	10.5	176	167
35	0.4	0.565	12.0	218	207
50	0.4	0.393	13.5	281	268
70	0.5	0.277	15.0	357	341
95	0.5	0.21	17.5	425	405
120	0.5	0.164	19.5	493	470
150	0.5	0.132	21.7	583	543
185	0.5	0.108	24.5	659	627
240	0.5	0.0817	26.5	794	754
300	0.5	0.0654	30.0	912	866

Fire Survival / Fire Resistant Wires & Cables

Fire survival cables are designed for continuous operation under extreme heat of up to 750°C / 950°C for up to 3hrs during a fire.

APPLICATIONS

- Primarily used in circuits that are required to maintain their integrity during a fire.
- Used in fire alarm systems, access control systems, emergency lighting circuits, water sprinklers, sound and PA systems, security systems, tunnel ventilation etc.
- Areas of application include public address systems, emergency systems in metro rail, airports, power plants, high rise buildings, malls etc.

CABLE CONSTRUCTION

- Conductor : Electrolytic grade annealed bare or tin-plated copper; Solid / stranded / highly flexible copper wires.
- Insulation : PVC / HR-PVC / XLPE / LSZH / Silicon Rubber / EPR / Special Polyolefins.
- Screening (if required) : Individual and Overall Screen or Overall Screen with Aluminium-Mylar Tape.
- Inner Sheath (if armoured) : FRLS / LSZH / Special Polyolefins.
- Armour (if required) : Single layer of round galvanised steel wires or flat galvanised steel strips.
- Outer Sheath : FRLS / LSZH / Special Polyolefins.

CHARACTERISTICS

- Withstands flame temperature of 750°C / 950°C for up to 3hrs without electrical breakdown at rated voltage.
- Low emission of smoke and toxic fumes to help people escape / firefighters save people.
- Does not propagate flame.
- Meets BS: 6387 Cat CWZ, BS: 7846 (950°C for 3hrs).

REFERENCE STANDARDS

IEC: 60331, BS: 7846, BS: 6387-CWZ, NFC32070, BS: 8434, BS: 7629.

CIRCUIT INTEGRITY (FIRE RESISTANCE) TEST

As per IEC 60331 / BS 6387 the test is carried out with the cable clamped above a burning fire of temperature 750°C / 950°C for 3 hrs with a connected power supply and load. The cable must continue to perform without breakdown and with continuous current flow for the whole 3 hrs under fire.

Co-Axial Cables

Coaxial cables are superior to most other radio/signal transmission lines is that it protects against external interference and electromagnetic fields. An ideal coaxial cable contains its own signal carrying electromagnetic field within the space between the two conductors, thus allowing for installation near metal objects (like ducts and gutters) without the power losses that occur in other kinds of transmission lines. Furthermore, coaxial cables are used to carry low frequency signals, such as audio signals, where the dimensions of the cable are controlled to give a precise, consistent conductor spacing, which is required for the cable to function efficiently as a radio transmission line or for medical purposes like patient monitoring, ECG etc.

APPLICATIONS

- Transmission & reception of data processing signals.
- RF signal transmission, broadcast, internal wiring of class 2 circuits.
- Feed lines connecting radio transmitters & receivers with their antennas.
- Computer network connections, cable television networks, Internet & Ethernet.
- CCTV & Audio Visual VSAT, medical equipment.
- Telecom networks, Antenna System Communication PLCC systems.
- Defence – Army, Navy & Aerospace.

FEATURES

- High Band Width.
- Low Attenuation value.
- Minimal structural return loss.
- Low losses in signal quality.
- Clear reception and reduced cross talk.
- Ideal for power pass application.
- Armoured, Multicore, Composite, Hybrid, Umbilical Co-axial cables can be provided on request.
- Twin Axial, 3 x 3 Twin Axial (RG 108), Tri-Axial, Double Screened Co-Axial, Micro Co-axial cables can be provided on request.

CABLE CONSTRUCTION

- Conductor : Solid / stranded Annealed Bare Copper / Annealed Tinned Copper / Copper Clad Steel / Copper clad Aluminium / Annealed Silver Plated Copper / Silver coated Copper clad Steel.
- Insulation : Solid Polyethylene / Foam PE / XLPE / FEP / PTFE / ETFE / PVC.
- Screening : Bare Copper / Tinned Copper / Silver Plated Copper / Aluminium alloy.
- Outer Sheath : PVC / LSZH / PE / FEP / PTFE / PFA.

Electrical Characteristics

Cable Type	Impedance (Ω)	Resistance (Ω/km)	Capacitance (pf/m)	HV Test (kV)	Attenuation (dB/100m)				
					50 MHz	100 MHz	400 MHz	1000 MHz	3000 MHz
RG - 6	75	360	66.6	5	13.1	16	—	—	—
RG - 11	75	20.3	67.3	10	—	—	17.1	—	60.7
RG - 58	50	4.1	105.6	5	13.1	21.3	55.8	91.9	—
RG - 59	75	15.7	72.2	7	—	—	29.5	52.5	—
RG - 62	93	0.5	43.3	3	6.2	9.2	17	27.9	—
RG - 213	50	0.6	105.6	10	33.9	7.6	22.3	29.5	—
RG - 214	50	28	105.6	10	5.6	8.9	—	39.4	9.1
RG - 217	50	3.1	96.8	12	—	—	14.1	—	45.9
RG - 174	50	32	105.6	2	21.3	32.8	157.5	147.6	—
RG - 178	50	828	95.8	1	—	—	—	180	—
RG - 179	75	802	75	1.5	17	24	50	83	—
RG - 302	75	800.5	63.7	3.5	26	26.2	24.9	38.7	—

Telecommunication Cables

CHARACTERISTICS

- Voltage Rating : 24V / 48V.
- Temperature Rating : 70°C (available for higher temperatures as well).
- Mainly used for telephone wiring, pulse code modulation (PCM), RS-232 communication systems, digital transmission networks etc.
- As per DOT (GR/WIR 06/03) / VDE: 0815, IEC 60189 / IS 5608, CW 1308.

CABLE CONSTRUCTION

- Conductor : Annealed Bare / Tinned Solid Copper Conductor.
- Insulation : PVC / PE / Low Capacitance Polyolefin / PP / Foam Polyethylene insulated cores.
- Twisting : Two cores are twisted to form a pair.
- Laying : Pairs are laid up in units/sub-units/concentric layers with an overall polyester tape.
- Sheathing : PVC.

No. of Pairs	26 AWG / 0.4mm Conductor Cable			24 AWG / 0.5mm Conductor Cable		
	Max Dia over Insulation	Outer Sheath Thickness	Cable Diameter (Approx)	Max Dia over Insulation	Outer Sheath Thickness	Cable Diameter (Approx)
	mm	mm	mm	mm	mm	mm
1 Pair	0.9	0.5	2.7	1	0.5	2.9
2 Pair	0.9	0.5	4	1	0.5	4.3
4 Pair	0.9	0.5	4.6	1	0.5	5
5 Pair	0.9	0.5	5	1	0.5	5.5
8 Pair	0.9	0.6	6.1	1	0.6	6.7
10 Pair	0.9	0.6	7.1	1	0.6	7.8
20 Pair	0.9	0.7	9.1	1	0.7	10
50 Pair	0.9	1	17.7	1	1	19.6
100 Pair	0.9	1.4	23.3	1	1.4	25.9

SPECIAL VARIANTS AVAILABLE

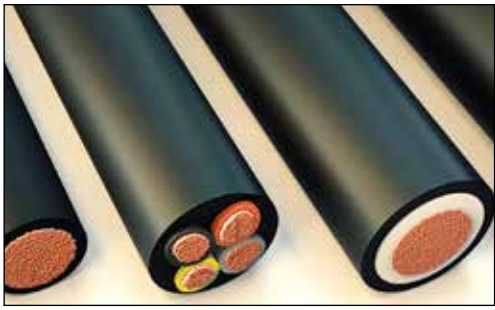
- Alternative conductor sizes can be provided (0.25 to 0.98mm).
- Individual Pair Shielded / Braid Shielded Cables.
- FR-PVC / FRLS-PVC / LSZH or other Outer sheath.
- E1 Cables. SDH, DWDM, GSM, LTE Cables.
- Variety of impedances on cables (75, 100, 120, 150, 600 Ohms)
- Armoured Cables – Steel Braid / Steel Tape.

NYSHA SUPERFLEX Rubber Cables

NYSHA SUPERFLEX Rubber Wires & Cables are flexible cables suitable for applications such as electric iron leads, heater leads, elevators, cranes, and far more, in industries like Steel Mills, Mining, Power Stations (Nuclear, Thermal, Wind Mills), Construction Equipment, Marine, Turbines etc.

CHARACTERISTICS

- Designed for heavy duty use and extremely flexible.
- Cut, tear & abrasion resistant.
- Very good long term performance.
- Exceptional resistance to oils, chemicals, ozone & solvents.
- Excellent Impact & Weather Resistance.



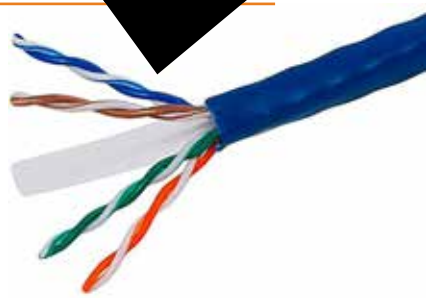
APPLICATIONS

- Flexible & High Temperature cables.
- Flexible cables for Power & Control in Wind Mills.
- Mining Cables - Flexible Trailing, Coal Cutter etc.
- Cables for steel plants.
- Fire Survival Cables.
- Ship Wiring.
- Shore Supply & Generator Cables for charging of Ship Batteries & Supply from Mobile Generators Motor Coil Leads.
- Pump Cables for Water, Submersible & Sewerage Pumps.
- Cables for Railway Coach Wiring & Metro Railway.
- Battery Cables for High Current & Long Life.
- Low Temperature Installations.
- Elastomeric Cables & Flexible Cords for Lighting.
- Low Temperature Installations.
- Special Elastomeric Cables for Control & Instrumentation Wiring.
- NYSHA SUPERFLEX Welding Cables.

CABLE CONSTRUCTION

• Conductor	:	Annealed Bare / Tin-plated flexible Copper wires.
• Separator Tape (optional)	:	A separator tape of suitable material may be applied over the conductor.
• Insulation	:	Silicon Rubber / EPR / TPR / EPDM.
• Braiding (optional)	:	Glass / Textile / Tinned Copper / GS or SS Steel.
• Sheath (multicore & sheathed)	:	EPR / EPDM / CSP / PCP / TPR.

LAN Cables



4 Pair x 23 AWG CAT 6 UTP Unarm / Arm Cable

APPLICABLE STANDARD

TIA / EIA 568 – C, UL: 444.

CABLE CONSTRUCTION

- Conductor : 23 AWG Annealed Bare Copper (Solid).
- Insulation : Halogen Free Low Capacitance Polyolefin.
- Fillers : If required.
- Inner Sheath (if armoured) : PVC / FR-PVC / FRLS-PVC / LSZH / TPU.
- Armour (if armoured) : SS Braid Wire 0.18mm.
- Outer Sheath : PVC / FR-PVC / FRLS-PVC / LSZH / TPU.
- Overall Diameter : 6.0 ± 0.5 mm for Unarmoured Cable.
  7.8 ± 0.8 mm for Armoured Cable.
- Pairing Colour Code : White/Blue + Blue; White/Orange + Orange; White/Green + Green; White/Brown + Brown.

ELECTRICAL CHARACTERISTICS

- Max Conductor Resistance : 74.5 Ω/km.
- Insulation Resistance (min) : 5 G Ω/km at 20°C.
- Mutual Capacitance (nom) : < 55 pF/m.
- Impedance (1-100 MHz) : 100 ± 15 Ω.
- Propagation delay skew : < 20 ns/100m.
- HV Test at 50Hz : 800V / 1min.

Frequency MHz.	RL ≤ dB	ATT ≥ dB	NEXT ≥ dB	PSNEXT ≥ dB	ELFEXT ≥ dB	Frequency ≥ dB	DELAY ≤ ns
1	20	1.9	74	72.3	68	65	570
4	23	3.7	65	63.3	59	56	552
8	24.5	5.3	60.7	48.8	49.9	46.9	546.73
10	25	5.9	59	57.3	48	45	545.38
16	25	7.5	56	54.2	43.9	40.9	543
20	25	8.4	55	52.8	42	39	542.05
25	24.3	9.5	53.3	41.3	40	37	541.2
31.25	23.6	10.6	52	49.9	38.1	35.1	540.44
62.5	21.5	15.4	47	45.4	32.1	29.1	538.55
100	20.1	19.8	44	42.3	28	25	537.6
200	18	29	40	37.8	22	19	536.54
250	17.3	32.8	38	36.3	20	17	536.27

CAT 6 SFTP Cable Available on request

4 Pair x 24 AWG CAT 5E UTP/ SFTP cable

APPLICABLE STANDARD

TIA / EIA 568 – C, UL: 444

CABLE CONSTRUCTION

- Conductor : 24 AWG Annealed Bare Copper (Solid)
- Insulation : Halogen Free Low Capacitance Polyolefin
- Shielding (for SFTP) : Aluminium Mylar tape with optional ATC drain wire
- Braiding (for SFTP) : Coverage between 40% and 85% as per customer specification
- Outer Sheath : PVC / FR-PVC / FRLS-PVC / LSZH / TPU
- Overall Diameter : 5.0 ± 0.5 mm for UTP
  6.3 ± 0.7 mm for SFTP
- Pairing Colour Code : White/Blue + Blue; White/Orange + Orange; White/Green + Green; White/Brown + Brown

ELECTRICAL CHARACTERISTICS

- Max Conductor Resistance : 93.5 Ω/km
- Insulation Resistance (min) : 5 G Ω/km at 20°C
- Mutual Capacitance (nom) : 50 pF/m at 1kHz
- Impedance (1-100 MHz) : 100 ± 15 Ω
- HV Test at 50Hz : 800V / 1min

Frequency MHz.	RL ≥ dB	ATT ≤ dB	NEXT ≥ dB	PSNEXT ≥ dB	ELFEXT ≥ dB	PSELFEXT ≥ dB
1	17	2.2	60	57	57.4	54.4
4	17	4.5	53.5	50.5	45.4	42.4
8	17	6.3	48.6	45.6	39.3	36.3
10	17	7.1	47	44	37.4	34.4
16	17	9.1	43.6	40.6	33.3	30.3
20	17	10.2	42	39	31.4	28.4
25	16	11.4	40.3	37.3	29.4	26.4
31.25	15.1	12.9	38.7	35.7	27.5	24.5
62.5	12.1	18.6	33.6	30.6	21.5	18.5
100	10	24	30.1	27.1	17.4	14.4

Armoured CAT 5E UTP / SFTP Cable available on request

RS 485 Communication Unarm / Arm Cable

APPLICABLE STANDARD

IEC: 60228, IS: 5831, IS: 3975, BS: 5308

CABLE CONSTRUCTION

- Conductor : Annealed Bare Copper
- Insulation : Halogen Free Low Capacitance Polyolefin
- Braiding : Annealed Tinned Copper with Coverage between 40% and 85% as per customer specification
- Inner Sheath (for armoured) : PVC / FR-PVC / FRLS-PVC / LSZH / TPU / UV-resistant
- Amour (for armoured) : Galvanised Iron Wire/Strip
- Outer Sheath : PVC / FR-PVC / FRLS-PVC / LSZH / TPU / UV-resistant
- Pairing Colour Code : White/Blue + Blue; White/Orange + Orange; White/Green + Green; White/Brown + Brown; White/Yellow + Yellow; White/Violet + Violet White/Black + Black; White/Red + Red

ELECTRICAL CHARACTERISTICS

- Temperature Rating : -5°C to 70°C (Flex)
  -20°C to 80°C (Static)
- HV Test : 500V / 1min
- Impedance : 100 ± 15 Ω or 120 ± 15 Ω

Construction (Armoured Cable)	Size of Armour GI Wire	Overall Dia of Cable (Approx)	Max Conductor DC Resistance at 20°C
1P x 0.5 sqmm	0.9	10.5	39
1Q x 0.5 sqmm	0.9	11.2	39
2P x 0.5 sqmm	0.9	11.2	39
4P x 0.5 sqmm	0.9	14	39
8P x 0.5 sqmm	1.4	18.5	39
1P x 1 sqmm	0.9	12.1	19.5
1Q x 1 sqmm	0.9	13.1	19.5
2P x 1 sqmm	1.4	17.5	19.5
4P x 1 sqmm	1.4	19.2	19.5
8P x 1 sqmm	1.4	24	19.5
1P x 1.5 sqmm	0.9	12.8	13.3
1Q x 1.5 sqmm	0.9	14	13.3
2P x 1.5 sqmm	1.4	18.5	13.3
4P x 1.5 sqmm	1.4	21	13.3
8P x 1.5 sqmm	1.4	25.9	13.3

NYSHA® MOBILITY TECH

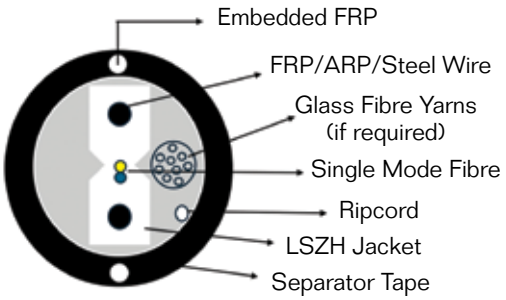
FTTH Drop Indoor & Outdoor Cable (1F/2F/4F)

APPLICATIONS

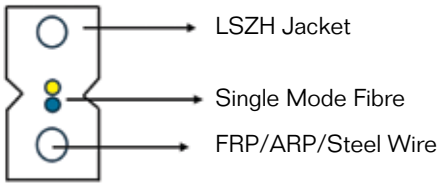
- High Speed Video & Voice
- Transmission of Data
- Fibre Channel (CATV, Multimedia and more)
- Local Area Network

1. Sensitive to bending G657 A1 or A2 fibres used
2. LSZH Inner Jacket to ensure low smoke and zero halogen emission in case of a fire
3. Inner Cable Strength Member - FRP/ARP/Steel Wire
4. UV Resistant
5. HDPE Jacket gives added protection against rodents & monkeys

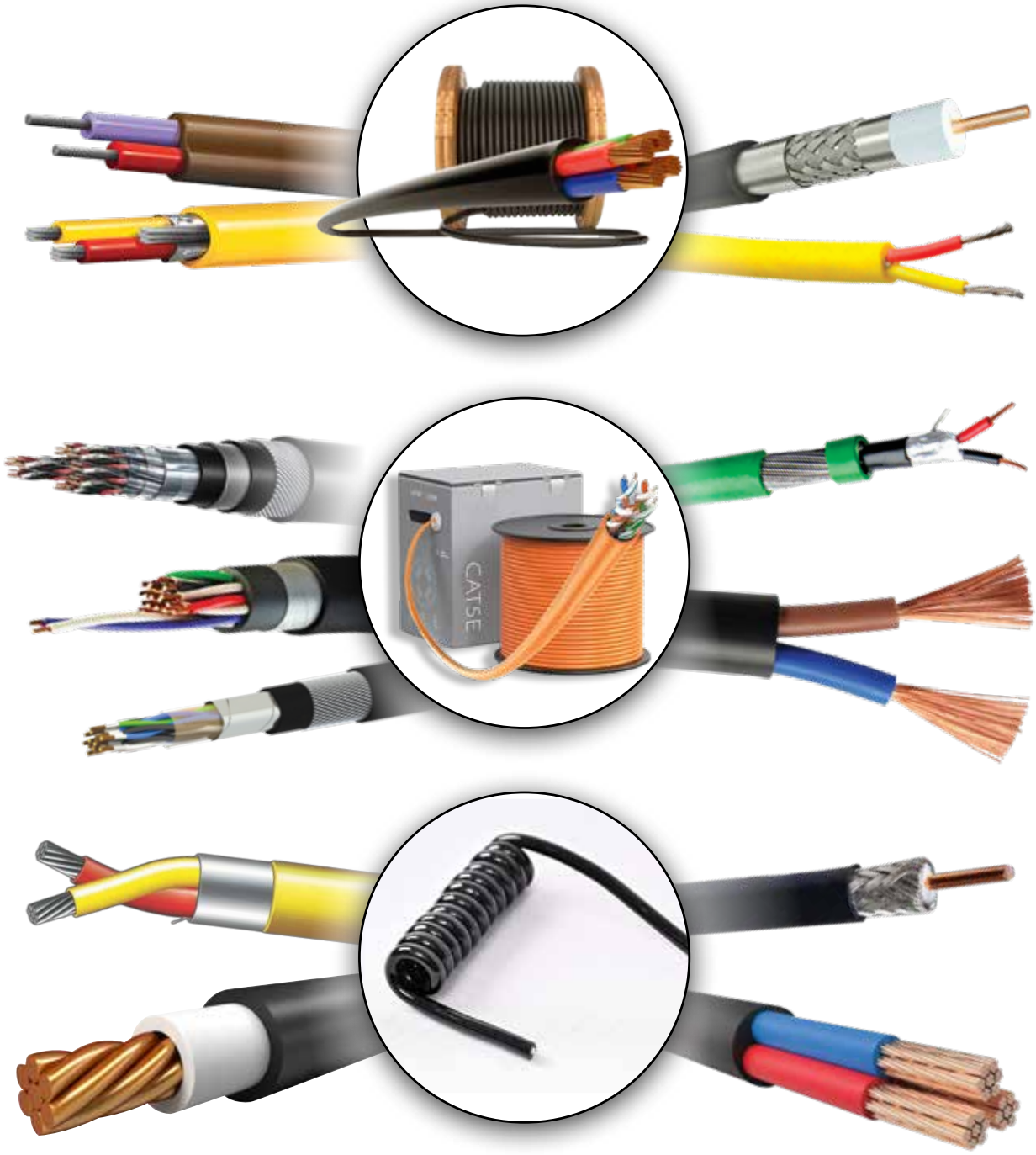
Cross Section of FTTH Drop Outdoor Cable



Cross Section of FTTH Drop Indoor Cable



Property	Performance	
Optical Fibre Type	In Compliance with ITU-T, G657 A1 or A2 Fibres	
Optical Performance	Max Attenuation at 1310nm	0.36 dB/km
	Max Attenuation at 1550nm	0.23 dB/km
Environmental Performance	Temperature Rating	-10°C to 70°C
	Indoor Cable	**Outdoor Cable**
Cable Colour	White/Black/as per Customer Requirement	Black/as per Customer Requirement
Max Tensile Strength	300N	600N
Min Bend Radius	20 x D	20 x D
Impact	3N, 10 cycles	10N, 0.5mtr (H), 10 times
Compression	500N	1000N
No of Fibre	1F / 2F / 4F	1F / 2F / 4F
Cable Dia	3 ± 0.2 mm x 2 ± 0.2mm	5.8 ± 0.5mm
Nom Cable Weight		30 g/m
Standard Length	100 / 200 / 300 / 400 mtr ± 10%	
Max Span Length	Max 50m (for Outdoor Cable)	



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