

SCHEDULE OF TECHNICAL INFORMATION
(INFORMATION TO BE SUPPLIED WITH TENDER)

SCHEDULE OF TECHNICAL INFORMATION

SECTION 11 - CABLE SYSTEMS

SCHEDULE OF TECHNICAL INFORMATION
(INFORMATION TO BE SUPPLIED WITH TENDER)

11. Cable System

11.1. High Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
1	Manufacturer's name and country	
2	Manufacturer's type and identification	N2XSYBY
3	Voltage rating kV	12/20 (24)
4	Number of cores	1*300/25
5	Max. permissible continuous current carrying capacity under "as laid" condition: A	543/550/637 (trefoil/flat-touching/flat spaced)
5.1	Ground temperature 45 °C	406/410 (trefoil/flat-spaced)
5.2	Depth of laying 70Cm	
5.3	Thermal resistivity of ground 1 °C m/w	
5.4	Spacing between cables, flat formation, 7cm	
5.5	Continuous operation (load factor=1)	Acc. to attached files
6	Conductor details:	
6.1	Sectional area of conductor(s) mm ²	1*300 mm ²
6.2	Material	Plain annealed
6.3	Whether circular or shaped	copper(Circular
6.4	Number and size of wires No./mm	compacted, stranded- Class 2)
6.5	Semi-conducting sheath material	PVC
7	Nominal radial thickness of insulation:	
		5.5mm
7.1	Between conductors mm	
7.2	Between conductor and/or screen mm	
8	Type of insulation-ie: Mass impregnated Mass impregnated and non-draining pre-impregnated XLPE	Cross-linked polyethylene XLPE(90°C)

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<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
9	Metal screen:	
9.1	Material	Copper wires and an
9.2	Minimum thickness at any point mm	open helix of copper
9.3	For aluminum sheaths only	tape
9.3.1	Depth of corrugations mm	30
9.3.2	Pitch of corrugations mm	Acc. to attached
		data sheet
10	Nominal diameter over metal screen mm	
11	Composition of lead (alloy) sheath	
	Tin %	
	Cadmium %	Acc. to attached
	Antimony %	data sheet
	lead %	
12	Composition of Aluminum sheath:	
12.1	Grade of Aluminum	Acc. to attached
12.2	Method of application	data sheet
13	Bedding for armour (inner plastic sheath):	
13.1	Material	Aluminium
13.2	Nominal thickness mm	0.5 mm
14	Armour:	
14.1	Material (galvanized steel, aluminum,...)	Two layers of
14.2	Double tape armour mm	aluminum tape
	14.2.1 Thickness of tapes mm	0.5
	14.2.2 Width of tapes mm	
	14.2.3 Maximum gap between conductors mm	
14.3	Single wire armour	
	14.3.1 Number pf wires in first layer	
	14.3.2 Thickness of wires mm	

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<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
14.4	Double wire armour	
	14.4.1 Number of wires in first layer	
	14.4.2 Number of wires in second layer	
	14.4.3 Diameter of wires mm	
15	Outer covering:	
15.1	Material	PVC
15.2	For Fibrous servings only Nominal thickness mm	Acc. to attached technical file
15.3	For extruded servings only	
	15.3.1 Min. thickness mm	
	15.3.2 Nom. and max. thickens mm	
16	Nominal overall diameter of completed cable mm	45.4
17	Nominal weight of one meter of completed cable kg	4393 gr/m
18	Minimum radius of bend round which cable can be laid:	
18.1	In ground or air m	15*cable fi
18.2	In ducts	15*cable fi
18.3	Adjacent to terminations with former m	12*cable fi
19	Minimum radius of bend for individual cores at joints and terminations m	12*cable fi
20	Nominal internal diameter of pipes or ducts mm	Acc. to attached technical file
21	Maximum D.C. resistance of conductor for 1,000 meters of cable at 20 °C Ω	0.0601 ohm/km
22	Equivalent star reactance per 1m000 meters of the three phase circuit at rated frequency Ω	0.113 ohm/km

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11.1. High Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
23	Maximum electrostatic capacitance	
23.1	Between one core and the remainder bunched and connected to metal sheath	Acc. to attached technical file
23.2	Between one core and screen	
23.3	Between all cores (bunched) and sheath	Acc. to attached technical file
24	Maximum permissible continuous current rating of cable at 50°C ambient temperature, continuous operation and 7 Cm spacing between cables under laid conditions as follows:	(543-trefoil, 550-flat-touching, 637-flat spaced) (387-trefoil, 391-flat)
24.1	In concrete cable trench A	
24.2	In air A	
24.3	In cable duct or pipe A	
25	Maximum conductor temperature corresponding to items 5 & 24 above °C a) Normal permanent load b) Emergency load max. during 8h/day and 100h/annual c) Short circuit	+90 during operation +50 during installation
26	Maximum permissible short circuit rating of three second duration assuming short circuit occurs when cable is at its maximum operating temperature:	
26.1	Conductor KA	42.9 KA /1 sec
26.2	Screen KA	

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11.1. High Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
27	Maximum temperature attained by conductor and metal sheath under the short circuit conditions of item 26 above:	Acc. to attached technical file
27.1	Conductor temperature corresponding to item 26.1 °C	Acc. to catalogue
27.2	Metal sheath temperature corresponding to item 26.2 °C	Acc. to catalogue
28	Method of installation (ie: laid directly in the ground, drawn into ducts, erected in air, or in concrete cable trench)	into ducts
29	Depth of laying	
29.1	Twin and multi core cables to axis of cable mm	Acc. to IEC standards
29.2	Single core cables in close trefoil formation to axis of uppermost cable mm	Acc. to IEC standards
29.3	Single core cables in flat formation to axis of cable mm	Acc. to IEC standards
29.4	Cables in ducts to axis of duct mm	Acc. to IEC standards
30	Spacing:	
30.1	Twin and multi core cables between axis of adjacent cables mm	Acc. to IEC standards
30.2	Single core cables in close trefoil formation between axis of trefoils mm	Acc. to IEC standards
30.3	Single core cable in flat formation between axis of cables forming one three phase circuit. mm	Acc. to IEC standards
31	Applicable technical standard	IEC 60332-1-2
32	Estimated length for high voltage power cable m	~ 680

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.1	General	
1	Manufacturer's name and country	
2	Applicable technical standard	IEC 60502
3	Voltage rating kV	1
4	Conductor material	Copper
5	Type of conductor (stranded or solid)	Stranded
6	Conductor insulation material	PVC
7	Insulation resistance at 20oC mΩ /Km	Constant Ki : 36.7
8	Sheath material	PVC
9	Composition of sheath:	
	a) Lead sheath	
	lead %	-
	Tin %	-
	Cadmium %	-
	Antimony %	-
	b) Other sheath	Galvanized Steel
10	Armouring material	Wire (For multi core cables) Aluminum Wire (For single core cables)
11	Number of layers of steel tapes	
12	Type of outer sheath and colour	PVC / Black
13	Minimum bending radius x (O.D.)	12×O.D. (For multi core cables) 15×O.D. (For single core cables)
14	Test voltage levels kV	3.5 KV (AC) 8.4 KV (DC) For 5 Min.

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11.4. Control & Protection Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.4.1	General	
1	Manufacturer's name and country	
2	Applicable technical standard	
3	Voltage rating	kV
4	Conductor material	IEC 60502
5	Type of conductor (stranded or solid)	1
6	Conductor insulation material	Copper
7	Insulation resistance at 20oC	Stranded
	/Km	PVC
8	Sheath material	Constant Ki : 36.7
9	Composition of sheath:	PVC
	a) Lead sheath	
	lead	%
	Tin	%
	Cadmium	%
	Antimony	%
	b) Other sheath	
10	Armouring material	Galvanized Steel Wire
11	Number of layers of steel tapes	-
12	Type of outer sheath and colour	PVC/ Black
13	Minimum bending radius	x (O.D.)
14	Test voltage levels	12×O.D. (For multi core cables)
		3.5 KV (AC)
		8.4 KV (DC)
		For 5 Min.

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×2.5
3	Normal current carrying capacity (in air), at 30 °C A	27
4	Thickness of core insulation mm	0.8
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1.2
8	Armouring thickness mm	0.9
9	External diameter of completed cable mm	15 ± 0.5
10	Weight per meter of completed cable Kg	0.41
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	4×2.5
3	Normal current carrying capacity (in air), at 30 °C A	25
4	Thickness of core insulation mm	0.8
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	17 ± 1
10	Weight per meter of completed cable Kg	0.6
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.4.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	7×2.5
3	Normal current carrying capacity (in air), at 30 °C A	16.3
4	Thickness of core insulation mm	0.8
5	Color code or numbering code of cores	Black and sequentially numbered
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	19.5 ± 1
10	Weight per meter of completed cable Kg	0.77
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for control & protection cables m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×4
3	Normal current carrying capacity (in air), at 30 °C A	37
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	17.5 ± 1
10	Weight per meter of completed cable Kg	0.61
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	4.61
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.38
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	4×4
3	Normal current carrying capacity (in air), at 30 °C A	34
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	19.5 ± 1
10	Weight per meter of completed cable Kg	0.77
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	4.61
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.38
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×6
3	Normal current carrying capacity (in air), at 30 °C A	48
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	19 ± 1
10	Weight per meter of completed cable Kg	0.71
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	3.08
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.54
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	4×6
3	Normal current carrying capacity (in air), at 30 °C A	43
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	21 ± 1
10	Weight per meter of completed cable Kg	0.92
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	3.08
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.54
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×10
3	Normal current carrying capacity (in air), at 30 °C A	66
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	20.5 ± 1
10	Weight per meter of completed cable Kg	0.88
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	1.83
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.7
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	4×10
3	Normal current carrying capacity (in air), at 30 °C A	60
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armouring thickness mm	1.60
9	External diameter of completed cable mm	23.5 ± 1
10	Weight per meter of completed cable Kg	1.31
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	1.83
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.7
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.5.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	1×16
3	Normal current carrying capacity (in air), at 30 oC A	Trefoil : 89 Flat : 103
4	Thickness of core insulation mm	1
5	Color code of cores	Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armoring thickness mm	1
9	External diameter of completed cable mm	14.5 ± 1
10	Weight per meter of completed cable Kg	0.39
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armors or shield) under line ground fault condition A	1840
14	Resistance of each core per km at 20 oC Ω	1.15
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.86
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.5.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×16
3	Normal current carrying capacity (in air), at 30 °C A	89
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armoring thickness mm	1.60
9	External diameter of completed cable mm	23 ± 1
10	Weight per meter of completed cable Kg	1.2
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armors or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	1.15
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.86
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	4×16
3	Normal current carrying capacity (in air), at 30 °C A	80
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1.2
8	Armouring thickness mm	1.60
9	External diameter of completed cable mm	26 ± 1
10	Weight per meter of completed cable Kg	1.65
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	1.15
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.87
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×25
3	Normal current carrying capacity (in air), at 30 °C A	118
4	Thickness of core insulation mm	1.2
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1.2+1.2
8	Armouring thickness mm	1.60
9	External diameter of completed cable mm	26.5 ± 1.5
10	Weight per meter of completed cable Kg	1.61
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	0.727
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	1.02
16	Estimated length for low voltage power cable m	Acc. To Request

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11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	4×25
3	Normal current carrying capacity (in air), at 30 °C A	106
4	Thickness of core insulation mm	1.2
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.9
7	Minimum thickness of insulation between core and sheath mm	1.2+1.2
8	Armouring thickness mm	1.60
9	External diameter of completed cable mm	30.5 ± 1.5
10	Weight per meter of completed cable Kg	2.27
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	0.727
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	1.02
16	Estimated length for low voltage power cable m	Acc. To Request

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(INFORMATION TO BE SUPPLIED WITH TENDER)

11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	4×35
3	Normal current carrying capacity (in air), at 30 °C A	131
4	Thickness of core insulation mm	1.2
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	2.1
7	Minimum thickness of insulation between core and sheath mm	1.2+1.2
8	Armouring thickness mm	2
9	External diameter of completed cable mm	34.5 ± 1.5
10	Weight per meter of completed cable Kg	3.30
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	0.524
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	1.18
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×50
3	Normal current carrying capacity (in air), at 30 °C A	176
4	Thickness of core insulation mm	1.4
5	Color code of cores	Red , Black
6	Thickness of sheath mm	2
7	Minimum thickness of insulation between core and sheath mm	1.4+1.2
8	Armouring thickness mm	2
9	External diameter of completed cable mm	33.5 ± 1
10	Weight per meter of completed cable Kg	2.65
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	0.387
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	1.20
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.5.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	1×70
3	Normal current carrying capacity (in air), at 30 oC A	Trefoil : 224 Flat : 261
4	Thickness of core insulation mm	1.4
5	Color code of cores	Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1.4+1.2
8	Armoring thickness mm	1.60
9	External diameter of completed cable mm	22.5 ± 1
10	Weight per meter of completed cable Kg	1.1
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armors or shield) under line ground fault condition A	5370
14	Resistance of each core per km at 20 oC Ω	0.268
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	1.29
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×70
3	Normal current carrying capacity (in air), at 30 °C A	224
4	Thickness of core insulation mm	1.4
5	Color code of cores	Red , Black
6	Thickness of sheath mm	2.2
7	Minimum thickness of insulation between core and sheath mm	1.4+1.2
8	Armouring thickness mm	2
9	External diameter of completed cable mm	37.5 ± 1.5
10	Weight per meter of completed cable Kg	3.34
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	0.268
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	1.39
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	2×120
3	Normal current carrying capacity (in air), at 30 °C A	314
4	Thickness of core insulation mm	1.6
5	Color code of cores	Red , Black
6	Thickness of sheath mm	2.5
7	Minimum thickness of insulation between core and sheath mm	1.6+1.3
8	Armouring thickness mm	2.5
9	External diameter of completed cable mm	47 ± 2
10	Weight per meter of completed cable Kg	5.45
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	0.153
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	1.61
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYCYRY
2	No. of cores and core cross section area No./mm ²	2×2.5+2.5
3	Normal current carrying capacity (in air), at 30 °C A	27
4	Thickness of core insulation mm	0.8
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	18 ± 1
10	Weight per meter of completed cable Kg	0.66
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	290 (Shield) (At1 Sec.)
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYCYRY
2	No. of cores and core cross section area No./mm ²	4×2.5+2.5
3	Normal current carrying capacity (in air), at 30 °C A	25
4	Thickness of core insulation mm	0.8
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	20 ± 1
10	Weight per meter of completed cable Kg	0.79
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	290 (Shield) (At1 Sec.)
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYCYRY
2	No. of cores and core cross section area No./mm ²	2×4+4
3	Normal current carrying capacity (in air), at 30 °C A	37
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1+1.2
8	Armouring thickness mm	1.25
9	External diameter of completed cable mm	20 ± 1
10	Weight per meter of completed cable Kg	0.83
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	460 (Shield) (At 1 Sec.)
14	Resistance of each core per km at 20 °C Ω	4.61
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.38
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.3.2	Special for each type	
1	Manufacture's type and designation	NYCYRY
2	No. of cores and core cross section area No./mm ²	4×4+4
3	Normal current carrying capacity (in air), at 30 °C A	34
4	Thickness of core insulation mm	1
5	Color code of cores	Red , Yellow , Blue , Black
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	1+1+1.2
8	Armouring thickness mm	1.60
9	External diameter of completed cable mm	22.5 ± 1
10	Weight per meter of completed cable Kg	1.10
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	460 (Shield) (At 1 Sec.)
14	Resistance of each core per km at 20 °C Ω	4.61
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.38
16	Estimated length for low voltage power cable m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION

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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.6.2	Special for each type	
1	Manufacture's type and designation	J-Y (St) Y
2	No. of cores and core cross section area No./mm ²	1×2×0.5 Telecommunication Cable
3	Normal current carrying capacity (in air), at 30 °C A	-
4	Thickness of core insulation mm	0.25
5	Color code or numbering code of cores	White - Blue
6	Thickness of sheath mm	1
7	Minimum thickness of insulation between core and sheath mm	0.25
8	Armoring thickness mm	-
9	External diameter of completed cable mm	4.2 ± 0.3
10	Weight per meter of completed cable Kg	0.03
11	Estimated length which will be provided per drum m	Standard : 2000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armors or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	90.2
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	110 nf/km
16	Estimated length for control & protection cables m	Acc. To Request

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11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.6.2	Special for each type	
1	Manufacture's type and designation	J-2Y (St) Y
2	No. of cores and core cross section area No./mm ²	1×2×0.6 Telecommunication Cable
3	Normal current carrying capacity (in air), at 30 °C A	-
4	Thickness of core insulation mm	0.25
5	Color code or numbering code of cores	White - Blue
6	Thickness of sheath mm	1
7	Minimum thickness of insulation between core and sheath mm	0.25
8	Armoring thickness mm	-
9	External diameter of completed cable mm	4.4 ± 0.3
10	Weight per meter of completed cable Kg	0.03
11	Estimated length which will be provided per drum m	Standard : 2000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armors or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	65
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	57 nf/km
16	Estimated length for control & protection cables m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION

(INFORMATION TO BE SUPPLIED WITH TENDER)

11. Cable Systems

11.3. Low Voltage Power Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.6.2	Special for each type	
1	Manufacture's type and designation	4.5C-2V
2	No. of cores and core cross section area No./mm ²	1×0.95 Coaxial Cable
3	Normal current carrying capacity (in air), at 30 °C A	-
4	Thickness of core insulation mm	1.77
5	Color code or numbering code of cores	-
6	Thickness of sheath mm	0.7
7	Minimum thickness of insulation between core and sheath mm	1.77
8	Armoring thickness mm	-
9	External diameter of completed cable mm	6.6 ± 0.3
10	Weight per meter of completed cable Kg	0.05
11	Estimated length which will be provided per drum m	Standard : 100 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armors or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	25.3
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	67
16	Estimated length for control & protection cables m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.4. Control & Protection Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.4.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	10×2.5
3	Normal current carrying capacity (in air), at 30 °C A	13.8
4	Thickness of core insulation mm	0.8
5	Color code or numbering code of cores	Black and sequentially numbered
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1.2
8	Armouring thickness mm	1.6
9	External diameter of completed cable mm	23.5 ± 1
10	Weight per meter of completed cable Kg	1.11
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for control & protection cables m	Acc. To Request

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11. Cable Systems

11.4. Control & Protection Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.4.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	14×2.5
3	Normal current carrying capacity (in air), at 30 °C A	12.5
4	Thickness of core insulation mm	0.8
5	Color code or numbering code of cores	Black and sequentially numbered
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1.2
8	Armouring thickness mm	1.6
9	External diameter of completed cable mm	25 ± 1
10	Weight per meter of completed cable Kg	1.32
11	Estimated length which will be provided per drum m	Standard : 1000 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for control & protection cables m	Acc. To Request

SCHEDULE OF TECHNICAL INFORMATION
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11. Cable Systems

11.4. Control & Protection Cables

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>TECHNICAL PARTICULARS</u>
11.4.2	Special for each type	
1	Manufacture's type and designation	NYRY
2	No. of cores and core cross section area No./mm ²	19×2.5
3	Normal current carrying capacity (in air), at 30 °C A	11.3
4	Thickness of core insulation mm	0.8
5	Color code or numbering code of cores	Black and sequentially numbered
6	Thickness of sheath mm	1.8
7	Minimum thickness of insulation between core and sheath mm	0.8+1.2
8	Armouring thickness mm	1.6
9	External diameter of completed cable mm	27.5 ± 1.5
10	Weight per meter of completed cable Kg	1.59
11	Estimated length which will be provided per drum m	Standard : 500 Or customer Request
12	Estimated length of cable to be supplied m	Acc. To Request
13	Max. current in inter shield (armours or shield) under line ground fault condition A	-
14	Resistance of each core per km at 20 °C Ω	7.41
15	Mean electro - static capacitance of each conductor to earth per km of complete cable	0.22
16	Estimated length for control & protection cables m	Acc. To Request